U.S. DEPARTMENT OF COMMERCE

MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1969

Volume 20 No. 1

Asheville 1969

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 1 JANUARY 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. Record or near-record snow in the Pacific Northwest closed roads and crushed many buildings.
2. Heavy rains in California caused flooding and damaging mudslides.
3. Heavy snow from the northern Great Plains to the Northeast closed roads; glaze south of the snow area made travel hazardous.
4. Bitter cold continued in Montana where January temperatures over large areas averaged 5° below zero--22° below normal.

TEMPERATURE.--January temperatures averaged above normal over the Great Basin, the central and southern Rocky Mountains, and the southern Great Plains. Some of those areas averaged 6° to 8° warmer than normal. Northern New England and southern Florida averaged slightly warmer than normal. Most of the eastern half of the United States averaged 2° to 7° cooler than normal. The intensely cold area extended from eastern Washington across northern Idaho and Montana to North Dakota. Most of this area averaged at least 10° colder than normal.

Cold weather persisted over a large area from the Pacific Northwest to the northern Great Plains throughout almost the entire month. The cold was especially intense in northern Montana where temperatures at Great Falls remained continuously below zero for almost 2 weeks and at Havre which endured below-zero weather for 380 consecutive hours. Northern and eastern Montana experienced the coldest January in almost 2 decades. The temperature at Havre plunged to 52° below zero on the morning of the 24th and could climb to only -29° in the warmest part of the afternoon. Havre's minimum of -52° on the 24th was the coldest temperature at that station in more than half a century. Billings registered subzero temperatures every morning from the 19th to the 30th--the longest period with daily subzero minimums in 75 years.

An especially cold arctic air outbreak spread over most of Washington on the 27th, accompanied by northerly and northeasterly winds. Temperatures fell rapidly for several days. At numerous locations the minimums on the 27th were the maximums on the 28th. The coldest temperatures in the area occurred mostly on the 30th. Minimums in western Washington ranged downward to -25° on the 31st at Stevens Pass and in eastern Washington to -48° at Mazama on the 30th. The Great Basin remained warm until the last few days of the month. Cool weather predominated over most of the East during the first half of the month, but warmer weather prevailed in the last half. Florida warmed sufficiently in the last 2 weeks of January to average near normal in the north and slightly above normal in the south.

January 1969 was the coldest January in the recorded history of weather in southeast Alaska. All except the extreme southern end of the Panhandle set new alltime records for the coldest January on record. It was not a matter of extreme cold, but one of prolonged cold. Sitka with 84 years of record was 2° colder than the previous January record of 18.4°F. Because of the cold, all precipitation was in the form of snow, and extra heavy amounts did occur. However, water equivalents fell far below normal. Normal sources of water were cut off because water and sewer pipes became frozen. Water was distributed by tank trucks or in barrels. Fire hazards increased because of no water. No damage reports have been issued, but contending with the problem was costly.

PRECIPITATION.--Daily rains continued along the Washington-Oregon coast with recordbreaking snow accumulations in the Cascades. The runoff from melting snow and heavy rains sent several rivers in western Washington near or above flood stage early in the month. Mudslides damaged residences, highways, railroads, and other property. In Oregon, the heavy snows and freezing rain made travel hazardous--in some ares impossible. Heavy snow from the Pacific coast to the Blue Mountains on the weekend of January 11 and 12 closed roads and schools on the 13th. Buildings were crushed by the weight of the snow and snow-laden trees fell across powerlines knocking them down. Heavy precipitation continued in the Far West in the latter half of January. Heavy snow fell in Washington and Oregon. Snowslides blocked highways and halted traffic. Hundreds of buildings in Oregon collapsed under the weight of the snow, destroying or extensively damaging the buildings and their contents. Thousands of persons were without telephone or power service for several days while lines were being repaired. In California, heavy rains in the last half of January caused considerable loss of life besides millions of dollars property damage. At least 20 persons were drowned and 16 were buried in mudslides. Mudslides closed highways and railroads, and rising streams forced thousands of persons from their homes.

A variety of severe weather occurred over the northern Great Plains in January. Record or near-record snowfall occurred in parts of Montana. Icy roads and blizzards closed some schools for a day or so early in the second week and many schools in the last week of the month. In South Dakota, the snow, often accompanied by strong winds, and the freezing rain hampered traffic. Many schools remained closed for a day or so and social activities were postponed. Blizzards, deep drifts, and icy highways closed many roads and schools in Minnesota, Michigan, and Indiana near the end of the first week of January.

Frequent snow squalls occurred in the Northeast early in January. New York's Snowbelt received 25 to 50 inches from January 1 to 11. The snowfall ranged up to 75 inches at Mallory. Strong winds--gusting to 82 m.p.h. at Blue Hill Observatory, Milton, Mass.,--drifted the snow badly in much of the Northeast. Highways became clogged and many motorists became stranded. The strong winds in Massachusetts damaged trees and signs, broke windows, and blew down powerlines disrupting power and communications. A prolonged period of freezing rain iced almost the entire area from New York, Pennsylvania, and Virginia northeastward to Maine. Traffic slowed, walking became difficult, and hundreds of persons injured themselves in falls.

Generous rains began in the Deep South and spread northward on the 20th and 21st. Widespread thunderstorms, including a tornado, killed 32 persons and

injured 241 others besides causing extensive property damage in Mississippi on the 23d.

Numerous locations in the West and the northern and central Great Plains received record or near-record precipitation in January; however, only light sprinkles or snow flurries occurred on the eastern slopes of the Rockies and along the western edge of the Great Plains. Columbus, Ga., received only 1.22 inches during the month, the 2d lowest January amount in their 23-year record.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JANUARY 1969

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	3 Stations	78	31+	Scottsboro	3	6	Birmingham WBAP	7.78	Dothan FAA AP	0.54
Alaska	Adak	50	7	Chalkyitsik	-69	9+	Little Port Walter	11.79	2 Stations	.00
Arizona	2 Stations	85	8+	Fort Valley	-20	29	Tonto Creek Fish Htchy	8.42	Many Farms School	T
Arkansas	Little Rock WBAP	81	8	3 Stations	2	4+	Athens	12.34	Crossett 7S	1.29
California	Avila Beach	91	3	Bridgeport	-27	31	Mt Baldy Notch	53.70	Death Valley	.30
Colorado	Walsh	78	14	Taylor Park	-37	31	Wolf Creek Pass 1E	7.05	Penrose 3NNW	.00
Connecticut	Westbrook	53	31	Falls Village	-10	5	Norfolk 2SW	2.27	Colchester 1E	1.01
Delaware	Selbyville	60	31	2 Stations	6	6	Selbyville	3.95	Middletown 1WSW	1.50
Florida	Loxahatchee	88	23	Fountain 3SSE	13	6	Miami WBAP	6.66	Nittaw 1S	.11
Georgia	Bainbridge	80	31+	Blairsville Exp Sta	-1	5	Toccoa	D 7.42	Cairo 2NNW	.25
Hawaii	Keaau 92	90	3	Haleakala Summit 338.4	21	17	Honomanu Gulch 341	35.40	Puu Mali 113	1.25
Idaho	Grand View 2W	61	20	Stanley 1NNE	-28	24	Deadwood Dam	12.21	Twin Falls 3SE	.39
Illinois	Cairo WB City	62	23	Stockton	-16	1	Cairo WB City	9.91	Minonk	.77
Indiana	2 Stations	62	30+	Wabash 2SW	-23	2	Elliston	9.39	Kentland	2.13
Iowa	do	47	16	Cherokee	-29	4	Keokuk Lock and Dam 19	3.54	Norwich Exp Farm	.44
Kansas	do	73	14	Mankato	-16	1	Girard	3.15	9 Stations	.00
Kentucky	Pikeville	72	30+	4 Stations	-12	5+	Hickman 1E	12.00	Pikeville	1.42
Louisiana	Saint Bernard	81	30+	Hineston 4NNE	13	5	Grand Coteau	5.56	Winnsboro	.48
Maine	Woodland	55	24	Middle Dam	-22	28	Vanceboro No 2	5.41	Moosehead	2.13
Maryland	Leonardtown 3NW	65	9	Sines Deep Creek 2	-8	5	Snow Hill 4N	3.73	Westernport UPRC	.81
Massachusetts	2 Stations	52	31	Birch Hill Dam	-17	5	Ipswich	4.06	Bedford	.96
Michigan	5 Stations	53	30+	Beechwood 7WNW	-22	1	Benton Harbor Airport	6.10	Entrican 1W	.86
Minnesota	2 Stations	38	17+	Baudette 21SSE	-43	26	Grand Portage RS	5.66	Albert Lea	1.11
Mississippi	Liberty 1W	80	31	3 Stations	8	5	Bay Saint Louis	7.54	Goshen Springs 2NNE	.54
Missouri	3 Stations	69	22	5 Stations	-11	31+	Dexter	12.62	Maryville 2E	.48
Montana	Bozeman Mont St Univ	58	13	Hinsdale 23N	-55	25	East Glacier	9.35	Boyes	.15
Nebraska	Harrisburg 10NW	62	21	Wakefield	-27	4	Plattsmouth	2.99	2 Stations	.13
Nevada	Hawthorne Babbitt	75	7	Midas 4SE	-18	9	Mt Rose-Christmas Tree	15.64	Montello	.31
New Hampshire	Grafton	52	22	First Conn Lake	-27	1	Mount Washington	8.60	Marlow	D .90
New Jersey	Atlantic City WBAP	55	31	High Point Park	-5	29	Cape May 1NW	3.81	Paterson	.55
New Mexico	Bitter Lakes WL Ref	85	8	Gavilan	-21	30	Chama	5.06	36 Stations	.00
New York	Fredonia	59	23	Old Forge	-20	28	Griffiss AFB	7.56	Plattsburgh	.51
North Carolina	3 Stations	78	31+	Grandfather Mountain	-7	1	Lake Toxaway 2SW	7.57	Pinehurst SRN-Pines	1.19
North Dakota	Hettinger	46	5	Lostwood 12N	-45	1	Selfridge	5.41	Golden Valley 10S	.21
Ohio	3 Stations	64	30+	Toledo Sewage	-16	5	Fernbank Cincinnati	5.05	Canfield 1S	1.29
Oklahoma	Boswell 5NNW	87	8	Hulah Dam	-2	1	Broken Bow 1N	7.89	2 Stations	.00
Oregon	2 Stations	65	6	Seneca	-25	25+	Illahe 1N	22.45	Prineville 4NW	1.10
Pennsylvania	Farrell Sharon	66	23	2 Stations	-12	5	Johnstown	5.37	Covington 2WSW	.25
Puerto Rico	2 Stations	91	16+	do	54	19+	Rio Blanco Upper	15.94	Caonillas Villalba	.00
Rhode Island	Newport	50	31	Greenville	3	28	Greenville	2.43	Block Island WBAP	.88
South Carolina	2 Stations	78	31	2 Stations	5	6	Salem	6.64	Charleston WBAP	1.19
South Dakota	3 Stations	57	22+	Camp Crook	-35	25	Canistota 2N	1.82	Longvalley	T
Tennessee	Kingston Springs 2NNE	78	10	Mountain City No 2	-10	5	Union City	9.37	Sevierville 1SE	1.21
Texas	2 Stations	95	22+	Perryton 5NNE	-1	1	Boxelder	7.21	40 Stations	.00
Utah	Wah Wah Ranch	74	7	3 Stations	-20	31+	Silver Lake Brighton	12.39	Fish Springs Refuge	.02
Vermont	Enosburg Falls	49	23	2 Stations	-20	29+	Mount Mansfield	D 4.78	Gilman	.85
Virginia	Grundy 3NW	72	30	Burkes Garden	-12	5	Luray 5E	5.13	Dale Enterprise	1.08
Washington	Quilcene 2SW	59	4	Mazama	-32	23	Stampede Pass WB	30.42	Moses Lake 3E	.37
West Virginia	Williamson	72	30	2 Stations	-12	5	Alpena 1NW	4.37	Moorefield 2SSE	.91
Wisconsin	Kenosha	47	23	Jump River 5E	-33	4	Gurney	4.21	Milwaukee N Side	D .99
Wyoming	Yoder	64	7	Recluse 14NNW	-35	24	Moran 5WNW	6.17	4 Stations	T

\+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	998.3	1021.4	52	34	42.6	- 3.9	67	30	11	5	0	17	31	68	7.78	2.75	3.95	12	1	T	0	1.7	8	23	S	8	3	5	23	8.2	39
HUNTSVILLE	624	998.0	1021.6	47	31	39.3	- 3.6	65	30	10	5	0	18	31	75	7.38	2.16	2.95	11	1	T	0	2.6	8	25	15	23	4	6	21	7.9	
MOBILE	211	1011.9	1019.9	61	42	51.5	- 1.5	76	9	20	5	0	10	41	71	2.79	- 1.85	1.33	8	1	0.0	0	3.5	8	25	18	8	4	8	19	7.8	
MONTGOMERY	183	1013.9	1021.2	58	37	47.5	- 0.6	76	31	19	5	0	15	36	71	1.85	- 2.21	1.34	9	0	0.0	0	1.4	5	24	S	8	4	6	21	8.0	44
ALASKA												B																				
ANCHORAGE	114	1011.5	1016.7	12	- 3	4.6	- 7.5	25	30	-16	5	0	31	- 5	63	0.28	- 0.52	0.16	4	0	6.5	18	3.1	36	33	1	9	11	7	13	5.3	54
ANNETTE	110	1006.4	1010.6	27	15	21.2	-13.2	45	3	5	28+	0	30	11	66	3.39	- 7.97	1.38	13	0	23.2	14	5.9	4	37	14	3	13	4	14	5.4	
BARROW	31	1023.7	1024.3	- 6	-19	-12.7	3.5	26	24	-43	9+	0	31	-17	80	0.12	- 0.06	0.06	6	0	1.8	10	5.2	11	32	11	23	V	V	V		
BARTER ISLAND	39	1023.7	1025.7	-10	-23	-16.4	0.4	21	25	-44	8+	0	31	-25	65	0.02	- 0.38	0.02	1	0	0.4	6	3.6	22	43	27	5	X	X	X		
BETHEL	125	1012.9	1018.8	14	4	9.1	5.5	35	26+	-22	3+	0	31	5	82	0.41	- 0.71	0.16	8	0	13.5	13	3.1	10	32	22	28+	6	2	23	7.7	
BETTLES	644	1000.3	1028.4	-17	-31	-23.6		15	25	-62	2	0	31			0.13		0.04	6	0	1.6	24	3.2	36	15	2	7	11	7	13	5.4	
BIG DELTA	1268	973.9	1028.3	-17	-29	-22.6		6	25	-52	12+	0	31	-28	75	0.36		0.18	6	0	3.0	5	6.8	12	28	11	29	15	4	12	4.7	
COLD BAY	96	1014.2	1018.2	36	28	31.8	4.0	49	22	8	3	0	16	27	83	3.75	1.43	0.54	21	0	10.1	4	5.3	18	48	17	28+	2	4	25	8.5	
FAIRBANKS	436	1007.8	1027.0	-19	-34	-26.7	-15.6	13	23	-61	2	0	31			0.55	- 0.34	0.27	5	0	10.8	25	0.7	3	9	3	3	6	13	12	6.6	
FAREWELL	1499			2	-19	- 8.7		32	27	-46	2	0	31			1.06		0.52	6		7.6	7										
GULKANA	1572	960.4	1026.0	-13	-29	-20.5		5	31	-47	17	0	31	-29	65	0.12		0.04	5	0	2.4		3.0	2	36	4	8	17	3	11	4.3	
HOMER	67			21	6	13.2		37	29	- 8	12+	0	31			0.39		0.16	5	0	6.7	6						14	2	15	5.5	
ILIAMNA	186			10	- 2	3.8		32	29	-30	2	0	31			0.99		0.35	6		17.2	30						12	4	15	5.6	
JUNEAU	12	1014.2	1015.0	15	- 2	6.8	-18.3	35	3	-14	18	0	31	- 3	64	0.94	- 3.06	0.21	7	0	28.2	20	8.2	9	29	12	30+	13	6	12	4.8	61
KING SALMON	49	1015.9	1017.8	14	0	6.9	- 6.5	35	27	-24	3+	0	31	- 1	68	0.65	- 0.42	0.31	5	0	6.1	5	1.9	36	31	17	27	9	5	17	6.3	
KOTZEBUE	10	1020.7	1021.1	6	- 3	1.6	7.3	31	24+	-32	2	0	31	- 7	66	0.22	- 0.17	0.05	12	0	4.9	10	18.4	11	44	11	29+	6	2	23	7.7	
MC GRATH	344	1010.2	1024.1	- 5	-20	-12.6	- 3.6	28	22	-55	2	0	31	-20	69	0.32	- 0.94	0.13	8	0	10.1	17	0.6	10	14	5	3	10	3	19	6.5	
NENANA	356			-20	-35	-27.4		15	25	-66	2	0	31			0.47		0.24	6	0	7.1				21	30	8	15	4	12	4.9	
NOME	13	1016.9	1017.7	17	6	11.6	7.2	34	23	-25	2	0	31	8	83	0.55	- 0.47	0.08	18	0	5.5	11	11.5	10	40	15	26	2	4	25	8.7	17
ST. PAUL ISLAND	22	1011.9	1012.8	35	28	31.7	6.3	40	25	13	2	0	24	29	87	2.25	0.44	0.35	22	0	11.7	4	9.3	20	63	20	25	3	2	26	8.6	
SHEMYA	122	996.3	1000.0	35	28	31.9	0.6	44	8	18	18	0	23	27	80	4.63	2.13	1.08	24	0	15.5	5	17.2	21	69	20	8	0	9	22	8.5	
SUMMIT	2401	926.9	1024.2	- 2	-13	- 7.7		18	27	-27	12+	0	31	-16	68	0.56		0.27	7	0	6.6	11	14.5	3	38	6	3	13	7	11	5.2	
TALKEETNA	345	1004.1	1018.1	10	-11	- 0.9		22	30	-27	2	0	31	-11	63	0.44		0.22	5	0	8.3	15	3.5	1	22	5	8	13	6	12	4.9	
TANANA	232			-19	-31	-25.1		12	25	-63	2+	0	31			0.46		0.26	9		8.0	23			21	11	29	13	2	16	5.5	
UNALAKLEET	15	1019.6	1020.1	10	- 2	4.2		34	23	-42	3	0	31			0.15		0.05	8	0	4.1	21	19.5	8	41	9	29+	5	4	22	7.6	
YAKUTAT	28	1010.5	1011.6	18	- 5	6.8	-20.5	34	3	-20	13	0	31	- 2	68	3.56	- 7.30	1.34	9	0	39.9	57	4.3	9	29	14	30	13	7	11	5.1	
ARIZONA																																
FLAGSTAFF	7006	784.6	1016.2	41	22	31.8	4.5	61	6	-10	30	0	27	20	64	4.63	2.80	1.30	13	0	12.0	6	5.9	21	21	21	29+	5	7	19	7.2	
PHOENIX	1117	975.6	1014.9	66	44	54.9	5.2	75	26	27	31	0	2	41	66	1.37	0.64	0.89	7	1	0.0	0	2.5	12	24Y	NW	29	10	4	17	6.1	68
TUCSON	2584	925.8	1014.4	68	43	55.5	5.7	82	8	27	31+	0	2	35	53	0.74	- 0.08	0.63	6	0	0.0	0	3.2	15	26	E	4+	10	9	12	5.4	82
WINSLOW	4895	850.0	1016.9	51	28	39.4	8.4	64	12	5	30	0	21	26	64	0.12	- 0.31	0.11	3	0	T	T	4.7	20	39	20	21	6	10	15	6.4	
YUMA	194	1007.5	1014.9	70	49	59.6	6.2	80	7	33	30	0	0	39	53	0.68	0.29	0.51	4	0	0.0	0	1.4	3	30	SE	21	14	4	13	5.3	69
ARKANSAS																																
FORT SMITH	447	1002.4	1019.3	51	31	40.7	0.9	78	22	14	4+	0	19	28	67	2.84	0.18	1.55	7	1	0.0	0	3.5	7	29	NW	8	2	7	22	8.3	39
LITTLE ROCK	257	1009.8	1019.8	53	34	43.5	2.9	81	8	16	4	0	15	32	66	8.06	2.84	5.18	11	4	T	T	1.6	9	46	W	23+	3	5	23	8.1	37
CALIFORNIA																																
BAKERSFIELD	475	999.3	1017.1	54	43	48.9	1.5	73	20	31	30+	0	2	42	78	2.12	0.95	0.54	13	0	0.0	0	0.7	8	24	2	26	1	3	27	9.2	
BISHOP	4108	871.0		53	24	38.5	1.7	71	6+	2	30	0	26			8.93	7.94	2.75	11		23.2	23						7	7	17	6.7	
BLUE CANYON	5280			40	30	34.9	- 2.2	65	5+	10	29+	0	21			32.41	20.71	4.82	20		73.8	46			46	18	26	3	3	25	8.5	
EUREKA U	43			50	38	44.0	- 3.4	59	3	29	23	0	2			13.92	7.22	3.18	22		0.2	T			35	SW	26	5	2	24	9.1	[illegible]
FRESNO	328	1004.7	1016.8	50	40	44.8	- 1.3	64	20	31	31+	0	5	39	81	8.56	6.53	2.59	14	2	T	0	2.5	13	25	SE	21	1	3	27	9.2	14
LONG BEACH	34	1014.6	1016.0	65	49	57.3	4.2	87	3	34	30	0	0	46	71	11.24	9.25	3.04	12	0	0.0	0	2.2	20	28	18	21	4	7	20	7.5	
LOS ANGELES	97	1011.9	1015.5	63	51	56.9	2.5	82	5	39	30	0	0	47	73	9.60	6.94	3.96	12	2	0.0	0	1.6	[illegible]	35Y	S	21	4	10	17	7.3	
LOS ANGELES C	270			65	52	58.3	2.5	93	5	39	29	0	0			14.94	11.87	4.35	12		0.0	0			31	SW	21	5	6	20	7.0	45
MT SHASTA R	3544			38	23	30.8	- 2.5	47	20	6	29	0	27			9.78	3.42	2.39	20		53.9	32										
OAKLAND	6	1015.2	1015.5	53	43	48.2	0.2	61	20+	35	10	0	0	43	82	6.90	3.07	1.55	17	3	0.0	0	2.8	17	32	21	26	4	8	19	7.7	
RED BLUFF	342	1002.0	1014.9	49	36	42.5	- 3.0	59	20	24	29	0	8	36	81	7.02	2.73	1.76	15	1	T	T	3.8	18	57	SE	26	1	8	22	8.4	19
SACRAMENTO	17	1014.9	1015.8	50	38	44.0	- 1.2	61	25	28	10	0	6	39	86	8.50	5.32	1.74	16	2	0.0	0	4.3	18	32	W	26	3	6	22	8.4	36
SAN BERN. R	4517	860.5		48	35	41.5	1.6	71	6	17	29	0	10			7.43	4.88	2.36	11		0.3	T			64	20	20	4	6	21	7.6	
SAN DIEGO	13	1014.9	1015.9	64	52	58.1	3.1	86	4	38	30	0	0	48	72	4.78	2.77	2.10	13	0	0.0	0	2.0	20	30	S	21	8	5	18	8.0	57

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h							%
CALIFORNIA																																
SAN FRANCISCO	8	1014.9	1015.6	53	41	47.1	- 1.5	63	19	33	29+	0	0	41	81	8.92	4.91	2.06	17	1	0.0	0	2.8	18	49	S	25	2	10	19	7.9	
SAN FRANCISCO U	52			53	44	48.6	- 2.1	61	20+	38	29	0	0			7.74	3.19	1.83	17		0.0	0			34	SW	26+					42
SANTA MARIA	236			62	44	53.2	3.0	76	4	31	29	0	1			7.09	4.25	1.94	14		0.0	0						3	8	20	7.6	
STOCKTON	22	1015.6	1016.5	49	39	43.8	- 0.9	63	25	27	10	0	6	40	86	6.24	3.69	1.29	16	0	0.0	0	4.7	16	32	27	26	2	7	22	8.5	
COLORADO																																
ALAMOSA	7536	767.4		42	6	24.0	6.6	54	14	- 9	1	0	31			0.16	- 0.10	0.09	5		3.5	1						8	13	10	5.6	
COLORADO SPRINGS	6145	804.9	1013.1	47	20	33.4	4.8	64	7	0	24+	0	29	15	53	0.11	- 0.18	0.09	3	0	5.7	3	2.4	5	38	33	31	7	5	19	7.0	
DENVER	5283	829.7	1010.4	50	20	35.0	6.5	69	7	- 5	24	0	31	18	60	0.17	- 0.38	0.09	4	0	2.8	2	2.0	20	46	SW	8	7	6	18	6.7	64
GRAND JUNCTION	4855	850.0	1017.5	38	19	28.5	2.5	51	26+	2	9	0	27	22	77	1.03	0.39	0.41	11	2	3.4	3	1.5	9	29	W	21	5	7	19	7.6	49
PUEBLO	4684	850.7	1012.1	51	22	36.5	6.5	69	7	5	24	0	29	19	54	0.04	- 0.27	0.03	3	0	1.1	1	1.8	29	34	NE	8	7	10	14	6.3	67
CONNECTICUT																																
BRIDGEPORT	7	1019.0	1019.6	37	25	30.6	0.4	52	31	8	28	0	26	19	64	1.21	- 2.48	0.70	9	0	0.5	T	7.9	33	42	30	1	12	6	13	5.7	
HARTFORD	169	1012.2	1018.9	32	16	24.0	- 2.0	43	22	- 1	5	0	30	13	63	1.19	- 2.39	0.62	10	0	3.4	5	5.7	31	37	NW	1	10	6	15	6.2	61
NEW HAVEN	6	1019.0		36	22	28.7	- 0.9	50	31	5	28	0	28			1.36	- 2.60	0.67	9		1.7	1			36	W	1	12	4	15	5.8	63
DELAWARE																																
WILMINGTON	74	1018.0	1021.0	38	24	30.8	- 2.6	48	31+	12	6+	0	23	1[illegible]	61	1.68	- 1.72	0.50	11	0	2.9	3	5.7	29	39	27	1	10	5	16	6.2	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1019.6	1021.9	41	27	34.2	- 2.7	60	9	13	5	0	20	20	58	1.69	- 1.34	0.89	10	0	0.2	T	5.1	32	31	NW	1	11	5	15	6.1	54
FLORIDA																																
APALACHICOLA U	13			59	46	52.3	- 2.8	72	24	29	6	0	3			0.84	- 2.30	0.35	5	2	0.0	0			27	SE	19	6	6	19	7.1	54
DAYTONA BEACH	31	1019.3	1020.5	67	49	58.0	- 1.2	78	24+	35	2	0	0	48	72	1.53	- 0.43	0.63	10	0	0.0	0	3.3	36	26	35	12+	3	13	15	7.1	
FORT MYERS	15	1019.0	1019.1	73	53	62.8	- 0.7	80	24	41	7	0	0	55	79	1.44	- 0.08	0.40	5	0	0.0	0	4.6	6	23	22	4	9	11	11	5.4	
JACKSONVILLE	20	1020.0	1021.0	64	44	54.2	- 1.7	80	24	32	2	0	1	43	70	0.84	- 1.61	0.46	6	1	0.0	0	2.9	1	33	N	12	4	13	14	6.9	49
KEY WEST	4	1016.9	1017.6	74	67	70.2	0.6	78	25+	60	8	0	0	63	79	3.85	2.32	2.14	9	4	0.0	0	8.7	6	29	SE	17	8	10	13	6.0	60
LAKELAND U	214			69	50	59.7	- 2.0	81	24	39	2	0	0			3.35	1.30	2.59	9		0.0	0						9	15	7	5.5	67
MIAMI	7	1017.6	1018.0	74	61	67.6	0.7	79	25+	50	8	0	0	58	72	6.66	4.63	1.43	9	2	0.0	0	4.8	7	25	11	20	6	10	15	6.6	
ORLANDO	108	1015.9	1020.3	70	49	59.8	- 0.6	81	24	38	2	0	0	50	76	2.22	0.22	1.65	5	0	0.0	0	4.6	5	23	11	29	4	13	14	6.9	
PENSACOLA	112	1015.9	1020.0	60	43	51.2	- 2.3	73	31	24	5	0	7	41	69	1.82	- 2.40	0.91	8		0.0	0	4.1	7	33	N	4	2	6	23	8.3	48
TALLAHASSEE	55	1018.6	1021.0	64	39	51.8	- 2.1	78	31+	18	6	0	12	39	68	0.40	- 3.02	0.23	5	1	0.0	0	1.7	5	18	16	18+	5	6	20	7.4	
TAMPA	19	1019.3	1019.5	69	48	58.5	- 2.7	78	28	36	7	0	0	49	73	1.78	- 0.35	1.35	5	0	0.0	0	4.2	6	18	33	6+	6	10	15	6.5	65
WEST PALM BEACH	15	1018.0	1018.7	73	57	65.1	- 1.8	81	20	43	8	0	0	55	70	3.59	1.11	1.65	10	0	0.0	0	4.1	6	32	35	1	4	10	17	7.2	
GEORGIA																																
ATHENS	802	991.9	1021.7	51	32	41.6	- 3.0	68	30	14	6	0	16	27	62	4.95	0.06	3.86	13	3	T	0	1.4	34	21	7	20	3	9	19	7.6	
ATLANTA	1010	983.7	1021.6	50	31	40.2	- 4.5	70	30	10	5	0	19	28	68	2.85	- 1.59	1.65	12	1	T	0	1.8	3	28	NW	1	3	6	22	8.1	46
AUGUSTA	136	1016.3	1021.7	56	32	43.9	- 3.7	73	18	11	6	0	17	30	64	1.98	- 1.01	1.90	6	0	T	0	0.7	33	23	30	7	3	9	19	7.6	
COLUMBUS	385	1007.1		55	36	45.4	- 2.4	70	30+	14	6	0	15	32	64	1.22	- 2.84	0.88	9	0	0.0	0	2.2	4	18	8	27	2	5	24	8.5	
MACON	354	1008.5	1021.8	56	33	44.5	- 4.7	77	24	11	6	0	15	29	59	1.85	- 1.52	1.55	8	1	0.0	0	1.3	1	18	NW	24+	2	7	22	8.1	41
ROME	637			49	29	38.6	- 3.5	68	30	6	5	0	19			4.71	- 0.80	2.14	15		0.1	T										
SAVANNAH	46	1020.0	1021.6	59	36	47.4	- 4.3	77	31	21	15	0	13	34	66	1.77	- 1.01	1.32	6	2	0.0	0	2.3	2	25	W	7	4	10	17	7.4	63
HAWAII																																
HILO	27	1009.5	1010.8	79	63	71.4	0.6	87	8	54	23	0	0	61	73	19.66	7.84	9.03	11	0	0.0	0	1.7	26	24	NW	19	4	13	14	6.9	35
HONOLULU	7	1010.5	1010.9	77	61	69.1	- 3.4	82	31	52	20	0	0	60	77	8.20	4.44	4.53	11	1	0.0	0	3.3	35	28	NE	30+	9	11	11	5.8	61
KAHULUI	48	1008.5	1010.8	78	60	68.8	- 3.3	83	2	48	20	0	0	61	77	7.75	4.61	2.14	15	0	0.0	0	0.6	6	29	E	31	11	10	10	5.5	63
LIHUE	103	1006.4	1011.7	73	59	65.8	- 5.1	78	2+	50	22	0	0	58	78	4.97	- 0.54	1.58	14	2	0.0	0	2.4	33	25	E	29	10	10	11	5.5	50
IDAHO																																
BOISE	2838	910.6	1012.3	41	27	34.3	5.2	55	13	5	29	0	21	26	73	3.50	2.18	0.97	21	0	14.4	6	4.7	13	41	SW	26	3	2	26	8.5	26
LEWISTON	1413			30	18	23.6	- 7.1	45	4	- 2	25	0	29			2.98	1.88	1.02	20		22.9	9						1	2	28	9.3	
POCATELLO	4454	858.1	1013.9	38	21	29.1	6.8	51	13+	0	24+	0	24	20	70	1.80	0.59	0.41	17	0	7.7	4	9.6	20	41	S	20	1	4	26	8.9	35

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
CAIRO U	314			43	29	35.7	- 1.7	62	23	8	4	0	26			9.91	5.45	4.73	16		10.5	9			35	S	23	5	6	20	7.5	33
CHICAGO O HARE	658	994.6	1020.3	28	14	21.1	- 3.1	52	23	- 8	4	0	26	14	75	1.62	- 0.20	0.33	11	0	3.7	7	4.2	23	38	25	24	5	5	21	7.4	
CHICAGO MIDWAY	607	996.6	1020.3	29	15	21.7	- 4.3	53	23	-10	1	0	26	12	69	2.16	0.30	0.53	12	1	6.8	7	5.4	22	30	SE	28	6	4	21	7.4	30
MOLINE	582	998.0	1020.6	25	11	17.9	- 4.7	43	23	-10	4+	0	30	12	76	3.28	1.67	1.05	12	0	6.2	4	3.0	25	40	W	8	7	1	23	7.5	35
PEORIA	652	995.6	1020.9	28	13	20.3	- 5.4	47	29+	- 8	4	0	29	14	76	2.43	0.55	0.60	14	2	4.6	4	2.6	23	32	W	9+	6	4	21	7.5	34
ROCKFORD	724	991.5	1019.9	25	11	17.9	- 4.1	43	23	-10	4+	0	27	13	78	1.86	- 0.12	0.69	11	0	4.6	8	3.6	23	27	25	25+	6	3	22	7.7	
SPRINGFIELD	588	997.6	1020.7	31	16	23.4	- 5.0	50	29+	- 5	4	0	27	17	78	2.50	0.61	0.51	13	1	5.0	3	2.2	22	35	NW	6	6	7	18	7.3	35
INDIANA																																
EVANSVILLE	381	1007.1	1021.6	39	24	31.5	- 2.7	59	30+	5	5+	0	23	22	69	7.98	4.00	2.72	11	3	4.5	3	0.9	15	28	S	5	6	5	20	7.4	37
FORT WAYNE	791	989.5	1020.8	31	16	23.3	- 3.7	53	30+	- 4	1	0	26	17	79	4.57	1.90	1.75	11	1	3.8	3	5.7	23	38	W	6	5	3	23	8.0	38
INDIANAPOLIS	792	990.9	1021.2	34	18	25.7	- 3.4	56	30+	- 2	10+	0	25	18	75	6.19	3.14	1.72	10	2	9.3	6	3.1	21	30	SW	30	6	3	22	7.3	24
SOUTH BEND	773	990.5	1019.9	29	15	22.3	- 3.3	52	23	- 8	4	0	27	18	85	3.61	1.41	0.82	16	2	24.1	17	4.9	21	28	24	24	2	2	27	8.8	
IOWA																																
BURLINGTON	692			27	12	19.8	- 4.6	44	23	-11	4	0	30	14	76	3.21	1.57		13	1	5.6		1.4	28	32	32	6	5	5	21	7.6	
DES MOINES	938	984.1	1020.9	23	9	16.2	- 3.7	39	16	-12	4	0	31	11	80	1.01	- 0.29	0.29	13	0	6.8	5	2.1	34	36	NW	8	5	3	23	7.8	35
DUBUQUE	1056	978.7		21	7	14.0	- 5.2	39	23	-17	4	0	30			2.56	0.73	0.79	12		9.4	11						6	2	23	7.7	
SIOUX CITY	1095	978.3	1020.6	21	4	12.5	- 6.2	42	5	-19	4	0	30	7	78	1.22	0.44	0.24	12	0	12.1	15	2.8	35	41	NW	5	4	3	24	8.3	31
WATERLOO	868	986.8	1020.5	20	6	12.9	- 5.0	36	16	-15	4	0	30	6	73	1.56	0.41	0.57	12	0	5.2	11	1.7	27	28	28	24+	5	3	23	7.9	
KANSAS																																
CONCORDIA	1470	963.4	1018.8	31	15	22.6	- 4.9	52	15	- 8	4	0	29	18	82	0.71	0.01	0.16	13	2	5.8	4	1.8	6	45	N	8	6	4	21	7.6	34
DODGE CITY	2582	922.5	1015.7	41	22	31.7	0.6	61	14	3	24	0	27	24	79	0.03	- 0.54	0.02	2	0	T	T	2.2	14	45	N	8	3	8	20	8.0	43
GOODLAND	3654	883.8	1014.2	41	17	29.2	1.8	58	15+	- 2	24+	0	30	21	77	0.11	- 0.28	0.05	5	0	1.1	2	3.1	16	39	35	8	5	10	16	6.8	
TOPEKA	876	986.8	1019.9	34	18	25.8	- 3.0	56	22	- 4	31	0	27	17	72	0.84	- 0.18	0.41	9	2	6.2	4	1.8	2	37	NW	8	5	4	22	7.8	33
WICHITA	1321	968.5	1018.1	38	23	30.1	- 1.9	55	15	5	4	0	26	22	74	0.45	- 0.36	0.31	4	0	T	1	2.0	9	40	N	23+	3	6	22	8.3	38
KENTUCKY																																
COVINGTON	869	988.8	1021.8	38	22	30.2	- 1.4	57	30	3	5	0	21	20	67	4.64	1.08	1.65	13	0	1.0	1	3.9	22	29	19	30	6	4	21	7.5	
LEXINGTON	966	985.1	1022.0	40	24	32.1	- 2.4	58	30	2	5	0	19	22	69	4.26	- 0.68	1.24	16	1	1.9	1	3.4	20	24	29	30+	6	4	21	7.5	
LOUISVILLE	477	1003.4	1021.7	41	25	33.1	- 1.9	59	30+	4	4	0	20	21	65	5.31	1.21	1.46	14	1	3.2	3	2.0	23	34	SW	6	5	7	19	7.8	40
LOUISIANA																																
ALEXANDRIA	92	1015.2	1019.6	59	41	50.2	- 0.1	78	29	18	5	0	9			1.19	- 4.13	0.32	7	1	0.0	0	2.1	8	26	36	9+	3	4	24	8.5	
BATON ROUGE	64	1016.6	1019.4	63	44	53.4	0.5	80	28	21	5	0	6	42	70	1.34	- 3.44	0.68	7	1	0.0	0	3.5	10	24	15	29	3	3	25	8.3	
LAKE CHARLES	9	1017.6	1018.6	62	46	54.0	0.3	78	23	23	5	0	5	46	79	1.13	- 3.31	0.39	6	1	T	0	3.8	10	24	16	29	2	5	24	8.1	
NEW ORLEANS	3	1018.6	1019.5	64	45	54.2	- 0.4	79	30+	23	6	0	6	44	72	3.12	- 0.72	2.34	8	0	T	0	3.9	7	27	16	29	4	7	20	7.8	
SHREVEPORT	254	1009.1	1018.7	58	41	49.3	1.8	78	29+	20	5	0	9	38	68	1.14	- 3.66	0.39	6	2	0.0	0	2.8	13	29	20	8	3	6	22	8.3	42
MAINE																																
CARIBOU	624	991.2		24	7	15.3	4.8	40	24	- 9	17+	0	31			3.00	0.89	1.07	11		29.5	39						7	4	20	7.3	
PORTLAND	47	1014.6	1017.0	33	15	24.2	2.4	47	25	- 5	5	0	31	13	62	3.63	- 0.74	1.45	7	0	5.4	14	4.7	29	42	W	2	11	6	14	5.7	53
MARYLAND																																
BALTIMORE	148	1015.9	1021.8	39	24	31.7	- 3.1	56	9	10	5	0	23	18	60	1.38	- 2.05	0.78	9	0	0.1	T	5.1	30	35	W	10+	9	7	15	6.2	52
MASSACHUSETTS																																
BLUE HILL OBS R	629			33	20	26.5	- 0.5	47	25	3	28	0	29			2.27	- 2.22	0.88	8		0.9	2			54	W	1					57
BOSTON	15	1016.9	1018.0	35	23	29.3	- 0.6	49	25	7	28	0	26	16	59	2.26	- 1.68	0.90	7	0	0.9	1	8.2	30	51	W	1	10	7	14	6.7	61
NANTUCKET	43	1017.6	1017.8	39	27	32.8	- 0.2	52	31	14	1	0	24	25	73	1.83	- 2.39	1.32	7	0	0.4	T	6.9	32	47	W	1	3	11	17	7.4	33
WORCESTER	986	979.7	1018.1	30	16	23.2	- 0.8	42	19	0	28	0	30	14	66	1.29	- 2.42	0.53	10	0	1.8	9	6.9	28	43	27	2	11	6	14	5.6	
MICHIGAN																																
ALPENA	689	991.5	1017.9	28	13	20.3	0.6	42	23	- 9	1	0	29	15	76	2.23	0.28	0.53	17	0	25.7	27	2.7	24	24	E	9+	[illegible]	6	25	8.8	22
DETROIT	619			31	19	25.1	- 1.8	53	30	- 2	1	0	25	16	68	2.52	0.47	0.71	12	0	7.7		5.6	25	35	29	10					
DETROIT M WAYNE CO	633	994.2	1019.4	31	16	23.1	- 3.1	53	30	- 4	1	0	26	18	79	2.83	0.90	0.96	13	0	6.3	5	5.0	24	33	W	10	2	8	21	7.4	[illegible]
FLINT	770	989.5	1018.6	29	16	22.6	- 1.9	50	30	- 3	1	0	25	17	77	1.86	0.16	0.55	15	0	10.2	9	6.1	23	32	27	1	2	9	20	[illegible]	
GRAND RAPIDS	784	988.5	1018.9	27	15	20.8	- 3.2	45	23	- 4	1	0	27	17	84	2.39	0.48	0.46	21	1	27.7	17	3.6	24	35	SW	24	1	3	27	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
HOUGHTON LAKE	1149	974.3	1018.3	26	11	18.3	- 0.9	43	23	-12	27+	0	29	15	85	1.87	0.38	0.36	19	0	25.8	18	2.9	25	23	27	10+	2	6	23	8.5	
LANSING	841	986.1	1019.1	29	15	21.8	- 2.5	52	30	- 4	1	0	25	17	79	1.91	- 0.05	0.40	17	0	13.2	12	5.7	24	34	SW	24	1	10	20	8.1	33
MARQUETTE U	677			26	16	21.3	1.8	44	23	- 5	1	0	28			2.39	0.50	0.49	22		29.5	31			25	SE	16	0	1	30	9.4	22
MUSKEGON	627	994.6	1018.6	28	18	22.9	- 3.1	45	23	- 3	1	0	27	18	81	3.00	0.90	0.38	21	0	51.4	21	2.3	27	29	24	24	1	1	29	9.5	
SAULT STE MARIE	721	989.5	1017.5	22	9	15.4	- 0.4	38	23	-17	1	0	29	12	82	2.93	0.86	0.78	20	0	32.2	25	1.6	8	32	E	28	2	4	25	8.8	25
MINNESOTA																																
DULUTH	1428	964.4	1019.1	16	- 1	7.5	- 1.2	32	16	-20	1	0	31	2	76	4.70	3.55	1.28	23	0	46.8	42	2.9	31	33	NW	6	4	5	22	7.9	32
INTERNATIONAL FALLS	1179	973.9	1020.1	10	- 8	0.9	- 2.2	30	16	-37	26	0	31	- 4	76	2.79	1.95	0.49	21	0	30.7	35	1.2	34	24	13	27	2	7	22	8.1	
MINNEAPOLIS	834	988.2	1020.4	18	1	9.4	- 3.0	35	22+	-21	1	0	31	2	71	2.05	1.35	0.48	17	0	21.6	24	2.0	27	29	NW	6	6	3	22	7.6	35
ROCHESTER	1297	969.2	1019.7	18	1	9.8	- 3.8	36	22+	-21	1	0	31	3	73	1.25	0.34	0.45	12	0	9.5	19	3.2	26	33	29	8	6	3	22	7.5	
ST CLOUD	1034	979.7	1020.1	15	- 4	5.2	- 4.9	33	16+	-21	1	0	31			2.52	1.80	0.53	18		22.9	30						6	3	22	7.6	
MISSISSIPPI																																
JACKSON	310	1007.8	1020.0	58	38	48.0	0.1	76	30+	11	5	0	14	38	71	0.86	- 4.32	0.19	11	1	0.0	0	2.7	12	28	SW	8	2	5	24	8.4	35
MERIDIAN	290	1009.8	1021.1	57	37	46.7	- 1.4	75	23	15	5	0	15	37	73	2.71	- 1.98	1.60	10	1	0.0	0	0.5	5	21	18	23	3	3	25	8.5	
MISSOURI																																
COLUMBIA	778	990.2	1019.6	36	20	27.7	- 2.6	53	22	- 3	4	0	27	20	75	3.87	2.16	1.09	13	4	6.6	6	0.7	13	32	N	8	8	1	22	7.4	34
KANSAS CITY	742	991.5	1019.8	34	19	26.5	- 5.2	58	22	- 2	4	0	27	20	77	1.31	- 0.10	0.64	10	2	6.0	6	1.6	3	29	NW	8	7	1	23	7.7	43
ST JOSEPH	811			35	18	26.5	- 0.7	54	15	- 6	31+	0	25	17	70	0.89	- 0.31		8	1	4.4		1.5	34	32	29	5	7	2	22	7.4	
ST LOUIS	535	999.7	1020.9	37	21	29.2	- 2.7	56	29	2	4	0	26	22	77	3.61	1.63	1.37	12	2	2.3	2	1.1	21	33	W	6	8	2	21	7.4	36
SPRINGFIELD	1268	972.2	1019.1	43	24	33.4	- 0.2	61	22	1	4	0	24	22	68	3.33	1.37	2.10	11	2	1.4	1	3.7	15	28	SE	14	8	1	22	7.5	39
MONTANA																																
BILLINGS	3567	886.2	1017.0	15	- 3	6.3	-16.9	47	5	-23	24+	0	31	- 4	64	0.99	0.45	0.36	9	0	12.2	9	1.8	32	33	NW	7	1	3	27	8.8	15
GLASGOW	2284	933.3	1021.5	2	-16	- 7.0	-16.8	42	5	-47	25	0	31	-13	71	1.24	0.76	0.37	15	0	24.1	21	2.7	5	32	35	5	2	5	24	8.3	
GREAT FALLS	3662	883.5	1019.5	6	-11	- 2.8	-24.9	46	5	-37	23	0	30	-11	63	2.05	1.44	0.48	16	0	22.6	17	2.7	26	36	SW	31+	1	5	25	8.5	39
HAVRE	2584	922.1	1021.7	- 2	-21	-11.3	-25.2	43	5	-52	24	0	31	-20	59	1.66	1.17	0.44	16	0	25.2	23	1.8	30	29	NW	7	1	5	25	8.8	57
HELENA	3828	874.7	1017.0	18	- 3	7.2	-11.4	50	5+	-35	24+	0	31	- 1	69	2.78	2.31	0.77	22	1	35.6	24	3.5	28	34	W	4	2	4	25	8.6	30
KALISPELL	2965	904.8	1013.8	20	3	11.3	- 8.5	43	5	-17	23	0	30	4	70	2.97	1.60	0.60	23	0	34.2	28	3.0	4	35	4	26+	0	4	27	9.2	
MILES CITY	2629	920.1	1019.4	8	-10	- 0.7	-17.2	42	5	-37	25	0	31			0.70	0.26		14	0	6.9		4.1	36								
MISSOULA	3190	897.4	1013.6	25	10	17.9	- 1.3	42	7	-18	24	0	30	14	82	2.94	2.02	0.73	24	1	27.5	15	1.0	9	42	NW	7	0	1	30	9.6	19
NEBRASKA																																
GRAND ISLAND	1841	949.9	1019.3	25	9	16.9	- 5.7	43	5	-17	4	0	30	13	83	0.91	0.28	0.25	12	0	7.6	16	1.0	33	48	35	8	3	5	23	8.2	
LINCOLN U	1150			27	12	19.6	- 5.5	46	15	-12	4	0	30			0.68	- 0.24	0.22	9		7.8	6			30	NW	5	5	3	23	8.0	30
NORFOLK	1544			23	4	13.4	- 6.0	42	5	-21	4	0	31			1.21	0.43	0.30	8		9.8	17						5	4	22	7.9	
NORTH PLATTE	2775	915.3	1017.8	26	7	16.2	- 7.8	42	5	-16	24	0	31	13	86	0.94	0.51	0.39	8	0	12.4	10	1.5	6	35	NW	8	5	4	22	7.8	30
OMAHA	977	982.7	1020.0	27	11	18.7	- 3.6	46	15	-14	4	0	30	11	72	1.10	0.28	0.23	15	0	8.3	4	2.4	35	39	NW	5	5	1	25	8.1	22
SCOTTSBLUFF	3957	874.7	1015.2	36	11	23.6	- 1.7	56	7	- 8	4	0	29	16	79	0.72	0.43	0.25	8	0	8.5	4	3.1	8	29	34	8	7	7	17	6.7	
VALENTINE	2587			24	1	12.7	- 7.3	43	5	-22	25	0	31			0.33	- 0.07	0.13	8		5.3	7			45	S	19	6	5	20	7.3	44
NEVADA																																
ELKO	5050	839.5	1013.3	39	19	28.8	6.2	52	20	- 6	29	0	25			1.24	0.08	0.32	15	1	10.8	9	4.0	23	35	27	26	4	6	21	7.8	
ELY	6253	803.9	1013.3	42	20	31.2	5.4	61	6	- 3	31	0	28	19	64	1.24	0.46	0.51	11	0	8.3	3	8.4	20	54	SW	26	5	5	21	7.7	60
LAS VEGAS	2162	937.7	1015.1	57	38	47.5	4.4	68	20	24	10	0	7	29	54	1.57	1.04	0.73	9	0	T	T	4.4	23	44	SW	21	10	5	16	6.1	61
RENO	4404	860.8	1012.0	48	26	37.0	6.6	67	7	9	29	0	25	22	60	4.13	2.94	1.43	9	0	10.7	6	3.7	21	59	SW	12	6	7	18	7.3	48
WINNEMUCCA	4301	862.9	1012.6	43	23	33.2	6.0	58	7	-10	29	0	24	23	67	1.30	0.25	0.29	12	0	6.9	2	4.6	21	44	SW	11	4	4	23	7.9	35
NEW HAMPSHIRE																																
CONCORD	342	1005.1	1018.2	33	11	21.9	0.7	51	23	-12	5	0	30	13	68	1.34	- 1.89	0.48	9	0	4.7	11	4.1	30	37	NW	1	10	9	12	5.5	60
MT WASHINGTON OBS	6262			16	0	8.0	1.7	34	25+	-26	1	0	31			8.60	3.16	3.06	21	0	56.8	23			135Y	W	2	5	5	21	7.7	26
NEW JERSEY																																
ATLANTIC CITY	64	1018.0	1020.4	40	21	30.3	- 4.5	55	31	1	28	0	24	22	73	1.68	- 1.88	0.95	9	0	0.5	T	6.5	30	33	30	1	12	5	14	5.9	45
ATLANTIC CITY U	11			39	26	32.4	- 3.6	53	31	16	28+	0	23			2.24	- 1.51	0.86	11						43	WNW	1					
NEWARK	7	1019.3	1020.3	38	25	31.3	- 1.0	48	23	10	28	0	23	19	63	1.47	- 1.86	0.54	9	0	1.1	1	6.4	29	37	27	1	12	4	15	5.8	
TRENTON U	56			37	26	31.3	- 1.8	49	31	11	28	0	23			2.38	- 0.72	1.09	7		2.4	2			35	NW	1	9	8	14	5.8	62

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5311	836.4	1016.2	51	25	38.0	3.0	62	27+	11	30	0	25	23	60	0.08	- 0.33	0.05	3	0	T	T	1.8	25	42	NW	23+	8	6	17	6.4	68
CLAYTON	4969			55	23	38.9	5.7	74	7	1	24	0	27			T	- 0.35	T	0		T	T						9	6	16	6.3	
ROSWELL	3617			62	28	45.0	7.1	83	8	13	2	0	22			0.01	- 0.47	0.01	1	0	T	0			36	SW	22					68
NEW YORK																																
ALBANY	275	1008.8	1020.0	30	12	20.9	- 1.8	42	22+	- 9	5	0	30	16	80	2.13	- 0.34	0.76	12	0	6.3	9	5.6	27	42	W	8	4	11	16	7.3	47
BINGHAMTON	1590	958.3	1019.6	28	16	22.1	- 1.7	44	31+	- 2	28	0	30	15	77	2.00	- 0.50	1.02	14	0	10.0	7	5.0	25	33	W	1	2	6	23	8.5	36
BUFFALO	705	992.2	1019.0	31	19	25.0	0.5	53	30	1	28	0	25	18	76	3.85	1.01	1.42	22	2	31.2	16	8.1	25	38	SW	9	1	4	26	8.9	36
J.F. KENNEDY	13	1019.3	1020.1	37	26	31.3	- 0.5	47	31+	11	28	0	22	19	63	1.10	- 2.13	0.43	8	0	0.6	T	7.7	30	35	27	1	10	7	14	5.6	
NEW YORK U	132	1015.9	1019.4	37	26	31.8	- 1.4	48	19+	11	28	0	22	18	59	1.10	- 2.21	0.45	8	0	1.0	1	4.9	31	31	W	1					66
NEW YORK LA GUARDIA	11	1018.6	1020.3	36	26	30.9	- 2.7	48	19+	9	28	0	25	16	56	0.93	- 2.38	0.39	9	0	1.4	1	6.6	32	40	NW	1	11	5	15	5.8	
ROCHESTER	547	998.3	1019.2	32	18	25.2	0.0	51	30+	3	28+	0	28	17	71	2.46	0.06	0.70	15	0	25.6	13	7.5	24	38	SW	1	2	4	25	8.5	43
SYRACUSE	410	1004.1	1019.7	31	18	24.3	0.3	45	24	- 2	28	0	28	18	76	3.37	0.22	1.45	16	2	24.5	15	3.7	25	38	W	1	3	5	23	8.0	24
NORTH CAROLINA																																
ASHEVILLE	2140	942.8	1021.0	46	27	36.7	- 0.9	66	31	9	5	0	21	25	70	2.64	- 1.53	1.40	11	0	0.1	T	3.8	34	38	34	7	5	9	17	6.9	49
CAPE HATTERAS R	7	1020.7	1021.0	49	36	42.5	- 4.1	70	19	27	8+	0	15	34	75	3.22	- 0.68	2.00	9	1	0.2	T	7.4	34	32	WNW	1	8	9	14	6.5	51
CHARLOTTE	736	993.6	1022.0	47	29	38.1	- 4.6	68	31	12	6	0	21	24	62	1.93	- 1.60	1.13	8	0	T	T	1.6	1	28	NE	20	5	7	19	7.3	57
GREENSBORO	897	989.2	1022.0	46	27	36.4	- 3.3	67	31	9	5	0	22	22	61	2.01	- 1.39	1.25	8	0	0.3	T	2.7	32	29	W	7	5	7	19	7.3	45
RALEIGH	434	1005.4	1021.8	47	27	37.4	- 4.2	71	31	9	6	0	20	24	62	1.55	- 1.67	1.10	5	0	T	T	3.2	33	23	29	7+	8	6	17	6.8	48
WILMINGTON	28	1020.3	1021.7	54	33	43.2	- 4.7	73	31	21	6	0	19	30	66	2.80	- 0.05	1.68	7	1	0.5	T	3.5	34	31	NW	7	10	6	15	6.3	61
NORTH DAKOTA																																
BISMARCK	1647	957.7	1021.8	10	-11	- 0.8	-10.7	40	5	-27	30	0	31	- 9	64	1.29	0.85	0.40	11	0	16.0	14	3.8	33	36	N	5	6	5	20	7.4	52
FARGO	896	986.5	1021.8	8	-11	- 1.6	- 8.9	32	15	-27	25+	0	31	- 7	72	1.27	0.74	0.28	14	0	14.5	17	3.8	34	36	NW	8	7	4	20	7.2	27
WILLISTON	1899	948.2	1021.9	6	-14	- 4.2	-12.5	38	5	-37	25	0	31	- 9	77	1.03	0.48	0.26	14	0	10.7	15	3.3	35	33	NW	5	4	9	18	7.2	47
OHIO																																
AKRON	1208	974.6	1020.6	35	20	27.5	- 0.8	61	23	0	1	0	23	20	72	2.57	- 0.29	0.88	17	0	4.8	3	5.8	22	25	28	1	1	8	22	8.4	
CINCINNATI OBS	761			37	22	29.3	- 4.4	57	30	2	4	0	22			4.70	1.03	1.56	12		0.5	T			23	W	6					47
CLEVELAND	777	990.5	1020.8	32	19	25.4	- 3.0	59	23	0	1	0	23	16	67	2.84	0.17	0.83	17	0	5.8	4	8.1	22	35	SW	6	1	5	25	8.7	34
COLUMBUS	812	990.5	1021.9	35	19	27.0	- 2.9	61	23	2	8	0	23	18	70	3.40	0.24	1.16	12	1	2.5	1	4.2	22	34	W	1	2	9	20	8.1	32
DAYTON	1002	983.4	1021.1	35	19	26.7	- 2.9	56	30	0	10+	0	24	18	72	3.75	0.57	1.37	11	1	2.5	2	3.9	21	35	25	6	5	3	23	7.7	43
MANSFIELD	1295			34	19	26.2	- 1.1	59	23	0	5+	0	23	20	79	2.41	- 0.81	0.81	11	0	4.0	4	7.6	23	28	22	18	2	5	24	8.4	
TOLEDO	669	994.6	1020.9	30	13	21.6	- 4.7	56	23	- 9	5	0	26	17	81	3.70	1.37	0.89	19	0	9.2	5	5.3	24	29	SW	1	3	7	21	7.9	41
YOUNGSTOWN	1178	976.3	1020.7	31	18	24.7	- 2.6	58	23	0	1	0	24	19	77	2.56	- 0.60	0.85	18	0	8.6	4	5.7	23	29	26	9	2	7	22	8.7	
OKLAHOMA																																
OKLAHOMA CITY	1285	969.9	1017.4	48	29	38.8	1.8	71	27	11	24	0	21	28	71	0.20	- 1.11	0.13	4	0	T	T	1.9	12	37	N	8	4	6	21	[illegible]	48
TULSA	650	993.6	1018.6	46	28	36.9	0.7	70	22	6	4	0	23	25	68	1.63	- 0.08	0.99	6	0	T	T	1.4	13	28	N	8	4	5	22	[illegible]	38
OREGON																																
ASTORIA	8	1009.1	1009.9	40	29	34.3	- 6.4	54	4	11	28	0	19	31	85	12.02	0.31	1.60	27	1	26.3	18	2.4	15	29	20	14+	3	1	27	8.6	
BURNS U	4151	865.9	1011.5	35	17	25.9	1.1	53	5	-10	24	0	30	21	81	3.17	1.55	1.02	19		27.3	11	3.3	24				2	1	28	8.8	
EUGENE	359	998.3	1012.1	42	32	36.9	- 2.2	63	4	1	28	0	15	34	89	12.67	6.34	2.46	23	0	47.1	34	4.9	18	28	17	9	0	4	27	[illegible]	
MEACHAM	4050	867.6	1011.4	29	17	22.6	- 3.4	46	6	- 4	23+	0	28			5.51	1.31	1.09	26		37.4	26	1.6	20	25	25	30	1	3	27	[illegible]	
MEDFORD	1298	965.1	1013.7	41	31	35.7	0.3	54	5	17	29	0	20	32	87	6.16	3.02	1.21	21	0	13.7	4	1.3	21	28	15	29	[illegible]	7	24	8.9	
PENDLETON	1482	958.0	1013.6	28	16	22.0	-10.2	52	6	- 8	23	0	28	17	83	2.88	1.46	0.53	27	0	27.4	15	2.6	23	36	25	31	[illegible]	5	26	9.1	
PORTLAND	21	1010.5	1011.6	36	27	31.9	- 6.5	53	6	16	29	0	18	27	85	7.60	2.23	1.28	22	0	18.3	30	7.1	15	32	[illegible]	24	[illegible]	4	27	9.1	28
SALEM	196	1004.1	1011.5	38	28	33.0	- 5.5	58	4	8	28	0	25	31	91	8.61	1.91	1.67	21	0	21.9	12	5.9	19	29	19	31	2	3	26	8.8	
SEXTON SUMMIT R	3836	876.7	1011.9	34	25	29.4	- 4.7	52	5	14	23	0	25			13.10	7.51	3.26	26		106.7	86			60	16	10	2	5	24	8.8	
PACIFIC AREA																																
JOHNSTON	7	1011.2	1011.8	80	71	75.5	- 1.6	83	12+	65	24	0	0	61	61	1.25	- 2.64	.89	11	0	0.0	0	12.7	4	31	E	24	[illegible]	9	17	6.9	51
KOROR R	94	1006.1	1009.8	86	75	80.7	0.4	89	24	72	15+	0	0	73	81	6.14	- 5.59	1.88	17	0	0.0	0	9.5	6	32	NE	5	[illegible]	10	21	8.3	65
KWAJALEIN	8	1007.1	1007.8	86	76	80.8	0.7	89	2	71	18	0	0	73	77	6.11	2.50	3.66	16	1	0.0	0	18.0	6	55	22	18	[illegible]	2	19	9.5	
MAJURO	10	1007.1	1007.6	84	76	80.1	- 0.1	87	1	72	30	0	0	73	78	8.22	1.24	2.23	19	0	0.0	0	11.6	5	29	NE	23	[illegible]	4	27	9.2	41
PAGO PAGO	12	1005.4	1005.7	88	76	81.7		92	3	71	24	9	0	76	86	17.95		4.93	26	5	0.0	0	2.6	6	48	NW	13	0	8	23	8.5	
PONAPE R	123	1002.4	1007.9	86	74	80.2	- 0.3	89	20+	71	19	0	0	73	77	6.39	- 4.68	2.06	18	0	0.0	0	9.3	6	19	NE	5	[illegible]	3	28	9.3	42

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
TAGUAC GUAM R	361			82	72	76.9	- 1.3	85	1	62	13	0	0			2.79	- 1.84	0.55	24		0.0	0			25	SE	22	1	15	15	7.5	52
TRUK MOEN ISLAND	5	1007.8	1008.1	86	76	80.7	0.0	91	21	72	18	1	0	73	76	1.22	- 7.18	0.30	19	0	0.0	0			25	NE	6	0	5	26	9.0	75
WAKE	11	1013.2	1013.6	82	72	77.0	- 0.4	84	20+	69	12+	0	0	64	68	1.15	0.01	0.46	11	0	0.0	0	12.5	7	30	NE	12+	8	19	4	5.4	72
YAP R	44	1007.8	1009.6	86	74	80.1	- 0.4	88	27	71	3	0	0	72	79	4.10	- 3.77	1.42	17	0	0.0	0	10.3	7	24	NE	5	1	18	12	7.2	54
PENNSYLVANIA																																
ALLENTOWN	387	1006.1	1020.8	35	21	28.0	- 1.0	48	31	7	28+	0	27	15	61	1.47	- 1.70	0.61	9	0	1.4	1	5.1	30	37	28	1	8	8	15	6.2	
ERIE	731	992.2	1020.1	34	20	27.0	- 0.3	59	23	3	1	0	25	19	72	2.95	0.28	0.84	20	0	26.1	10	8.6	22	30	26	1	2	2	27	8.8	
HARRISBURG	338	1008.5	1021.6	37	23	29.9	- 1.4	50	22	8	1	0	24	16	59	1.06	- 1.70	0.42	12	0	1.2	1	4.5	29	36	NW	1	9	7	15	6.4	52
PHILADELPHIA	5	1019.6	1020.7	36	23	29.8	- 2.5	48	31	11	1	0	23	17	61	1.57	- 1.75	0.59	9	0	1.9	2	4.9	32	32	NW	1	10	7	14	6.2	56
PITTSBURGH	1137	975.3	1020.9	34	19	26.7	- 2.2	58	23	3	5	0	24	16	66	2.02	- 0.95	0.44	20	0	6.5	2	4.8	25	31	27	24	1	9	21	8.3	32
READING U	266			37	25	31.2	- 1.5	50	22	11	1	0	23			1.02	- 2.05	0.39	10		1.7	2			43	W	1	10	8	13	5.7	51
SCRANTON	930	985.4	1020.9	33	19	26.0	- 1.7	50	22	3	28	0	27	15	67	0.64	- 1.65	0.46	7	0	2.7	2	3.9	26	28	W	1	2	11	18	7.7	44
WILLIAMSPORT	524	1001.4	1021.3	35	19	27.3	- 1.5	48	22	3	28+	0	28	18	72	1.24	- 1.43	0.57	9	0	0.8	1	5.1	28	26	16	6+	4	11	16	7.2	
RHODE ISLAND																																
BLOCK ISLAND	110			36	25	30.7	- 1.4	48	31	9	28	0	23			0.88	- 2.96	0.24	8		T	T						6	13	12	6.3	
PROVIDENCE	51	1016.3	101[illegible].6	36	21	28.8	- 0.4	49	25	6	28	0	30	18	64	2.23	- 1.58	1.16	9	0	0.5	1	6.7	31	40	30	1	12	5	14	5.5	59
SOUTH CAROLINA																																
CHARLESTON	40	1020.3	1021.8	56	33	44.6	- 5.2	73	31+	20	15	0	16	32	66	1.19	- 1.35	0.80	6	2	0.0	0	3.1	36	46Y	W	7	4	11	16	7.0	47
CHARLESTON U	9			54	40	47.1	- 4.4	74	31	26	5	0	7			1.44	- 0.96	0.52	7		0.0	0			34	NW	7					
COLUMBIA	213	1013.9	1022.1	55	31	42.7	- 4.2	73	31	11	6	0	18	29	64	2.64	- 0.38	2.49	3	0	T	0	1.5	36	23	27	7	5	7	19	7.2	57
GNVLE-SPARTANBURG	957	986.5	1022.1	49	30	39.5	- 4.2	68	31	12	5	0	21	23	59	3.94	- 0.34	2.61	11	0	T	T	2.1	36	30	NE	20	4	9	18	7.4	45
SOUTH DAKOTA																																
ABERDEEN	1296	970.9	1021.0	15	- 6	4.4	- 6.4	40	5	-25	1	0	31	- 2	71	1.11	0.45	0.30	12	0	13.7	10	3.6	35	32	32	8	5	6	20	7.3	
HURON	1282	970.9	1020.5	18	- 2	7.8	- 4.7	40	5	-23	4	0	30	1	72	0.65	0.17	0.11	14	0	13.2	17	1.4	31	40	NW	5	3	6	22	8.0	37
RAPID CITY	3162	900.8	1016.9	26	6	16.0	- 6.0	54	7	-14	25+	0	31	5	65	0.11	- 0.25	0.04	6	0	1.2	2	3.9	1	50	NW	8	6	2	23	7.7	37
SIOUX FALLS	1418	965.8	1020.1	19	- 1	8.8	- 6.4	39	5	-24	4	0	31	2	71	1.71	1.09	0.44	13	0	19.6	33	1.2	32	35	35	5	3	6	22	7.9	
TENNESSEE																																
BRISTOL	1507	966.5	1022.3	44	24	34.3	- 4.0	69	30	- 6	5	0	20	24	68	2.72	- 0.97	0.56	16	0	5.9	5	0.9	28	21	28	24+	4	11	16	7.2	
CHATTANOOGA	665	996.6	1022.1	47	30	38.3	- 3.4	65	30	9	5	0	19	28	70	6.84	1.23	2.36	15	1	7.3	7	1.4	36	24	NW	7	5	7	19	7.3	38
KNOXVILLE	980	985.4	1021.4	45	28	36.5	- 4.9	69	30	7	5	0	19	25	67	4.11	- 0.77	1.50	13	1	0.5	T	1.4	35	30	SW	30	5	5	21	7.4	45
MEMPHIS	258	1010.2	1020.6	49	33	41.2	- 0.3	70	23+	15	5	0	15	29	62	3.14	- 2.93	0.81	13	1	T	T	2.2	12	41	SW	8	3	8	20	7.7	44
NASHVILLE	590	999.0	1021.5	46	28	37.2	- 2.7	65	23	5	5	0	19	26	68	4.96	- 0.53	1.25	17	1	5.2	4	1.4	18	29	S	29	4	5	22	7.8	37
OAK RIDGE R	905			43	28	35.7	- 4.2	64	30	5	5	0	19			4.30	- 1.64	1.58	15		2.8	1			29Y		24	5	5	21	7.5	
TEXAS																																
ABILENE	1762	953.6	1016.0	60	36	48.0	3.4	88	8	17	1	0	10	31	58	0.81	- 0.07	0.81	2	2	0.0	0	3.2	20	35	N	8	6	6	19	7.4	58
AMARILLO	3604	887.9	1012.8	56	27	41.4	4.7	73	27+	8	24	0	24	23	55	0.02	- 0.63	0.02	1	0	0.2	T	5.2	21	47	W	22	7	6	18	6.5	51
AUSTIN	597	995.3	1017.6	64	44	53.6	3.2	84	22	22	5	0	7	40	67	0.40	- 1.95	0.19	6	0	0.0	0	1.4	13	35	N	9	5	8	18	7.3	43
BROWNSVILLE	19	1015.6	1016.3	73	55	64.2	2.8	86	21	33	5	0	0	55	77	0.51	- 0.84	0.41	7	0	0.0	0	2.8	14	35	S	8	5	4	22	7.9	30
CORPUS CHRISTI	41	1015.6	1017.1	68	50	59.1	1.7	87	22	28	5	0	2	50	78	0.35	- 1.28	0.31	3	0	0.0	0	4.6	10	34	NE	24	5	7	19	7.4	36
DALLAS	481	1000.0	1017.6	59	39	49.2	[illegible].3	88	8	20	1	0	9	33	59	2.13	- 0.19	1.90	5	2	0.0	0	3.4	13	36	W	22	5	5	21	7.7	48
DEL RIO	1026	980.0	1016.5	66	44	54.5	3.2	85	22	27	5	0	4	38	62	1.04	0.15	0.87	4	1	0.0	0	3.0	10	23	31	22	6	5	20	7.2	
EL PASO	3918	880.8	1014.1	62	35	48.6	5.7	74	8	20	5	0	12	28	48	0.05	- 0.41	0.05	2	0	0.0	0	3.5	26	49	W	22	9	7	15	5.9	80
FORT WORTH	537	997.0	1017.8	60	38	49.0	3.5	88	8	17	1	0	10	35	65	1.26	- 0.78	0.90	5	3	0.0	0	2.4	16	41	31	22	4	6	21	8.0	
GALVESTON U	7			60	50	55.4	0.5	77	23	34	5	0	0			1.59	- 1.87	0.72	5		0.0	0			30	NE	4					40
HOUSTON	50	1015.9	1018.2	65	48	56.7	3.1	80	28+	27	5	0	3	47	74	2.74	- 1.04	1.57	5	1	0.0	0	2.8	11	30	23	8	2	5	24	8.1	40
LUBBOCK	3254	901.8	1014.3	60	30	44.9	5.7	82	8	12	24	0	16	25	52	T	- 0.68	T	0	0	0.0	0	4.5	23	43	27	22	8	6	17	7.0	
MIDLAND	2851	915.3	1014.6	62	33	47.6	3.6	81	8	18	24	0	15	26	49	0.02	- 0.78	0.01	2	0	0.0	0	4.2	22	37	26	8	8	5	18	6.9	
PORT ARTHUR	16	1018.0	1018.7	63	46	54.6	1.0	77	28+	21	5	0	4	47	81	1.19	- 3.04	0.45	6	0	0.0	0	3.9	9	41	SE	29	2	6	23	8.2	29
SAN ANGELO	1903	948.5	1015.7	66	38	52.1	5.2	90	8	20	1	1	9	32	53	0.02	- 0.95	0.02	1	0	0.0	0	4.1	22	35	28	22	7	8	16	6.7	
SAN ANTONIO	788	988.8	1017.4	62	43	52.5	0.5	80	22	19	5	0	9	41	70	1.76	0.02	1.10	7	2	0.0	0	1.5	5	34	N	30	6	6	19	7.4	44
VICTORIA	104	1013.5	1017.5	67	47	57.0	1.6	80	23+	24	5	0	6	48	77	0.43	- 1.91	0.21	6	0	0.0	0	2.8	11	41Y	SW	8	4	8	19	7.5	
WACO	501	999.3	1017.8	61	41	51.1	3.1	83	22	23	5	0	8	39	68	0.45	- 1.82	0.23	4	0	T	0	2.9	16	29	35	3	5	7	19	7.5	
WICHITA FALLS	994	979.3	1016.6	57	31	43.9	1.1	87	8	15	4+	0	16	31	68	0.57	- 0.55	0.43	3	2	T	0	2.1	11	41	1	8	4	4	23	8.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
UTAH																																
MILFORD	5028	842.9		43	23	33.0	8.4	53	7	1	31+	0	22			1.63	1.06	0.50	11		5.0	3						4	8	19	7.4	
SALT LAKE CITY	4220	867.9	1014.6	40	24	32.2	5.0	58	26	5	29	0	24	23	69	1.69	0.34	0.57	12	2	13.7	8	4.9	18	42	S	26	4	4	23	8.0	32
WENDOVER	4237	866.9	1014.9	39	21	30.3	3.3	64	7	9	10	0	28			0.38	0.06	0.16	8		2.7	2										
VERMONT																																
BURLINGTON	332	1005.4	1018.5	26	7	16.5	0.3	43	23	-12	28+	0	30	7	63	2.43	0.48	1.25	14	0	15.8	25	1.4	21	33	NW	2	4	10	17	7.6	60
VIRGINIA																																
LYNCHBURG	916			41	23	32.2	- 5.4	63	30	1	5	0	23			2.30	- 0.99	1.48	10		1.0	1			28	W	1	10	3	18	6.6	44
NORFOLK	22	1020.3	1021.2	46	32	38.5	- 2.7	69	18	18	6	0	19	27	65	2.26	- 1.07	1.21	6	0	T	0	4.6	33	37	N	20	12	2	17	6.2	61
RICHMOND	164	1015.9	1022.0	43	25	33.9	- 4.8	63	30+	8	6	0	21	22	65	2.04	- 1.42	1.37	7	0	T	0	2.9	33	28	NW	1	9	4	18	6.6	47
ROANOKE	1149	978.3	1021.8	41	24	32.3	- 5.8	66	30	5	5	0	23	17	58	1.86	- 1.26	1.31	11	0	0.1	T	4.3	31	39	29	1	8	5	18	6.8	
WALLOPS ISLAND	9			41	27	34.0		57	31	16	6+	0	22			1.82		0.91	6		T	T			49Y	NE	21					
WASHINGTON																																
OLYMPIA	195	1002.7	1010.1	36	26	30.9	- 7.2	51	5+	4	23	0	24	28	84	9.45	1.60	0.96	27	0	58.7	24	3.9	20	25	20	10	0	0	31	9.7	
QUILLAYUTE	179	1001.0	1008.3	36	27	31.4	- 7.2	51	4	7	23	0	23	29	89	13.82	- 1.45	3.23	23	2	40.1	18	2.1	7	25	W	31	1	4	26	8.6	18
SEATTLE TACOMA	400	993.2	1010.0	37	29	33.1	- 5.2	55	4	15	28	0	18	27	79	5.71	- 0.02	0.94	26	1	45.4	21	3.1	16	29	SW	31	0	2	29	9.5	24
SPOKANE	2356	925.2	1011.6	23	9	16.3	- 9.0	37	6+	-19	23	0	30	12	79	4.08	1.64	0.88	24	0	48.7	42	3.1	17	36	SW	31	1	4	26	9.9	12
STAMPEDE PASS R	3958	868.3		20	11	15.6	- 7.9	45	4	- 7	1	0	30			30.42	18.39	3.66	31		98.9	71						0	2	29	9.7	
WALLA WALLA U	949			30	19	24.3	- 8.9	52	6	0	29+	0	24			4.17	2.28	1.07	25		31.3	16			25	S	10	0	2	29	9.6	8
YAKIMA	1052	973.6	1013.6	26	10	18.2	- 9.3	42	7	-10	30	0	31	14	80	1.52	0.33	0.56	16	0	20.2	18	2.3	28	23	31	7	1	8	22	8.5	
WEST INDIES																																
SAN JUAN P.R.	13	1012.9	1015.3	82	69	75.4	1.0	87	12	65	21	0	0	67	76	7.49	2.79	5.08	17	0	0.0	0	6.1	7	29	E	19	10	16	5	5.6	62
SWAN ISLAND	28			83	74	78.2	- 0.1	85	5	68	18	0	0			10.08	6.64	7.63	19	0	0.0	0						5	18	8	6.9	
WEST VIRGINIA																																
BECKLEY	2504	929.9	1022.3	38	20	28.6	- 5.0	63	30	- 3	5	0	23	19	71	1.91	- 2.35	0.85	14	0	4.0	3	3.5	22	29	20	24	6	7	18	7.1	
CHARLESTON	939	986.5	1021.8	43	23	32.7	- 3.9	68	29	1	5	0	21	21	65	1.50	- 2.82	0.51	13	0	2.0	2	2.7	23	25	25	1	3	10	18	7.5	
ELKINS	1970	947.9		38	18	27.8	- 4.7	62	24	- 4	5	0	25			3.01	- 0.61	1.28	15		3.1	2			28	29	24	2	7	22	8.2	
HUNTINGTON	827	991.2	1022.3	41	23	31.7	- 4.9	65	30	1	5	0	21	22	70	2.34	- 1.31	0.88	14	0	2.1	2	2.6	22	25	27	30	2	10	19	7.6	
PARKERSBURG U	615			38	22	30.2	- 4.4	63	23	3	5	0	23			2.44	- 0.90	1.03	13		2.0	2			33	W	1					32
WISCONSIN																																
GREEN BAY	682	991.9	1019.0	22	6	14.0	- 2.8	40	23	-16	1	0	31	8	76	2.60	1.45	0.96	12	0	11.8	20	4.0	25	26	SW	9	8	6	17	6.6	41
LA CROSSE	651	994.2	1020.2	21	4	12.3	- 4.2	37	22+	-18	4	0	31	6	73	1.95	0.76		14	0	17.0		1.9	27								
MADISON	858	986.5	1019.5	22	8	14.8	- 2.7	38	23	-14	12	0	30	10	78	2.26	0.86	0.74	15	0	9.7	11	2.9	25	26	SW	24+	7	4	20	7.2	37
MILWAUKEE	672	992.9	1019.4	25	12	18.6	- 2.0	44	23	-11	1	0	30	12	75	1.83	0.00	0.75	10	0	11.1	10	5.1	25	34	SE	8	8	3	20	7.1	42
WYOMING																																
CASPER	5338	830.0	1011.2	39	16	27.1	3.7	53	20	- 9	23	0	26	15	62	0.08	- 0.48	0.03	5	0	2.0	1	13.1	22	46	21	21	7	4	20	[illegible]	
CHEYENNE	6126	804.9	1011.4	43	19	31.4	6.0	58	14+	- 3	23	0	29	11	43	0.23	- 0.29	0.13	7	0	3.0	1	7.7	27	63	W	8	7	9	15	6.7	[illegible]
LANDER	5563	820.9	1011.1	37	14	25.3	6.0	54	6	0	4	0	29	12	60	0.12	- 0.34	0.06	3	0	2.0	6	2.8	23	57	SW	7	5	9	17	7.1	59
SHERIDAN	3964	873.0	1017.1	22	- 1	10.3	-11.0	53	7	-17	28	0	31	2	70	1.11	0.47	0.76	7	0	15.0	11	3.3	31	54	NW	26	4	7	20	7.8	54

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

V Sun below horizon January 1-23, inclusive.
X Sun below horizon January 1-17, inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	M.	Mb	Mb	C	C	C.	C.	C		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	189	998.3	1021.4	11.1	1.1	5.9	-2.2	19.4	30	-11.7	5	0	17	-0.6	68	198	70	100	12	1	T	0	0.8	8	10.3	S	8	3	5	23	8.2	39
HUNTSVILLE	190	998.0	1021.6	8.3	-0.6	4.1	-2.0	18.3	30	-12.2	5	0	18	-0.6	75	187	55	75	11	1	T	0	1.2	8	11.2	15	23	4	6	21	7.9	
MOBILE	64	1011.9	1019.9	16.1	5.6	10.8	-0.8	24.4	9	-6.7	5	0	10	5.0	71	71	-47	34	8	1	0	0	1.6	8	11.2	18	8	4	8	19	7.8	
MONTGOMERY	56	1013.9	1021.2	14.4	2.8	8.6	-0.3	24.4	31	-7.2	5	0	15	2.2	71	47	-56	34	9	0	0	0	0.6	5	10.7	S	8	4	6	21	8.0	44
ALASKA												B																				
ANCHORAGE	35	1011.5	1016.7	-11.1	-19.4	-15.2	-4.2	-3.9	30	-26.7	5	0	31	-20.6	63	7	-13	4	4	0	165	457	1.4	36	14.8	1	9	11	7	13	5.3	54
ANNETTE	34	1006.4	1010.6	-2.8	-9.4	-6.0	-7.3	7.2	3	-15.0	28+	0	30	-11.7	66	86	-202	35	13	0	589	356	2.6	4	16.5	14	3	13	4	14	5.4	
BARROW	9	1023.7	1024.3	-21.1	-28.3	-24.8	1.9	-3.3	24	-41.7	9+	0	31	-27.2	80	3	-2	2	6	0	46	254	2.3	11	14.3	11	23	V	V	V		
BARTER ISLAND	12	1023.7	1025.7	-23.3	-30.6	-26.9	0.2	-6.1	25	-42.2	8+	0	31	-31.7	65	1	-10	1	1	0	10	152	1.6	22	19.2	27	5	X	X	X		
BETHEL	38	1012.9	1018.8	-10.0	-15.6	-12.7	3.1	1.7	26+	-30.0	3+	0	31	-15.0	82	10	-18	4	8	0	343	330	1.4	10	14.3	22	28+	6	2	23	7.7	
BETTLES	196	1000.3	1028.4	-27.2	-35.0	-30.9		-9.4	25	-52.2	2	0	31			3		1	6	0	41	610	1.4	36	6.7	2	7	11	7	13	5.4	
BIG DELTA	386	973.9	1028.3	-27.2	-33.9	-30.3		-14.4	25	-46.7	12+	0	31	-33.3	75	9		5	6	0	76	127	3.0	12	12.5	11	29	15	4	12	4.7	
COLD BAY	29	1014.2	1018.2	2.2	-2.2	-0.1	2.2	9.4	22	-13.3	3	0	16	-2.8	83	95	36	14	21	0	257	102	2.4	18	21.5	17	28+	2	4	25	8.5	
FAIRBANKS	133	1007.8	1027.0	-28.3	-36.7	-32.6	-8.7	-10.6	23	-51.7	2	0	31			14	-9	7	5	0	274	635	0.3	3	4.0	3	3	6	13	12	6.6	
FAREWELL	457			-16.7	-29.3	-22.6		0.0	27	-43.3	2	0	31			27		13	6		193	178										
GULKANA	479	960.4	1026.0	-25.0	-33.9	-29.2		-15.0	31	-43.9	17	0	31	-33.9	65	3		1	5	0	61		1.3	2	16.1	4	8	17	3	11	4.3	
HOMER	20			-6.1	-14.4	-10.4		2.8	29	-22.2	12+	0	31			10		4	5	0	170	152						14	2	15	5.5	
ILIAMNA	57			-12.2	-18.9	-15.7		0.0	29	-34.4	2	0	31			25		9	6		437	762						12	4	15	5.6	
JUNEAU	4	1014.2	1015.0	-9.4	-18.9	-14.0	-10.2	1.7	3	-25.6	18	0	31	-19.4	64	24	-78	5	7	0	716	508	3.7	9	13.0	12	30+	13	6	12	4.8	61
KING SALMON	15	1015.9	1017.8	-10.0	-17.8	-13.9	-3.6	1.7	27	-31.1	3+	0	31	-18.3	68	17	-11	8	5	0	155	127	0.8	36	13.9	17	27	9	5	17	6.3	
KOTZEBUE	3	1020.7	1021.1	-14.4	-19.4	-16.9	4.1	-0.6	24+	-35.6	2	0	31	-21.7	66	6	-4	1	12	0	124	254	8.2	11	19.7	11	29+	6	2	23	7.7	
MC GRATH	105	1010.2	1024.1	-20.6	-28.9	-24.8	-2.0	-2.2	22	-48.3	2	0	31	-28.9	69	8	-24	3	8	0	257	432	0.3	10	6.3	5	3	10	3	18	6.5	
NENANA	109			-28.9	-37.2	-33.0		-9.4	25	-54.4	2	0	31			12		6	6	0	180				9.4	30	8	15	4	12	4.9	
NOME	4	1016.9	1017.7	-8.3	-14.4	-11.3	4.0	1.1	23	-31.7	2	0	31	-13.3	83	14	-12	2	18	0	140	279	5.1	10	17.9	15	26	2	4	25	8.7	17
ST. PAUL ISLAND	7	1011.9	1012.8	1.7	-2.2	-0.2	3.5	4.4	25	-10.6	2	0	24	-1.7	87	57	11	9	27	0	297	102	4.2	20	28.2	20	25	3	2	26	8.6	
SHEMYA	37	996.3	1000.0	1.7	-2.2	-0.1	0.3	6.7	8	-7.8	18	0	23	-2.8	80	118	54	27	24	0	394	127	7.7	21	30.8	20	8	0	9	22	8.5	
SUMMIT	732	926.9	1024.2	-18.9	-25.0	-22.1		-7.8	27	-32.8	12+	0	31	-26.7	68	14		7	7	0	168	279	6.5	3	17.0	6	3	13	7	11	5.2	
TALKEETNA	105	1004.1	1018.1	-12.2	-23.9	-18.3		-5.6	30	-32.8	2	0	31	-23.9	63	11		6	5	0	211	381	1.6	1	9.8	5	8	13	6	12	4.9	
TANANA	71			-28.3	-35.0	-31.7		-11.1	25	-52.8	2+	0	31			12		7	9		203	584			9.4	11	29	13	2	16	5.5	
UNALAKLEET	5	1019.6	1020.1	-12.2	-18.9	-15.4		1.1	23	-41.1	3	0	31			4		1	8	0	104	533	8.7	8	18.3	9	29+	5	4	22	7.6	
YAKUTAT	9	1010.5	1011.6	-7.8	-20.6	-14.0	-11.4	1.1	3	-28.9	13	0	31	-18.9	68	90	-185	34	9	0	1013	1448	1.9	9	13.0	14	30	13	7	11	5.1	
ARIZONA																																
FLAGSTAFF	2135	784.6	1016.2	5.0	-5.6	-0.1	2.5	16.1	6	-23.3	30	0	27	-6.7	64	118	71	33	13	0	305	152	2.6	21	9.4	21	29+	5	7	19	7.2	
PHOENIX	340	975.6	1014.9	18.9	6.7	12.7	2.9	23.9	26	-2.8	31	0	2	5.0	66	35	16	23	7	1	0	0	1.1	12	10.7Y	NW	29	10	4	17	6.1	68
TUCSON	788	925.8	1014.4	20.0	6.1	13.1	3.2	27.8	8	-2.8	31+	0	2	1.7	53	19	-2	16	6	0	0	0	1.4	15	11.6	E	4+	10	9	12	5.4	82
WINSLOW	1492	850.0	1016.9	10.6	-2.2	4.1	4.7	17.8	12	-15.0	30	0	21	-3.3	64	3	-8	3	3	0	T	T	2.1	20	17.4	20	21	6	10	15	6.4	
YUMA	59	1007.5	1014.9	21.1	9.4	15.3	3.4	26.7	7	0.6	30	0	0	3.9	53	17	7	13	4	0	0	0	0.6	3	13.4	SE	21	14	4	13	5.3	69
ARKANSAS																																
FORT SMITH	136	1002.4	1019.3	10.6	-0.6	4.8	0.5	25.6	22	-10.0	4+	0	19	-2.2	67	72	5	39	7	1	0	0	1.6	7	13.0	NW	8	2	7	22	8.3	39
LITTLE ROCK	78	1009.8	1019.8	11.7	1.1	6.4	1.6	27.2	8	-8.9	4	0	15	0.0	66	205	72	132	11	4	T	T	0.7	9	17.9	W	23+	3	5	23	8.1	37
CALIFORNIA																																
BAKERSFIELD	145	999.3	1017.1	12.2	6.1	9.4	0.8	22.8	20	-0.6	30+	0	2	5.6	78	54	24	14	13	0	0	0	0.3	8	10.7	2	26	1	3	27	9.2	
BISHOP	1252	871.0		11.7	-4.4	3.6	0.9	21.7	6+	-16.7	30	0	26			227	202	70	11		589	584						7	7	17	6.7	
BLUE CANYON	1609			4.4	-1.1	1.6	-1.2	18.3	5+	-12.2	29+	0	21			823	526	122	20		1875	1168			20.6	18	26	3	3	25	8.5	
EUREKA U	13			10.0	3.3	6.7	-1.9	15.0	3	-1.7	23	0	2			354	183	81	22		5	T			15.6	SW	26	5	2	24	8.1	34
FRESNO	100	1004.7	1016.8	10.0	4.4	7.1	-0.7	17.8	20	-0.6	31+	0	5	3.9	81	217	166	66	14	2	T	0	1.1	13	11.2	SE	21	1	3	27	9.2	14
LONG BEACH	10	1014.6	1016.0	18.3	9.4	14.1	2.3	30.6	3	1.1	30	0	0	7.8	71	285	235	77	12	0	0	0	1.0	20	12.5	18	21	4	7	20	7.5	
LOS ANGELES	30	1011.9	1015.5	17.2	10.6	13.8	1.4	27.8	5	3.9	30	0	0	8.3	73	244	176	101	12	2	0	0	0.7	20	15.6Y	S	21	4	10	17	7.3	
LOS ANGELES U	82			18.3	11.1	14.6	1.4	28.3	5	3.9	29	0	0			379	301	110	12		0	0			13.9	SW	21	5	6	20	7.0	65
MT SHASTA R	1080			3.3	-5.0	-0.7	-1.4	8.3	20	-14.4	29	0	27			248	87	61	20		1369	813										
OAKLAND	2	1015.2	1015.5	11.7	6.1	9.0	0.1	16.1	20+	1.7	10	0	0	6.1	82	175	78	39	17	3	0	0	1.3	17	14.3	21	26	4	8	19	7.7	
RED BLUFF	104	1002.0	1014.9	9.4	2.2	5.8	-1.7	15.0	20	-4.4	29	0	8	2.2	81	178	69	45	15	1	T	T	1.7	18	25.5	SE	26	1	8	22	8.3	29
SACRAMENTO	5	1014.9	1015.8	10.0	3.3	6.7	-0.7	16.1	25	-2.2	10	0	6	3.9	86	216	135	44	16	2	0	0	1.9	18	14.3	W	26	3	4	24	8.4	34
SANDBERG R	1377	860.5		8.9	1.7	5.3	0.9	21.7	6	-8.3	29	0	10			189	124	60	11		8	T			28.6	20	20	4	6	21	7.6	
SAN DIEGO	4	1014.9	1015.9	17.8	11.1	14.5	1.7	30.0	4	3.3	30	0	0	8.9	72	121	70	53	13	0	0	0	0.9	20	13.4	S	21	8	5	18	6.6	57
SAN FRANCISCO	2	1014.9	1015.6	11.7	5.0	8.4	-0.8	17.2	19	0.6	29+	0	0	5.0	81	227	125	52	17	1	0	0	1.3	18	21.9	S	25	2	10	19	7.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C	C	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M.p.s		M.p.s							%
CALIFORNIA																																
SAN FRANCISCO J	16			11.7	6.7	9.2	-1.2	16.1	20+	3.3	29	0	0			197	81	46	17		0	0			15.2	SW	26+					42
SANTA MARIA	72			16.7	6.7	11.8	1.7	24.4	4	-0.6	29	0	1			180	108	49	14		0	0						3	8	20	7.6	
STOCKTON	7	1015.6	1016.5	9.4	3.9	6.6	-0.5	17.2	25	-2.8	10	0	6	4.4	86	158	94	33	16	0	0	0	2.1	16	14.3	27	26	2	7	22	8.5	
COLORADO																																
ALAMOSA	2297	767.4		5.6	-14.4	-4.4	3.7	12.2	14	-22.8	1	0	31			4	-3	2	5		89	25						8	13	10	5.6	
COLORADO SPRINGS	1873	804.9	1013.1	8.3	-6.7	0.8	2.7	17.8	7	-17.8	24+	0	29	-9.4	53	3	-5	2	3	0	145	76	1.1	5	17.0	33	31	7	5	19	7.0	
DENVER	1610	829.7	1010.4	10.0	-6.7	1.7	3.6	20.6	7	-20.6	24	0	31	-7.8	60	4	-10	2	4	0	71	51	0.9	20	2[illegible].6	SW	8	7	6	18	6.7	64
GRAND JUNCTION	1480	850.[illegible]	1017.5	3.3	-7.2	-1.9	1.4	10.6	26+	-16.7	9	0	27	-5.6	77	26	10	10	11	2	86	76	0.7	9	13.0	W	21	5	7	19	7.6	49
PUEBLO	1428	850.7	1012.1	10.6	-5.6	2.5	3.6	20.6	7	-15.0	24	0	29	-7.2	54	1	-7	1	3	0	28	25	0.8	29	15.2	NE	8	7	10	14	6.3	67
CONNECTICUT																																
BRIDGEPORT	2	1019.0	1019.6	2.8	-3.9	-0.8	0.2	11.1	31	-13.3	28	0	26	-7.2	64	31	-63	18	9	0	13	T	3.5	33	18.8	30	1	12	6	13	5.7	
HARTFORD	52	1012.2	1018.9	0.0	-8.9	-4.4	-1.1	6.1	22	-18.3	5	0	30	-10.6	63	30	-61	16	10	0	86	127	2.5	31	16.5	NW	1	10	6	15	6.2	61
NEW HAVEN	2	1019.0		2.2	-5.6	-1.8	-0.5	10.0	31	-15.0	28	0	28			35	-66	17	9		43	25			16.1	W	1	12	4	15	5.8	63
DELAWARE																																
WILMINGTON	23	1018.0	1021.0	3.3	-4.4	-0.7	-1.4	8.9	31+	-11.1	6+	0	23	-7.8	61	43	-44	13	11	0	74	76	2.5	29	17.4	27	1	10	5	16	6.2	
DIST. OF COLUMBIA																																
WASH NAT. AP	3	1019.6	1021.9	5.0	-2.8	1.2	-1.5	15.6	9	-10.6	5	0	20	-6.7	58	43	-34	23	10	0	5	T	2.3	32	13.9	NW	1	11	5	15	6.1	54
FLORIDA																																
APALACHICOLA	4			15.0	7.8	11.3	-1.6	22.2	24	-1.7	6	0	3			21	-58	9	5	2	0	0			12.1	SE	19	6	6	19	7.1	54
DAYTONA BEACH	9	1019.3	1020.5	19.4	9.4	14.4	-0.7	25.6	24+	1.7	2	0	0	8.9	72	39	-11	16	10	0	0	0	1.5	36	11.6	35	12+	3	1[illegible]	16	7.1	
FORT MYERS	5	1019.0	1019.1	22.8	11.7	17.1	-0.4	26.7	24	5.0	7	0	0	12.8	79	37	-2	10	5	0	0	0	2.1	6	10.3	22	4	9	11	11	5.4	
JACKSONVILLE	6	1020.0	1021.0	17.8	6.7	12.3	-0.9	26.7	24	0.0	2	0	1	6.1	70	21	-41	12	6	1	0	0	1.3	1	14.8	N	12	4	13	14	6.9	43
KEY WEST	1	1016.9	1017.6	23.3	19.4	21.2	0.3	25.6	25+	15.6	8	0	0	17.2	79	98	59	54	9	4	0	0	3.9	6	13.0	SE	17	8	10	13	6.0	66
LAKELAND	65			20.6	10.0	15.4	-1.1	27.2	24	3.9	2	0	0			85	33	66	9		0	0						9	15	7	5.5	67
MIAMI	2	1017.6	1018.0	23.3	16.1	19.8	0.4	26.1	25+	10.0	8	0	0	14.4	72	165	118	36	9	2	0	0	2.1	7	11.2	11	20	6	1[illegible]	15	6.6	
ORLANDO	33	1015.9	1020.3	21.1	9.4	15.4	-0.3	27.2	24	3.3	2	0	0	10.0	76	56	6	42	5	0	0	0	2.1	5	10.3	11	29	4	13	14	6.9	
PENSACOLA	34	1015.9	1020.0	15.6	6.1	10.7	-1.3	22.8	31	-4.4	5	0	7	5.0	69	46	-61	23	8		0	0	1.8	7	14.8	N	4	2	6	23	8.3	48
TALLAHASSEE	17	1018.6	1021.0	17.8	3.9	11.0	-1.2	25.6	31+	-7.8	6	0	12	3.9	68	10	-77	6	5	1	0	0	0.8	5	8.0	16	18+	5	6	20	7.4	
TAMPA	6	1019.3	1019.5	20.6	8.9	14.7	-1.5	25.6	28	2.2	7	0	0	9.4	73	45	-9	34	5	0	0	0	1.9	6	8.[illegible]	33	6+	6	1[illegible]	19	6.5	65
WEST PALM BEACH	5	1018.0	1019.7	22.8	13.9	18.4	-1.0	27.2	20	6.1	8	0	0	12.8	70	91	28	42	10	0	0	0	1.8	6	14.3	35	[illegible]	4	10	17	7.2	
GEORGIA																																
ATHENS	244	921.9	1021.7	10.6	0.0	5.3	-1.7	20.0	30	-10.0	6	0	16	-2.8	62	126	2	98	13	3	T	0	0.6	34	9.4	7	20	3	9	19	7.6	
ATLANTA	308	983.7	1021.6	10.0	-0.6	4.6	-2.5	21.1	30	-12.2	5	0	19	-2.2	68	72	-40	42	12	1	T	0	0.8	3	12.5	NW	3	3	6	21	8.1	46
AUGUSTA	41	1016.3	1021.7	13.3	0.0	6.6	-2.1	22.8	18	-11.7	6	0	17	-1.1	64	50	-26	48	6	0	T	0	0.3	33	10.8	30	7	3	9	19	7.6	
COLUMBUS	117	1007.1		12.8	2.2	7.4	-1.3	21.1	30+	-10.0	6	0	15	0.0	64	31	-72	22	9	0	0	0	1.0	4	8.0	8	27	2	5	24	8.5	
MACON	108	1008.5	1021.8	13.3	0.6	6.9	-2.6	25.0	24	-11.7	6	0	15	-1.7	59	47	-39	39	8	1	0	0	0.6	1	8.[illegible]	NW	24+	2	[illegible]	[illegible]	8.1	41
ROME	194			9.4	-1.7	3.7	-1.9	20.0	30	-14.4	5	0	19			120	-20	54	15		T	T										
SAVANNAH	14	1020.0	1021.6	15.0	2.2	8.6	-2.4	25.0	31	-6.1	15	0	13	1.1	66	45	-26	34	6	2	0	0	1.0	[illegible]	11.2	W	7	4	10	17	7.4	63
HAWAII																																
HILO	8	1009.5	1010.8	26.1	17.2	21.9	0.3	30.6	8	12.2	23	0	0	16.1	73	499	199	229	11	0	0	0	0.8	26	10.7	NW	19	4	13	14	6.9	35
HONOLULU	2	1010.5	1010.9	25.0	16.1	20.6	-1.9	27.8	31	11.1	20	0	0	15.6	77	208	113	115	11	1	0	0	1.5	35	12.5	NE	30+	9	11	11	5.8	61
KAHULUI	15	1008.5	1010.8	25.6	15.6	20.4	-1.9	28.3	2	8.9	20	0	0	16.1	77	197	117	54	15	0	0	0	0.3	6	13.0	E	31	11	10	10	5.5	63
LIHUE	31	1006.4	1011.7	22.8	15.0	18.8	-2.9	25.6	2+	10.0	22	0	0	14.4	78	126	-14	40	14	2	0	0	1.1	33	11.2	E	29	10	10	11	5.5	[illegible]
IDAHO																																
BOISE	865	910.0	1012.3	5.0	-2.8	1.3	2.9	12.8	13	-15.0	29	0	21	-3.3	73	89	55	25	21	0	366	152	2.1	13	18.3	SW	26	3	2	26	8.5	26
LEWISTON	431			-1.1	-7.8	-4.7	-3.9	7.2	4	-18.9	25	0	29			76	48	26	20		582	229						1	2	28	9.4	
POCATELLO	1358	858.1	1013.[illegible]	3.3	-6.1	-1.6	3.8	10.6	13+	-17.8	24+	0	24	-6.7	70	46	15	10	17	0	196	102	4.3	20	18.3	[illegible]	20	1	4	26	8.9	35
ILLINOIS																																
CAIRO	96			6.1	-1.7	2.1	-0.9	16.7	23	-13.3	4	0	26			252	138	120	16		267	[illegible]			15.6	[illegible]	23	1	56	20	7.5	37
CHICAGO O HARE	201	994.6	1020.3	-2.2	-10.0	-6.1	-1.7	11.1	23	-22.2	4	0	26	-10.0	75	41	-5	8	11	[illegible]	94	178	1.9	23	17.0	25	24	5	5	21	7.4	
CHICAGO MIDWAY	185	996.6	1020.3	-1.7	-9.4	-5.7	-2.4	11.7	23	-23.3	1	0	26	-11.1	69	55	8	13	12	1	173	175	2.4	22	13.4	[illegible]	28	6	4	21	7.4	3[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C	C.	C	C	C.		C.				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
ILLINOIS																																
MOLINE	177	998.0	1020.6	-3.9	-11.7	-7.8	-2.6	6.1	23	-23.3	4+	0	30	-11.1	76	83	42	27	12	0	157	102	1.3	25	17.9	W	8	7	1	23	7.5	35
PEORIA	199	995.6	1020.2	-2.2	-10.6	-6.5	-3.0	8.3	29+	-22.2	4	0	29	-10.0	76	62	14	15	14	2	117	102	1.2	23	14.3	W	9+	6	4	21	7.5	34
ROCKFORD	221	991.5	1019.9	-3.9	-11.7	-7.8	-2.3	6.1	23	-23.3	4+	0	27	-10.6	78	47	-3	18	11	0	117	203	1.6	23	12.1	25	25+	6	3	22	7.7	
SPRINGFIELD	179	997.6	1020.7	-0.6	-8.9	-4.8	-2.8	10.0	29+	-20.6	4	0	27	-8.3	78	64	15	13	13	1	127	76	1.0	22	15.6	NW	6	6	7	18	7.3	35
INDIANA																																
EVANSVILLE	116	1007.1	1021.6	3.9	-4.4	-0.3	-1.5	15.0	30+	-15.0	5+	0	23	-5.6	68	203	102	69	11	3	114	76	0.4	15	12.5	S	5	6	5	20	7.4	37
FORT WAYNE	241	989.5	1020.8	-0.6	-8.9	-4.8	-2.1	11.7	30+	-20.0	1	0	26	-8.3	79	116	48	44	11	1	97	76	2.5	23	17.0	W	6	5	3	23	8.0	38
INDIANAPOLIS	241	990.9	1021.2	1.1	-7.8	-3.5	-1.9	13.3	30+	-18.9	10+	0	25	-7.8	75	157	80	44	10	2	236	152	1.4	21	13.4	SW	30	6	3	22	7.3	24
SOUTH BEND	236	990.5	1019.9	-1.7	-9.4	-5.4	-1.8	11.1	23	-22.2	4	0	27	-7.8	85	92	36	21	16	2	612	432	2.2	21	12.5	24	24	2	2	27	8.8	
IOWA																																
BURLINGTON	211			-2.8	-11.1	-6.8	-2.6	6.7	23	-23.9	4	0	30	-10.0	76	82	40		13	1	142		0.6	28	14.3	32	6	5	5	21	7.6	
DES MOINES	286	984.1	1020.9	-5.0	-12.8	-8.8	-2.1	3.9	16	-24.4	4	0	31	-11.7	80	26	-7	7	13	0	173	127	0.9	34	16.1	NW	8	5	3	23	7.8	35
DUBUQUE	322	978.7		-5.1	-13.9	-10.0	-2.9	3.9	23	-27.2	4	0	30			65	19	20	12		239	279						6	2	23	7.7	
SIOUX CITY	334	978.3	1020.6	-6.1	-15.6	-10.8	-3.4	5.6	5	-28.3	4	0	30	-13.9	78	31	11	6	12	0	307	381	1.3	35	18.3	NW	5	4	3	24	8.3	31
WATERLOO	265	986.3	1020.5	-6.7	-14.4	-10.6	-2.8	2.2	16	-26.1	4	0	30	-14.4	73	40	10	14	12	0	132	279	0.8	27	12.5	28	24+	5	3	23	7.9	
KANSAS																																
CONCORDIA	448	963.4	1018.8	-0.6	-9.4	-5.2	-2.7	11.1	15	-22.2	4	0	29	-7.8	83	18	T	4	13	2	147	102	0.8	6	20.1	N	8	6	4	21	7.6	34
DODGE CITY	787	922.5	1015.7	5.0	-5.6	-0.2	0.3	16.1	14	-16.1	24	0	27	-4.4	79	1	-14	1	2	0	T	T	1.0	14	20.1	N	8	3	8	20	8.0	43
GOODLAND	1114	883.8	1014.2	5.0	-8.3	-1.6	1.0	14.4	15+	-18.9	24+	0	30	-6.1	77	3	-7	1	5	0	28	51	1.4	16	17.4	35	8	5	10	16	6.9	
TOPEKA	267	986.8	1019.9	1.1	-7.8	-3.4	-1.7	13.3	22	-20.0	31	0	27	-8.3	72	21	-5	10	9	2	157	102	0.8	2	16.5	NW	8	5	4	22	7.8	33
WICHITA	403	968.5	1018.1	3.3	-5.0	-1.1	-1.1	12.8	15	-15.0	4	0	26	-5.6	74	11	-9	8	4	0	T	25	0.9	9	17.9	N	23+	3	6	22	8.3	38
KENTUCKY																																
COVINGTON	265	988.8	1021.8	3.3	-5.6	-1.0	-0.8	13.9	30	-16.1	5	0	21	-6.7	67	118	27	42	13	0	25	25	1.7	22	13.0	19	30	6	4	21	7.5	
LEXINGTON	294	985.1	1022.0	4.4	-4.4	0.1	-1.3	14.4	30	-16.7	5	0	19	-5.6	69	108	-17	31	16	1	48	25	1.5	20	10.7	29	30+	6	4	21	7.5	
LOUISVILLE	145	1003.4	1021.7	5.0	-3.9	0.6	-1.1	15.0	30+	-15.6	4	0	20	-6.1	65	135	31	37	14	1	81	76	0.9	23	15.2	SW	6	5	7	19	7.8	40
LOUISIANA																																
ALEXANDRIA	28	1015.2	1019.6	15.[illegible]	5.0	10.1	-0.1	25.6	29	-7.8	5	0	9			30	-105	8	7	1	0	0	0.9	8	11.6	36	9+	3	4	24	8.5	
BATON ROUGE	20	1016.6	1019.4	17.2	6.7	11.9	0.3	26.7	28	-6.1	5	0	6	5.6	70	34	-87	17	7	1	0	0	1.6	10	10.7	15	29	3	3	25	8.3	
LAKE CHARLES	3	1017.6	1018.6	16.7	7.8	12.2	0.2	25.6	23	-5.0	5	0	5	7.8	79	29	-84	10	6	1	T	0	1.7	10	10.7	16	29	2	5	24	8.1	
NEW ORLEANS	1	1018.6	1019.5	17.8	7.2	12.3	-0.2	26.1	30+	-5.0	6	0	6	6.7	72	79	-18	59	8	0	T	0	1.7	7	12.1	16	29	4	7	20	7.8	
SHREVEPORT	77	1009.1	1018.7	14.4	5.0	9.6	1.0	25.6	29+	-6.7	5	0	9	3.3	68	29	-93	10	6	2	0	0	1.3	13	13.0	20	8	3	6	22	8.3	42
MAINE																																
CARIBOU	190	991.2		-4.4	-13.9	-9.3	2.7	4.4	24	-22.8	17+	0	31			76	23	27	11		749	991						7	4	20	7.3	
PORTLAND	14	1014.6	1017.0	0.6	-9.4	-4.3	1.3	8.3	25	-20.6	5	0	31	-10.6	62	92	-19	37	7	0	137	356	2.1	29	18.8	W	2	11	6	14	5.7	53
MARYLAND																																
BALTIMORE	45	1015.9	1021.8	3.9	-4.4	-0.2	-1.7	13.3	9	-12.2	5	0	23	-7.8	60	35	-52	20	9	0	T	T	2.3	30	15.6	W	10+	9	7	15	6.2	52
MASSACHUSETTS																																
BLUE HILL OBS R	192			0.6	-6.7	-3.1	-0.3	8.3	25	-16.1	28	0	29			58	-56	22	8		23	51			24.1	W	1					57
BOSTON	5	1016.9	1018.0	1.7	-5.0	-1.5	-0.3	9.4	25	-13.9	28	0	26	-8.9	59	57	-43	23	7	0	23	25	3.7	30	22.8	W	1	10	7	14	5.7	61
NANTUCKET	13	1017.6	1017.8	3.9	-2.8	0.4	-0.1	11.1	31	-10.0	1	0	24	-3.9	73	46	-61	34	7	0	10	T	3.1	32	21.0	W	1	3	11	17	7.4	33
WORCESTER	301	979.7	1018.1	-1.1	-8.9	-4.9	-0.4	5.6	19	-17.8	28	0	30	-10.0	66	33	-61	13	10	0	46	229	3.1	28	19.2	27	2	11	6	14	5.6	
MICHIGAN																																
ALPENA	210	991.5	1017.9	-2.2	-10.6	-6.5	0.3	5.6	23	-22.8	1	0	29	-9.4	76	57	7	13	17	0	653	686	1.2	24	10.7	E	9+	0	6	25	8.8	22
DETROIT	189			-0.6	-7.2	-3.8	-1.0	11.7	30	-18.9	1	0	25	-8.9	68	64	12	18	12	0	196		2.5	25	15.6	29	10					
DETROIT M WAYNE CO	193	994.2	1019.4	-0.6	-8.9	-4.9	-1.7	11.7	30	-20.0	1	0	26	-7.8	79	72	23	24	13	0	160	127	2.2	24	14.8	W	10	2	8	21	7.9	30
FLINT	235	989.5	1018.6	-1.7	-8.9	-5.2	-1.1	10.0	30	-19.4	1	0	25	-8.3	77	47	4	14	15	0	259	229	2.7	23	14.3	27	1	2	9	20	8.0	
GRAND RAPIDS	239	988.5	1018.9	-2.8	-9.4	-6.2	-1.8	7.2	23	-20.0	1	0	27	-8.3	84	61	12	12	21	1	704	432	1.6	24	15.6	SW	24	1	3	27	9.0	28
HOUGHTON LAKE	350	974.3	1018.3	-3.3	-11.7	-7.6	-0.5	6.1	23	-24.4	27+	0	29	-9.4	85	47	10	9	19	0	655	457	1.3	25	10.3	27	10+	2	6	23	8.5	
LANSING	256	986.1	1019.1	-1.7	-9.4	-5.7	-1.4	11.1	30	-20.0	1	0	25	-8.3	79	49	-1	10	17	0	335	305	2.5	24	15.2	SW	24	1	10	20	8.1	33
MARQUETTE J	206			-3.3	-8.9	-5.9	1.0	6.7	23	-20.6	1	0	28			61	13	12	22		749	787			11.2	SE	16	0	1	30	9.4	22
MUSKEGON	191	994.6	1018.6	-2.2	-7.8	-5.1	-1.7	7.2	23	-19.4	1	0	27	-7.8	81	76	23	10	21	0	1306	533	1.0	27	13.0	24	24	1	1	29	9.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temp: Average maximum	Temp: Average minimum	Temp: Average	Temp: Departure from normal	Temp: Highest	Date	Temp: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precip: Total	Precip: Departure from normal	Precip: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s		M.p.s							%
MICHIGAN																																
SAULT STE MARIE	220	989.5	1017.5	- 5.6	-12.8	- 9.2	- 0.2	3.3	23	-27.2	1	0	29	-11.1	82	74	22	20	20	0	818	635	0.7	8	14.3	E	28	2	4	25	8.8	25
MINNESOTA																																
DULUTH	435	964.4	1019.1	- 8.9	-18.3	-13.6	- 0.7	0.0	16	-28.9	1	0	31	-16.7	76	119	90	33	23	0	1189	1067	1.3	31	14.8	NW	6	4	5	22	7.9	32
INTERNATIONAL FALLS	359	973.9	1020.1	-12.2	-22.2	-17.3	- 1.2	- 1.1	16	-38.3	26	0	31	-20.0	76	71	50	12	21	0	780	889	0.5	34	10.7	13	27	2	7	22	8.1	
MINNEAPOLIS	254	988.2	1020.4	- 7.8	-17.2	-12.6	- 1.7	1.7	22+	-29.4	1	0	31	-16.7	71	52	34	12	17	0	549	610	0.9	27	13.0	NW	6	6	3	22	7.6	35
ROCHESTER	395	969.2	1019.7	- 7.8	-17.2	-12.3	- 2.1	2.2	22+	-29.4	1	0	31	-16.1	73	32	9	11	12	0	241	483	1.4	26	14.8	29	8	6	3	22	7.5	
ST CLOUD	315	979.7	1020.1	- 9.4	-20.0	-14.9	- 2.7	0.6	16+	-29.4	1	0	31			64	46	13	18		582	762						6	3	22	7.6	
MISSISSIPPI																																
JACKSON	94	1007.8	1020.0	14.4	3.3	8.9	0.1	24.4	30+	-11.7	5	0	14	3.3	71	22	-110	5	11	1	0	0	1.2	12	12.5	SW	8	2	5	24	8.4	35
MERIDIAN	88	1009.8	1021.1	13.9	2.8	8.2	- 0.8	23.9	23	- 9.4	5	0	15	2.8	73	69	- 50	41	10	1	0	0	0.2	5	9.4	18	23	3	3	25	8.5	
MISSOURI																																
COLUMBIA	237	990.2	1019.6	2.2	- 6.7	- 2.4	- 1.4	11.7	22	-19.4	4	0	27	- 6.7	75	98	55	28	13	4	168	152	0.3	13	14.3	N	8	8	1	22	7.4	34
KANSAS CITY	226	991.5	1019.8	1.1	- 7.2	- 3.1	- 2.9	14.4	22	-18.9	4	0	27	- 6.7	77	33	- 3	16	10	2	152	152	0.7	3	13.0	NW	8	7	1	23	7.7	43
ST JOSEPH	247			1.7	- 7.8	- 3.1	- 0.4	12.2	15	-21.1	31+	0	25	- 8.3	70	23	- 8		8	1	112		0.7	34	14.3	29	5	7	2	22	7.4	
ST LOUIS	163	999.7	1020.9	2.8	- 6.1	- 1.6	- 1.5	13.3	29	-16.7	4	0	26	- 5.6	77	92	41	35	12	2	53	51	0.5	21	14.8	W	6	8	2	21	7.4	36
SPRINGFIELD	386	972.2	1019.1	6.1	- 4.4	0.8	- 0.1	16.1	22	-17.2	4	0	24	- 5.6	68	85	35	53	11	2	36	25	1.7	15	12.5	SE	14	8	1	22	7.5	39
MONTANA																																
BILLINGS	1087	886.2	1017.0	- 9.4	-19.4	-14.3	- 9.4	8.3	5	-30.6	24+	0	31	-20.0	64	25	11	9	9	0	310	229	0.8	32	14.8	NW	7	1	3	27	8.8	15
GLASGOW	696	933.3	1021.5	-16.7	-26.7	-21.7	- 9.3	5.6	5	-43.9	25	0	31	-25.0	71	31	19	9	15	0	612	533	1.2	5	14.3	35	5	2	5	24	8.3	
GREAT FALLS	1116	883.5	1019.5	-14.4	-23.9	-19.3	-13.8	7.8	5	-38.3	23	0	30	-23.9	63	52	37	12	16	0	574	432	1.2	26	16.1	SW	31+	1	5	25	8.5	39
HAVRE	788	922.1	1021.7	-18.9	-29.4	-24.1	-14.0	6.1	5	-46.7	24	0	31	-28.9	59	42	30	11	16	0	640	584	0.8	30	13.0	NW	7	1	5	25	8.8	57
HELENA	1167	874.7	1017.0	- 7.8	-19.4	-13.8	- 6.3	10.0	5+	-37.2	24+	0	31	-18.3	69	71	59	20	22	1	904	610	1.6	28	15.2	W	4	2	4	25	8.6	[illegible]
KALISPELL	904	904.8	1013.8	- 6.7	-16.1	-11.5	- 4.7	6.1	5	-27.2	23	0	30	-15.6	70	75	41	15	23	0	869	711	1.3	4	15.6	4	26+	0	4	27	9.2	
MILES CITY	801	920.1	1019.4	-13.3	-23.3	-18.2	- 9.6	5.6	5	-33.3	25	0	31			18	7		14	0	175		1.8	36								
MISSOULA	972	897.4	1013.6	- 3.9	-12.2	- 7.8	- 0.7	5.6	7	-27.8	24	0	30	-10.0	82	75	51	19	24	1	699	381	0.4	9	18.8	NW	7	0	1	30	9.6	19
NEBRASKA																																
GRAND ISLAND	561	949.9	1019.3	- 3.9	-12.8	- 8.4	- 3.2	6.1	5	-27.2	4	0	30	-10.6	83	23	7	6	12	0	193	406	0.4	33	21.5	35	8	3	5	23	8.2	
LINCOLN	351			- 2.8	-11.1	- 6.9	- 3.1	7.8	15	-24.4	4	0	30			17	- 6	6	9		198	152			13.4	NW	5	5	3	23	8.0	30
NORFOLK	471			- 5.0	-15.6	-10.3	- 3.3	5.6	5	-29.4	4	0	31			31	11	8	8		249	432						5	4	22	7.9	
NORTH PLATTE	846	915.3	1017.8	[illegible]	-13.9	- 8.8	- 4.3	5.6	5	-26.7	24	0	31	-10.6	86	24	13	10	8	0	315	254	0.7	6	15.6	NW	8	5	4	22	7.8	30
OMAHA	298	982.7	1020.0	- 2.8	-11.7	- 7.4	- 2.0	7.8	15	-25.6	4	0	30	-11.7	72	28	7	6	15	0	211	102	1.1	35	17.4	NW	5	5	1	25	8.1	22
SCOTTSBLUFF	1206	874.7	1015.2	2.2	-11.7	- 4.7	- 0.9	13.3	7	-22.2	4	0	29	- 8.9	79	18	11	6	8	0	216	102	1.4	8	13.0	34	8	7	7	17	6.7	
VALENTINE	789			- 4.4	-17.2	-10.7	- 4.1	6.1	5	-30.0	25	0	31			8	- 2	3	8		135	178			20.1	5	19	6	5	20	7.3	44
NEVADA																																
ELKO	1539	839.5	1013.3	3.9	- 7.2	- 1.8	3.4	11.1	20	-21.1	29	0	25			31	2	8	15	1	274	229	1.8	23	15.6	27	26	4	6	21	7.8	
ELY	1906	803.9	1013.3	5.6	- 6.7	- 0.4	4.7	16.1	6	-19.4	31	0	28	- 7.2	64	31	12	13	11	0	211	76	3.8	22	24.1	SW	26	5	5	21	7.7	60
LAS VEGAS	659	937.7	1015.1	13.9	3.3	8.6	2.4	20.0	20	- 4.4	10	0	7	- 1.7	54	40	26	19	9	0	T	T	2.0	23	19.7	SW	21	10	5	16	6.2	61
RENO	1342	860.8	1012.0	8.9	- 3.3	2.8	3.7	19.4	7	-12.8	29	0	25	- 5.6	60	105	75	36	9	0	272	152	1.7	21	26.4	SW	12	6	7	18	7.3	48
WINNEMUCCA	1311	862.9	1012.6	6.1	- 5.0	0.7	3.3	14.4	7	-23.3	29	0	24	- 5.0	67	33	6	7	12	0	175	51	2.1	21	19.7	SW	11	4	4	23	7.9	35
NEW HAMPSHIRE																																
CONCORD	104	1005.1	1018.2	0.6	-11.7	- 5.6	0.4	10.6	23	-24.4	5	0	30	-10.6	68	34	- 48	12	9	0	119	279	1.8	30	16.5	NW	1	10	9	12	5.5	60
MT WASHINGTON OBS	1909			- 8.9	-17.8	-13.3	0.9	1.1	25+	-32.2	1	0	31			218	80	78	21	0	1443	584			62.4Y	W	2	5	5	21	7.7	26
NEW JERSEY																																
ATLANTIC CITY	20	1018.0	1020.4	4.4	- 6.1	- 0.9	- 2.5	12.8	31	-17.2	28	0	24	- 5.6	73	43	- 48	24	9	0	13	T	2.9	30	14.8	30	1	12	5	14	5.9	45
ATLANTIC CITY	3			3.9	- 3.3	0.2	- 2.0	11.7	31	- 8.9	28+	0	23			57	- 38	22	11		0				19.2	WNW	1					
NEWARK	2	1019.3	1020.3	3.3	- 3.9	- 0.4	- 0.6	8.9	23	-12.2	28	0	23	- 7.2	63	37	- 47	14	9	0	28	25	2.9	29	16.5	27	1	12	4	15	5.8	
TRENTON	17			2.8	- 3.3	- 0.4	- 1.0	9.4	31	-11.7	28	0	23			60	- 18	28	7		61	51			15.6	NW	1	9	8	14	5.8	62
NEW MEXICO																																
ALBUQUERQUE	1619	836.4	1016.2	10.6	- 3.9	3.3	1.7	16.7	27+	-11.7	30	0	25	- 5.0	60	2	- 8	1	[illegible]	0	T	T	0.9	25	18.8	NW	23+	8	6	17	6.4	69
CLAYTON	1515			12.8	- 5.0	3.8	3.2	23.3	7	-17.2	24	0	27			T	- 9	T	0		T	T						9	6	16	6.3	
ROSWELL	1112			16.7	- 2.2	7.2	3.9	28.3	8	-10.6	2	0	22			T	- 12	T	1	0	T	0			16.1	SW	22					68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C	C	C	C.		C				C	%	Mm.	Mm	Mm			Mm	Mm	Mps		Mps							%
NEW YORK																																
ALBANY	84	1008.8	1022.0	- 1.1	-11.1	- 6.2	- 1.0	5.6	22+	-22.8	5	0	30	- 8.9	80	54	- 9	19	12	0	160	229	2.5	27	18.8	W	8	4	11	16	7.3	47
BINGHAMTON	485	958.3	1019.6	- 2.2	- 8.9	- 5.5	- 0.9	6.7	31+	-18.9	28	0	30	- 9.4	77	51	- 13	26	14	0	254	178	2.2	25	14.8	W	1	2	6	23	8.5	36
BUFFALO	215	992.2	1019.0	- 0.6	- 7.2	- 3.9	0.3	11.7	30	-17.2	28	0	25	- 7.8	76	98	26	36	22	2	792	406	3.6	25	17.0	SW	9	1	4	26	8.9	36
J.F. KENNEDY	4	1019.3	1020.1	2.8	- 3.3	- 0.4	- 0.3	8.3	31+	-11.7	28	0	22	- 7.2	63	28	- 54	11	8	0	15	T	3.4	30	15.6	27	1	10	7	14	5.6	
NEW YORK U	40	1015.9	1019.4	2.8	- 3.3	- 0.1	- 0.8	8.9	19+	-11.7	28	0	22	- 7.8	59	28	- 56	11	8	0	25	25	2.2	31	13.9	W	1					66
NEW YORK LA GUARDIA	3	1018.6	1020.3	2.2	- 3.3	- 0.6	- 1.5	8.9	19+	-12.8	28	0	25	- 8.9	56	24	- 60	10	9	0	36	25	3.0	32	17.9	NW	1	11	5	15	5.8	
ROCHESTER	167	998.3	1019.2	0.0	- 7.8	- 3.8	0.0	10.6	30+	-16.1	28+	0	28	- 8.3	71	62	2	18	15	0	650	330	3.4	24	17.0	SW	1	2	4	25	8.5	43
SYRACUSE	125	1004.1	1019.7	- 0.6	- 7.8	- 4.3	0.2	7.2	24	-18.9	28	0	28	- 7.8	76	86	6	37	16	2	622	381	1.7	25	17.0	W	1	3	5	23	8.0	24
NORTH CAROLINA																																
ASHEVILLE	652	942.8	1021.0	7.8	- 2.8	2.6	- 0.5	18.9	31	-12.8	5	0	21	- 3.9	70	67	- 39	36	11	0	T	T	1.7	34	17.0	34	7	5	9	17	6.9	49
CAPE HATTERAS R	2	1020.7	1021.0	9.4	2.2	5.8	- 2.3	21.1	19	- 2.8	8+	0	15	1.1	75	82	- 17	51	9	1	5	T	3.3	34	14.3	WNW	1	8	9	14	6.5	51
CHARLOTTE	224	993.6	1022.0	8.3	- 1.7	3.4	- 2.6	20.0	31	-11.1	6	0	21	- 4.4	62	49	- 41	29	8	0	T	T	0.7	1	12.5	NE	20	5	7	19	7.2	57
GREENSBORO	273	989.2	1022.0	7.8	- 2.8	2.4	- 1.6	19.4	31	-12.8	5	0	22	- 5.6	61	51	- 35	32	8	0	8	T	1.2	32	13.0	W	7	5	7	19	7.3	45
RALEIGH	132	1005.4	1021.8	8.3	- 2.8	3.0	- 2.3	21.7	31	-12.8	6	0	20	- 4.4	62	39	- 42	28	5	0	T	T	1.4	33	10.3	29	7+	8	6	17	6.8	49
WILMINGTON	9	1020.3	1021.7	12.2	0.6	6.2	- 2.6	22.8	31	- 6.1	6	0	19	- 1.1	66	71	- 1	43	7	1	13	T	1.6	34	13.9	NW	7	10	6	15	6.3	61
NORTH DAKOTA																																
BISMARCK	502	957.7	1021.8	-12.2	-23.9	-18.2	- 5.9	4.4	5	-32.8	30	0	31	-22.8	64	33	22	10	11	0	406	356	1.7	33	16.1	N	5	6	5	20	7.4	52
FARGO	273	986.5	1021.8	-13.3	-23.9	-18.7	- 4.9	0.0	15	-32.8	25+	0	31	-21.7	72	32	19	7	14	0	368	432	1.7	34	16.1	NW	8	7	4	20	7.2	27
WILLISTON	579	948.2	1021.9	-14.4	-25.6	-20.1	- 6.9	3.3	5	-38.3	25	0	31	-22.8	77	26	12	7	14	0	272	381	1.5	35	14.8	NW	5	4	9	18	7.2	47
OHIO																																
AKRON	368	974.6	1020.6	1.7	- 6.7	- 2.5	- 0.4	16.1	23	-17.8	1	0	23	- 6.7	72	65	- 7	22	17	0	122	76	2.6	22	11.2	28	1	1	8	22	8.4	
CINCINNATI OBS	232			2.8	- 5.6	- 1.5	- 2.4	13.9	30	-16.7	4	0	22			119	26	40	12		13	T			10.3	W	6					46
CLEVELAND	237	990.5	1020.8	0.0	- 7.2	- 3.7	- 1.7	15.0	23	-17.8	1	0	23	- 8.9	67	72	4	21	17	0	147	102	3.6	22	15.6	SW	6	1	5	25	8.7	34
COLUMBUS	247	990.5	1021.9	1.7	- 7.2	- 2.8	- 1.6	16.1	23	-16.7	8	0	23	- 7.8	70	86	6	29	12	1	64	25	1.9	22	15.2	W	1	2	9	20	8.1	32
DAYTON	305	983.4	1021.1	1.7	- 7.2	- 2.9	- 1.6	13.3	30	-17.8	10+	0	24	- 7.8	72	95	14	35	11	1	64	51	1.7	21	15.6	S	6	5	3	23	7.7	43
MANSFIELD	395			1.1	- 7.2	- 3.2	- 0.6	15.0	23	-17.8	5+	0	23	- 6.7	79	61	- 21	21	11	0	102	102	3.4	23	12.5	22	18	2	5	24	8.4	
TOLEDO	204	994.6	1020.9	- 1.1	-10.6	- 5.8	- 2.6	13.3	23	-22.8	5	0	26	- 8.3	81	94	35	23	19	0	234	127	2.4	24	13.0	SW	1	3	7	21	7.9	41
YOUNGSTOWN	359	976.3	1020.7	- 0.6	- 7.8	- 4.1	- 1.4	14.4	23	-17.8	1	0	24	- 7.2	77	65	- 15	22	18	0	218	102	2.5	23	13.0	26	9	2	7	22	8.3	
OKLAHOMA																																
OKLAHOMA CITY	392	969.9	1017.4	8.9	- 1.7	3.8	1.0	21.7	27	-11.7	24	0	21	- 2.2	71	5	- 28	3	4	0	T	T	0.8	12	16.5	N	8	4	6	21	7.8	48
TULSA	198	993.6	1018.6	7.8	- 2.2	2.7	0.4	21.1	22	-14.4	4	0	23	- 3.9	68	41	- 2	25	6	0	T	T	0.6	13	12.5	N	8	4	5	22	8.0	33
OREGON																																
ASTORIA	2	1009.1	1009.9	4.4	- 1.7	1.3	- 3.6	12.2	4	-11.7	28	0	19	- 0.6	85	305	8	41	27	1	668	457	1.1	15	13.0	20	14+	3	1	27	8.6	
BURNS U	1265	865.9	1011.5	1.7	- 8.3	- 3.4	0.6	11.7	5	-23.3	24	0	30	- 6.1	81	81	39	26	19		693	279	1.5	24				2	1	28	8.8	
EUGENE	109	998.3	1012.1	5.6	0.0	2.7	- 1.2	17.2	4	-17.2	28	0	15	1.1	89	322	161	62	23	0	1196	864	2.2	18	12.5	17	9	0	4	27	9.2	
MEACHAM	1234	867.6	1011.4	- 1.7	- 8.3	- 5.2	- 1.9	7.8	6	-20.0	23+	0	28			140	33	28	26		950	660	0.7	20	11.2	25	30	1	3	27	9.0	
MEDFORD	396	965.1	1013.7	5.0	- 0.6	2.1	0.2	12.2	5	- 8.3	29	0	20	0.0	87	156	77	31	23	0	348	102	0.6	21	12.5	15	29	0	7	24	8.9	
PENDLETON	452	958.0	1013.6	- 2.2	- 8.9	- 5.6	- 5.7	11.1	6	-22.2	23	0	28	- 8.3	83	73	37	13	27	0	696	381	1.2	23	16.1	25	31	0	5	26	9.1	
PORTLAND	6	1010.5	1011.6	2.2	- 2.8	- 0.1	- 3.6	11.7	6	- 8.9	29	0	18	- 2.8	85	193	57	33	22	0	465	762	3.2	15	14.3	E	24	0	4	27	9.1	28
SALEM	60	1004.1	1011.5	3.3	- 2.2	0.6	- 3.1	14.4	4	-13.3	28	0	25	- 0.6	91	219	49	42	21	0	556	305	2.6	19	13.0	19	31	2	3	26	8.8	
SEXTON SUMMIT R	1169	876.7	1011.9	1.1	- 3.9	- 1.4	- 2.6	11.1	5	-10.0	23	0	25			333	191	83	26		2710	2184			26.8	16	10	2	5	24	8.5	
PACIFIC AREA																																
JOHNSTON	2	1011.2	1011.8	26.7	21.7	24.2	- 0.9	28.3	12+	18.3	24	0	0	16.1	61	32	- 67	23	11	0	0	0	5.7	4	13.4	E	24	5	9	17	6.9	52
KOROR R	29	1006.1	1009.8	30.0	23.9	27.1	0.2	31.7	24	22.2	15+	0	0	22.8	81	156	-142	48	17	0	0	0	4.2	6	14.3	NE	5	0	10	21	8.3	68
KWAJALEIN	2	1007.1	1007.8	30.0	24.4	27.1	0.4	31.7	2	21.7	18	0	0	22.8	77	155	64	93	16	1	0	0	8.0	6	24.6	22	18	0	2	29	9.5	
MAJURO	3	1007.1	1007.6	28.9	24.4	26.7	- 0.1	30.6	1	22.2	30	0	0	22.8	78	209	31	57	19	0	0	0	5.2	5	13.0	NE	23	0	4	27	9.2	41
PAGO PAGO	4	1005.4	1005.7	31.1	24.4	27.6		33.3	3	21.7	24	9	0	24.4	86	456		125	26	5	0	0	1.2	6	21.5	NW	13	0	8	23	8.5	
PONAPE R	37	1002.4	1007.9	30.0	23.3	26.8	- 0.2	31.7	20+	21.7	19	0	0	22.8	77	162	-119	52	18	0	0	0	4.2	6	8.5	NE	5	0	3	28	9.3	42
TAGUAC GUAM R	110			27.8	22.2	24.9	- 0.7	29.4	1	16.7	13	0	0			71	- 47	14	24		0	0			11.2	SE	22	1	15	15	7.5	52
TRUK MOEN ISLAND	2	1007.8	1008.1	30.0	24.4	27.1	0.0	32.8	21	22.2	18	1	0	22.8	76	31	-182	8	19	0	0	0			11.2	NE	6	0	5	26	9.0	75
WAKE	3	1013.2	1013.6	27.8	22.2	25.0	- 0.2	28.9	20+	20.6	12+	0	0	17.8	68	29	T	12	11	0	0	0	5.6	7	13.4	NE	12+	8	19	4	5.4	72
YAP R	13	1007.8	1009.6	30.0	23.3	26.7	- 0.2	31.1	27	21.7	3	0	0	22.2	79	104	- 96	36	17	0	0	0	4.6	7	10.7	NE	5	1	18	12	7.2	54
PENNSYLVANIA																																
ALLENTOWN	118	1006.1	1020.8	1.7	- 6.1	- 2.2	- 0.6	8.9	31	-13.9	28+	0	27	- 9.4	61	37	- 43	15	9	0	36	25	2.3	30	16.5	28	1	8	8	15	6.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temp: Average maximum	Temp: Average minimum	Temp: Average	Temp: Departure from normal	Temp: Highest	Date	Temp: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precip: Total	Precip: Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C.	C	C	C.		C				C.	%	Mm.	Mm	Mm			Mm	Mm	M p s		M p s							%
PENNSYLVANIA																																
ERIE	223	992.2	1020.1	1.1	- 6.7	- 2.8	- 0.2	15.0	23	-16.1	1	0	25	- 7.2	72	75	7	21	20	0	663	254	3.8	22	13.4	26	1	2	2	27	8.8	
HARRISBURG	103	1008.5	1021.6	2.8	- 5.0	- 1.2	- 0.8	10.0	22	-13.3	1	0	24	- 8.9	59	27	- 43	11	12	0	30	25	2.0	29	16.1	NW	1	9	7	15	6.4	52
PHILADELPHIA	2	1019.6	1020.7	2.2	- 5.0	- 1.2	- 1.4	8.9	31	-11.7	1	0	23	- 8.3	61	40	- 44	15	9	0	48	51	2.2	32	14.3	NW	1	10	7	14	6.2	56
PITTSBURGH	347	975.3	1020.9	1.1	- 7.2	- 2.9	- 1.2	14.4	23	-16.1	5	0	24	- 8.9	66	51	- 24	11	20	0	165	51	2.1	25	13.9	27	24	1	9	21	8.3	42
READING	81			2.8	- 3.9	- 0.4	- 0.8	10.0	22	-11.7	1	0	23			26	- 52	10	10		43	51			19.2	W	1	10	8	13	6.7	51
SCRANTON	283	985.4	1020.9	0.6	- 7.2	- 3.3	- 0.9	10.0	22	-16.1	28	0	27	- 9.4	67	16	- 42	12	7	0	69	51	1.7	26	12.5	W	1	2	11	18	7.7	44
WILLIAMSPORT	160	1001.4	1021.3	1.7	- 7.2	- 2.6	- 0.8	8.9	22	-16.1	28+	0	28	- 7.8	72	31	- 36	14	9	0	20	25	2.3	28	11.6	16	6+	4	11	16	7.2	
RHODE ISLAND																																
BLOCK ISLAND	34			2.2	- 3.9	- 0.7	- 0.8	8.9	31	-12.8	28	0	23			22	- 75	6	8		T	T						6	13	12	6.3	
PROVIDENCE	16	1016.3	1018.6	2.2	- 6.1	- 1.8	- 0.2	9.4	25	-14.4	28	0	30	- 7.8	64	57	- 40	29	9	0	13	25	3.0	31	17.9	30	1	12	5	14	5.5	59
SOUTH CAROLINA																																
CHARLESTON	12	1020.3	1021.8	13.3	0.6	7.0	- 2.9	22.8	31+	- 6.7	15	0	16	0.0	66	30	- 34	20	6	2	0	0	1.4	36	20.6Y	W	7	4	11	16	7.0	47
CHARLESTON	3			12.2	4.4	8.4	- 2.4	23.3	31	- 3.3	5	0	7			37	- 24	13	7		0	0			15.2	NW	7					
COLUMBIA	65	1013.9	1022.1	12.8	- 0.6	5.9	- 2.3	22.8	31	-11.7	6	0	18	- 1.7	64	67	- 10	63	3	0	T	0	0.7	36	10.3	27	7	5	7	14	7.2	57
GREENVILLE-SPARTANBURG	292	986.5	1022.1	9.4	- 1.1	4.2	- 2.3	20.0	31	-11.1	5	0	21	- 5.0	59	100	- 9	66	11	0	T	T	0.9	36	13.4	NE	20	4	9	18	7.4	45
SOUTH DAKOTA																																
ABERDEEN	395	970.9	1021.0	- 9.4	-21.1	-15.3	- 3.6	4.4	5	-31.7	1	0	31	-18.9	71	28	11	8	12	0	348	254	1.6	35	14.3	32	8	5	6	20	7.3	
HURON	391	970.9	1020.5	- 7.8	-18.9	-13.4	- 2.6	4.4	5	-30.6	4	0	30	-17.2	72	17	4	3	14	0	335	432	0.6	31	17.9	NW	5	3	6	22	8.0	37
RAPID CITY	964	900.8	1016.9	- 3.3	-14.4	- 8.9	- 3.3	12.2	7	-25.6	25+	0	31	-15.0	65	3	- 6	1	6	0	3	51	1.7	1	22.4	NW	8	6	2	23	7.7	37
SIOUX FALLS	432	965.8	1020.1	- 7.2	-18.3	-12.9	- 3.6	3.9	5	-31.1	4	0	31	-16.7	71	43	28	11	13	0	498	838	0.5	32	15.6	35	5	3	6	22	7.9	
TENNESSEE																																
BRISTOL	459	966.5	1022.3	6.7	- 4.4	1.3	- 2.2	20.6	30	-21.1	5	0	20	- 4.4	68	69	- 25	14	16	0	191	127	0.4	28	9.4	28	24+	4	11	16	7.2	
CHATTANOOGA	203	996.6	1022.1	8.3	- 1.1	3.5	- 1.9	18.3	30	-12.8	5	0	19	- 2.2	70	174	31	[illegible]	15	1	185	178	0.6	36	13.7	NW	7	5	7	19	7.3	48
KNOXVILLE	299	985.4	1021.4	7.2	- 2.2	2.5	- 2.7	20.6	30	-17.9	5	0	19	- 3.9	67	104	- 20	38	13	1	14	T	0.6	35	13.4	NW	30	5	5	21	7.4	45
MEMPHIS	79	1010.2	1020.6	9.4	0.6	5.1	- 0.2	21.1	23+	- 9.4	5	0	15	- 1.7	62	80	- 74	21	13	1	T	T	1.0	12	18.8	SW	8	3	8	20	7.7	44
NASHVILLE	180	999.0	1021.5	7.8	- 2.2	2.9	- 1.5	18.3	23	-15.0	5	0	19	- 3.3	68	126	- 13	32	17	1	132	102	0.6	18	13.9	[illegible]	29	4	5	22	7.8	47
OAK RIDGE	276			6.1	- 2.2	2.1	- 2.3	17.8	30	-15.0	5	0	19			109	- 42	[illegible]	15		71	25			13.0		24	5	[illegible]	21	7.5	
TEXAS																																
ABILENE	537	953.6	1016.0	15.6	2.2	8.9	1.9	31.1	8	- 8.3	1	0	10	- 0.6	58	21	- 2	21	2	2	[illegible]	0	1.4	20	15.6	N	8	6	6	19	7.4	54
AMARILLO	1098	887.9	1012.8	13.3	- 2.8	5.2	2.6	22.8	27+	-13.3	24	0	24	- 5.0	55	1	- 16	1	1	0	5	T	2.3	21	21.0	W	22	7	6	18	6.5	51
AUSTIN	182	995.3	1017.6	17.8	6.7	12.0	1.8	28.9	22	- 5.6	5	0	7	4.4	67	10	- 50	5	6	0	0	0	1.6	13	15.6	N	9	5	8	18	7.3	43
BROWNSVILLE	6	1015.6	1016.3	22.8	12.8	17.9	1.6	30.0	21	0.6	5	0	0	12.8	77	13	- 21	10	7	0	0	0	1.3	14	15.6	[illegible]	8	5	[illegible]	[illegible]	7.9	[illegible]
CORPUS CHRISTI	12	1015.6	1017.1	[illegible]	10.0	15.1	0.9	30.6	22	- 2.2	5	0	2	13.0	78	9	- 33	8	3	0	[illegible]	0	2.1	10	18.2	NE	24	5	[illegible]	19	7.4	[illegible]
DALLAS	147	1000.0	1017.6	15.0	3.9	9.6	1.8	31.1	8	- 6.7	1	0	9	0.6	59	54	- 5	48	5	2	[illegible]	0	1.5	13	16.1	W	22	5	5	21	7.7	48
DEL RIO	313	980.0	1016.5	18.9	6.7	12.5	1.8	29.4	22	- 2.8	5	0	4	3.3	62	26	4	22	4	1	[illegible]	0	1.3	10	[illegible]	31	22	6	[illegible]	[illegible]	7.2	
EL PASO	1194	880.8	1014.1	16.7	1.7	9.2	3.2	23.3	8	- 6.7	5	0	12	- 2.2	49	1	- 10	1	2	0	0	0	1.6	26	21.0	W	22	9	7	15	5.9	80
FORT WORTH	164	997.0	1017.8	15.6	3.3	9.4	1.9	31.1	8	- 8.3	1	0	10	1.7	65	32	- 20	23	5	3	[illegible]	[illegible]	1.1	16	18.3	31	22	4	6	21	7.0	
GALVESTON	2			15.6	10.0	13.0	0.3	25.0	23	1.1	5	0	0			40	- 47	18	5		[illegible]	[illegible]			13.4	NE	4					40
HOUSTON	15	1015.9	1018.2	[illegible]	8.9	13.7	1.7	26.7	28+	- 2.8	5	0	3	8.3	74	70	- 26	40	5	1	[illegible]	0	1.3	11	13.4	[illegible]	8	2	[illegible]	24	8.1	[illegible]
LUBBOCK	992	901.8	1014.3	15.6	- 1.1	7.2	3.2	27.8	8	-11.1	24	0	16	- 3.9	52	T	- 17	T	0	0	[illegible]	0	[illegible]	23	19.2	[illegible]	[illegible]	8	6	17	7.0	
MIDLAND	869	915.3	1014.6	16.7	0.6	8.7	2.0	27.2	8	- 7.8	24	0	15	- 3.3	49	1	- 20	T	2	0	[illegible]	0	1.9	22	16.5	26	8	8	5	18	6.2	
PORT ARTHUR	7	1018.0	1018.7	17.2	7.8	12.6	0.6	25.0	28+	- 6.1	5	0	4	8.3	81	30	- 77	11	6	0	0	0	1.7	9	18.8	[illegible]	29	2	6	22	8.2	29
SAN ANGELO	580	948.5	1015.7	[illegible]	3.3	11.2	2.9	32.2	8	- 6.7	1	1	9	0.6	53	1	- 24	1	1	0	0	0	1.8	22	15.6	28	21	7	8	16	[illegible]	
SAN ANTONIO	[illegible]	988.8	1017.4	16.7	6.1	11.4	0.3	26.7	22	- 7.2	5	0	9	5.0	70	45	1	28	7	2	[illegible]	0	[illegible]	5	15.2	N	[illegible]	[illegible]	[illegible]	19	7.4	64
VICTORIA	32	1013.5	1017.5	19.4	8.3	13.9	0.9	26.7	23+	- 4.4	5	0	6	8.9	77	11	- 49	5	6	0	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	
WACO	155	999.3	1017.8	16.1	5.0	10.6	1.7	28.3	22	- 5.0	5	0	8	3.9	68	11	- 46	6	4	0	T	[illegible]	1.3	16	[illegible]	[illegible]	3	[illegible]	7	19	7.5	
WICHITA FALLS	[illegible]	979.3	1016.6	14.9	- 0.6	6.6	0.6	30.6	8	- 9.4	4+	0	16	- 0.6	68	14	- 14	11	[illegible]	2	T	0	0.9	11	[illegible]	1	8	4	4	22	8.1	
UTAH																																
MILFORD	[illegible]	842.9		6.1	- 5.0	0.6	4.7	11.7	7	-17.2	31+	0	22			41	27	13	11		127	76						4	8	19	7.4	
SALT LAKE CITY	1286	[illegible]	1014.6	4.4	- 4.4	[illegible]	2.8	14.4	26	-15.0	29	0	24	[illegible]	69	43	9	14	12	2	[illegible]	[illegible]	[illegible]	18	18.8	[illegible]	26	4	4	21	8.0	[illegible]
WENDOVER	1291	866.9	1014.9	3.9	- 6.1	[illegible]	1.8	17.8	7	-12.8	[illegible]	0	28			10	[illegible]	4	8		69	51										
VERMONT																																
BURLINGTON	101	1005.4	1018.5	- 3.3	-13.9	- 8.6	0.2	6.1	23	-24.4	28+	0	30	-13.9	63	62	12	32	14	0	401	635	3.5	21	14.8	NW	2	4	10	17	7.8	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M.p.s.		M.p.s							%
VIRGINIA																																
LYNCHBURG	279			5.0	- 5.0	0.1	- 3.0	17.2	30	-17.2	5	0	23			58	- 25	38	10		25	25			12.5	W	1	10	3	18	6.6	44
NORFOLK	7	1020.3	1021.2	7.8	0.0	3.6	- 1.5	20.6	18	- 7.8	6	0	19	- 2.8	65	57	- 27	31	6	0	T	0	2.1	33	16.5	N	20	12	2	17	6.2	61
RICHMOND	50	1015.9	1022.0	6.1	- 3.9	1.1	- 2.7	17.2	30+	-13.3	6	0	21	- 5.6	65	52	- 36	35	7	0	T	0	1.3	33	12.5	NW	1	9	4	18	6.6	47
ROANOKE	350	978.3	1021.8	5.0	- 4.4	0.2	- 3.2	18.9	30	-15.0	5	0	23	- 8.3	58	47	- 32	33	11	0	T	T	1.9	31	17.4	29	1	8	5	18	6.8	
WALLOPS ISLAND	3			5.0	- 2.8	1.1		13.9	31	- 8.9	6+	0	22			46		23	6		T	T			21.9Y	NE	21					
WASHINGTON																																
OLYMPIA	59	1002.7	1010.1	2.2	- 3.3	- 0.6	- 4.0	10.6	5+	-15.6	23	0	24	- 2.2	84	240	41	24	27	0	1491	610	1.7	20	11.2	20	10	0	0	31	9.7	
QUILLAYUTE	55	1001.0	1008.3	2.2	- 2.8	- 0.3	- 4.0	10.6	4	-13.9	23	0	23	- 1.7	89	351	- 37	82	23	2	1019	457	0.9	7	11.2	W	31	1	4	26	8.6	18
SEATTLE TACOMA	122	993.2	1010.0	2.8	- 1.7	0.6	- 2.9	12.8	4	- 9.4	28	0	18	- 2.8	79	145	- 1	24	26	1	1153	533	1.4	16	13.0	SW	31	0	2	29	9.5	24
SPOKANE	718	925.2	1011.6	- 5.0	-12.8	- 8.7	- 5.0	2.8	6+	-28.3	23	0	30	-11.1	79	104	42	22	24	0	1237	1067	1.4	17	16.1	SW	31	1	4	26	8.9	12
STAMPEDE PASS R	1206	868.3		- 6.7	-11.7	- 9.1	- 4.4	7.2	4	-21.7	1	0	30			773	467	93	31		2512	1803						0	2	29	9.7	
WALLA WALLA U	289			- 1.1	- 7.2	- 4.3	- 4.9	11.1	6	-17.8	29+	0	24			106	58	27	25		795	406			11.2	S	10	0	2	29	9.6	08
YAKIMA	321	973.6	1013.6	- 3.3	-12.2	- 7.7	- 5.2	5.6	7	-23.3	30	0	31	-10.0	80	39	8	14	16	0	513	457	1.0	28	10.3	31	7	1	8	22	8.5	
WEST INDIES																																
SAN JUAN P.R.	4	1012.9	1015.3	27.8	20.6	24.1	0.6	30.6	12	18.3	21	0	0	19.4	76	190	71	129	17	0	0	0	2.7	7	13.0	E	19	10	16	5	5.6	62
SWAN ISLAND	9			28.3	23.3	25.7	- 0.1	29.4	5	20.0	18	0	0			256	169	194	19	0	0	0						5	18	8	5.9	
WEST VIRGINIA																																
BECKLEY	763	929.9	1022.3	3.3	- 6.7	- 1.9	- 2.8	17.2	30	-19.4	5	0	23	- 7.2	71	49	- 60	22	14	0	102	76	1.6	22	13.0	20	24	6	7	18	7.1	
CHARLESTON	286	986.5	1021.8	6.1	- 5.0	0.4	- 2.2	20.0	29	-17.2	5	0	21	- 6.1	65	38	- 72	13	13	0	51	51	1.2	23	11.2	25	1	3	10	18	7.5	
ELKINS	600	947.9		3.3	- 7.8	- 2.3	- 2.6	16.7	24	-20.0	5	0	25			76	- 15	33	15		79	51			12.5	29	24	2	7	22	8.2	
HUNTINGTON	252	991.2	1022.3	5.0	- 5.0	- 0.2	- 2.7	18.3	30	-17.2	5	0	21	- 5.6	70	59	- 33	22	14	0	53	51	1.2	22	11.2	27	30	2	10	19	7.6	
PARKERSBURG U	187			3.3	- 5.6	- 1.0	- 2.4	17.2	23	-16.1	5	0	23			62	- 23	26	13		51	51			14.8	W	1					32
WISCONSIN																																
GREEN BAY	208	991.9	1019.0	- 5.6	-14.4	-10.0	- 1.6	4.4	23	-26.7	1	0	31	-13.3	76	66	37	24	12	0	300	508	1.8	25	11.6	SW	9	8	6	17	6.6	41
LA CROSSE	198	994.2	1020.2	- 6.1	-15.6	-10.9	- 2.3	2.8	22+	-27.8	4	0	31	-14.4	73	50	19		14	0	432		0.8	27								
MADISON	262	986.5	1019.5	- 5.6	-13.3	- 9.6	- 1.5	3.3	23	-25.6	12	0	30	-12.2	78	57	22	19	15	0	246	279	1.3	25	11.6	SW	24+	7	4	20	7.2	37
MILWAUKEE	205	992.9	1019.4	- 3.9	-11.1	- 7.4	- 1.1	6.7	23	-23.9	1	0	30	-11.1	75	46	0	19	10	0	282	254	2.3	25	15.2	SE	8	8	3	20	7.1	42
WYOMING																																
CASPER	1627	830.0	1011.2	3.9	- 8.9	- 2.7	2.1	11.7	20	-22.8	23	0	26	- 9.4	62	2	- 12	1	5	0	51	25	5.9	22	21.5	21	21	7	4	20	7.3	
CHEYENNE	1867	804.9	1011.4	6.1	- 7.2	- 0.3	3.3	14.4	14+	-19.4	23	0	29	-11.7	43	6	- 7	3	7	0	76	25	3.4	27	28.2	W	8	7	9	15	6.7	47
LANDER	1696	820.9	1011.1	2.8	-10.0	- 3.7	3.3	12.2	6	-17.8	4	0	29	-11.1	60	3	- 9	2	3	0	51	152	1.3	23	25.5	SW	7	5	9	17	7.1	59
SHERIDAN	1208	873.0	1017.1	- 5.6	-18.3	-12.1	- 6.1	11.7	7	-27.2	28	0	31	-16.7	70	28	12	19	7	0	381	279	1.5	31	24.1	NW	26	4	7	20	7.8	54

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

V Sun below horizon January 1-23, inclusive.
X Sun below horizon January 1-17, inclusive.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
BIRMINGHAM	687	1993	1609
HUNTSVILLE	788	2191	1922
MOBILE	420	1228	1007
MONTGOMERY	536	1581	1468
ALASKA			
ANCHORAGE	1869	6838	6429
ANNETTE	1354	4260	3930
BARROW	2412	10746	1028
BARTER ISLAND	2526	10852	796
BETHEL	1729	7447	7570
BETTLES	2755	9995	
BIG DELTA	2726	9189	
COLD BAY	1025	5047	5389
FAIRBANKS	2849	9532	8794
FAREWELL	2285	9072	
GULKANA	2659	9634	
HOMER	1601	6324	
ILIAMNA	1893	6967	
JUNEAU	1801	5973	5140
KING SALMON	1800	7238	6552
KOTZEBUE	1967	8493	8846
MC GRATH	2407	9243	8680
NENANA	2869	9714	
NOME	1653	7815	7918
ST. PAUL ISLAND	1022	5685	6006
SHEMYA	1018	5317	5300
SUMMIT	2258	8862	
TALKEETNA	2046	7605	
TANANA	2797	9927	
UNALAKLEET	1883	8039	
YAKUTAT	1802	6412	5124
ARIZONA			
FLAGSTAFF	1021	4150	3982
PHOENIX	306	952	1145
TUCSON	288	936	1133
WINSLOW	784	2897	3024
YUMA	167	637	830
ARKANSAS			
FORT SMITH	745	2209	2074
LITTLE ROCK	665	1904	2073
CALIFORNIA			
BAKERSFIELD	492	1359	1367
BISHOP	812	2593	2537
BLUE CANYON	929	3161	2761
EUREKA U	644	2611	2573
FRESNO	619	1756	1561
LONG BEACH	246	720	871
LOS ANGELES	250	712	906
LOS ANGELES U	219	566	708
MT SHASTA R	1053	3572	3169
OAKLAND	514	1529	1592
RED BLUFF	690	1806	1531
SACRAMENTO	644	1782	1647
SANDBERG R	720	2575	2181
SAN DIEGO	214	633	745
SAN FRANCISCO	547	1756	1638
SAN FRANCISCO U	505	1776	1648
SANTA MARIA	359	1275	1554
STOCKTON	649	1822	1658
COLORADO			
ALAMOSA	1263	5028	5043
COLORADO SPRINGS	969	3603	3607
DENVER	925	3499	3546
GRAND JUNCTION	1125	3675	3451
PUEBLO	879	2927	3201
CONNECTICUT			
BRIDGEPORT	1061	2867	3053
HARTFORD	1262	3654	3516
NEW HAVEN	1118	3092	3202
DELAWARE			
WILMINGTON	1052	2745	2816
DIST.OF COLUMBIA			
WASH NATL AP	949	2431	2474
FLORIDA			
APALACHICOLA U	387	1051	835
DAYTONA BEACH	216	696	534
FORT MYERS	96	328	279
JACKSONVILLE	328	904	798
KEY WEST	1	33	68
LAKELAND U	173	530	416
MIAMI	18	130	139
ORLANDO	168	544	490
PENSACOLA	421	1232	967
TALLAHASSEE	410	1253	961
TAMPA	201	630	433
WEST PALM BEACH	55	250	158
GEORGIA			
ATHENS	717	2060	1806
ATLANTA	761	2121	1824
AUGUSTA	645	1756	1512
COLUMBUS	602	1742	1515
MACON	631	1786	1375
ROME	813	2330	2070
SAVANNAH	539	1454	1167
IDAHO			
BOISE	945	3107	3469
LEWISTON	1274	3597	3278
POCATELLO	1105	4280	4055
ILLINOIS			
CAIRO U	903	2445	2360
CHICAGO O HARE	1355	3681	3748
CHICAGO MIDWAY	1336	3528	3482
MOLINE	1458	4054	3712
PEORIA	1377	3716	3509
ROCKFORD	1453	4010	3920
SPRINGFIELD	1282	3479	3217
INDIANA			
EVANSVILLE	1029	2851	2743
FORT WAYNE	1285	3634	3588
INDIANAPOLIS	1211	3344	3293
SOUTH BEND	1316	3690	3612
IOWA			
BURLINGTON	1395	3837	3577
DES MOINES	1508	4240	3937
DUBUQUE	1578	4462	4262
SIOUX CITY	1625	4398	4028
WATERLOO	1610	4651	4262
KANSAS			
CONCORDIA	1307	3613	3224
DODGE CITY	1028	3116	2940
GOODLAND	1106	3581	3517
TOPEKA	1210	3381	3101
WICHITA	1076	3072	2808
KENTUCKY			
COVINGTON	1072	2965	3053
LEXINGTON	1011	2822	2750
LOUISVILLE	987	2688	2731
LOUISIANA			
ALEXANDRIA	462	1348	1231
BATON ROUGE	369	1180	1025
LAKE CHARLES	352	1026	951
NEW ORLEANS	353	1146	896
SHREVEPORT	495	1458	1373
MAINE			
CARIBOU	1534	5036	5480
PORTLAND	1259	3867	4129
MARYLAND			
BALTIMORE	1028	2664	2738
MASSACHUSETTS			
BLUE HILL OBS R	1189	3534	3464
BOSTON	1099	3082	3059
NANTUCKET	991	2920	2920
WORCESTER	1286	3873	3854
MICHIGAN			
ALPENA	1377	4406	4610
DETROIT	1232	3441	3454
DETROIT M WAYNE CO	1289	3615	3620
FLINT	1309	3957	3806
GRAND RAPIDS	1360	4009	3885
HOUGHTON LAKE	1444	4540	4574
LANSING	1331	4010	3835
MARQUETTE U	1349	4319	4522
MUSKEGON	1296	3838	3619
SAULT STE MARIE	1532	4983	4903
MINNESOTA			
DULUTH	1780	5557	5599
INTERNATIONAL FALLS	1990	6043	6126
MINNEAPOLIS	1723	4763	4846
ROCHESTER	1706	4923	4755
ST CLOUD	1856	5280	5116
MISSISSIPPI			
JACKSON	523	1577	1398
MERIDIAN	560	1685	1481
MISSOURI			
COLUMBIA	1150	3150	2999
KANSAS CITY	1186	3220	2808
ST JOSEPH	1188	3277	3270
ST LOUIS	1106	3063	2900
SPRINGFIELD	975	2979	2718
MONTANA			
BILLINGS	1818	4604	4022
GLASGOW	2236	5838	5237
GREAT FALLS	2104	5394	4321
HAVRE	2370	6090	4998
HELENA	1788	5270	4690
KALISPELL	1658	5419	4785
MILES CITY	2038	5277	4460
MISSOULA	1456	4841	4804
NEBRASKA			
GRAND ISLAND	1483	4137	3815
LINCOLN U	1400	3789	3411
NORFOLK	1596	4460	4038
NORTH PLATTE	1509	4454	3891
OMAHA	1430	3898	3670
SCOTTSBLUFF	1278	4113	3832
VALENTINE	1618	4680	4253
NEVADA			
ELKO	1119	3785	4264
ELY	1039	4243	4328
LAS VEGAS	536	1612	1770
RENO	861	3327	3724
WINNEMUCCA	979	3623	3919
NEW HAMPSHIRE			
CONCORD	1330	4207	4158
MT WASHINGTON OBS	1766	7768	7709
NEW JERSEY			
ATLANTIC CITY	1068	3105	2655
ATLANTIC CITY U	1005	2579	2502
NEWARK	1039	2814	2856
TRENTON U	1036	2786	2810
NEW MEXICO			
ALBUQUERQUE	831	2793	2681
CLAYTON	802	2844	2966
ROSWELL	615	2238	2439
NEW YORK			
ALBANY	1360	3915	3879
BINGHAMTON	1323	4107	4030
BUFFALO	1233	3607	3826
NEW YORK U	1023	2691	2691
J.F. KENNEDY	1038	2790	2810
NEW YORK LA GUARDIA	1051	2773	2638
ROCHESTER	1229	3576	3687
SYRACUSE	1256	3677	3749
NORTH CAROLINA			
ASHEVILLE	873	2640	2670
CAPE HATTERAS R	686	1581	1452
CHARLOTTE	829	2277	1950
GREENSBORO	878	2383	2300
RALEIGH	848	2200	2076
WILMINGTON	670	1694	1432
NORTH DAKOTA			
BISMARCK	2040	5646	5115
FARGO	2066	5680	5323
WILLISTON	2149	5890	5329
OHIO			
AKRON	1156	3292	3420
CINCINNATI OBS	1100	3011	2805
CLEVELAND	1220	3539	3297
COLUMBUS	1173	3285	3278
DAYTON	1181	3314	3232
MANSFIELD	1196	3365	3589
TOLEDO	1340	3770	3669
YOUNGSTOWN	1243	3647	3601
OKLAHOMA			
OKLAHOMA CITY	808	2350	2311
TULSA	863	2431	2378
OREGON			
ASTORIA	944	3186	2854
BURNS U	1205	4205	4000
EUGENE	867	2616	2670
MEACHAM	1309	4772	4294
MEDFORD	900	2664	2917
PENDLETON	1327	3490	3073
PORTLAND	1022	2996	2659
SALEM	987	3079	2662
SEXTON SUMMIT R	1095	3864	3274
PENNSYLVANIA			
ALLENTOWN	1141	3235	3297
ERIE	1169	3337	3464
HARRISBURG	1083	3012	3046
PHILADELPHIA	1084	2916	2950
PITTSBURGH	1181	3529	3397
PITTSBURGH U	1117	3085	3076
READING U	1042	2809	2848
SCRANTON	1204	3536	3607
WILLIAMSPORT	1162	3290	3407
RHODE ISLAND			
BLOCK ISLAND	1060	2931	2917
PROVIDENCE	1117	3233	3277
SOUTH CAROLINA			
CHARLESTON	624	1602	1299
CHARLESTON U	552	1356	1112
COLUMBIA	683	1827	1576
GNVLE-SPARTANBURG	785	2217	1878
SOUTH DAKOTA			
ABERDEEN	1882	5282	4941
HURON	1769	4959	4768
RAPID CITY	1516	[illegible]	[illegible]
SIOUX FALLS	1742	[illegible]	4551
TENNESSEE			
BRISTOL	947	2725	2516
CHATTANOOGA	821	2248	2049
KNOXVILLE	879	2459	2147
MEMPHIS	733	[illegible]	2022
NASHVILLE	855	2388	2193
OAK RIDGE R	[illegible]	2533	2312
TEXAS			
ABILENE	520	1548	[illegible]
AMARILLO	726	2339	2467
AUSTIN	368	1115	1112
BROWNSVILLE	141	310	[illegible]
CORPUS CHRISTI	237	603	[illegible]
DALLAS	484	1380	1508
DEL RIO	324	968	1081
EL PASO	503	1706	1831
FORT WORTH	492	1427	1539
GALVESTON U	296	725	758
HOUSTON	284	785	880
LUBBOCK	614	2110	2249
MIDLAND	535	1716	1711
PORT ARTHUR	331	901	942
SAN ANGELO	399	1341	1489
SAN ANTONIO	394	1118	1026
VICTORIA	281	762	770
WACO	438	1238	1305
WICHITA FALLS	646	1821	1810
UTAH			
MILFORD	983	3660	3802
SALT LAKE CITY	1009	3594	3603
WENDOVER	1069	3648	3511
VERMONT			
BURLINGTON	1496	4661	4592
VIRGINIA			
LYNCHBURG	1009	2727	2485
NORFOLK	814	2025	1980
RICHMOND	957	2385	2344
ROANOKE	1005	2737	2488
WALLOPS ISLAND	955	2442	
WASHINGTON			
OLYMPIA	1048	3455	2982
QUILLAYUTE	1036	3573	3158
SEATTLE TACOMA	983	3089	2882
SPOKANE	1504	4560	3887
STAMPEDE PASS R	1525	5765	5131
WALLA WALLA U	1256	3327	2907
YAKIMA	1447	4116	3636
WEST VIRGINIA			
BECKLEY	1124	3442	3131
CHARLESTON	994	2827	2653
ELKINS	1147	3550	3298
HUNTINGTON	1028	2847	2641
PARKERSBURG U	1070	2888	2777
WISCONSIN			
GREEN BAY	1580	4524	4487
LA CROSSE	1626	4458	4388
MADISON	1548	4445	4446
MILWAUKEE	1434	3986	4239
WYOMING			
CASPER	1164	4456	4139
CHEYENNE	1034	3919	4056
LANDER	1223	4601	4520
SHERIDAN	1692	5092	4317

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

JANUARY 1969

State and station	Current season		
	This month	Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	0	0	
HUNTSVILLE	0	0	
MOBILE	5	5	
MONTGOMERY	3	3	
ALASKA			
ANCHORAGE	0	0	
ANNETTE	0	0	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	0	
BETTLES	0	0	
BIG DELTA	0	0	
COLD BAY	0	0	
FAIRBANKS	0	0	
FAREWELL	0	0	
GULKANA	0	0	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	0	0	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	0	
NENANA	0	0	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	0	
TALKEETNA	0	0	
TANANA	0	0	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	0	
PHOENIX	0	0	
TUCSON	0	0	
WINSLOW	0	0	
YUMA	7	7	
ARKANSAS			
FORT SMITH	1	1	
LITTLE ROCK	4	4	
CALIFORNIA			
BAKERSFIELD	0	0	
BISHOP	0	0	
BLUE CANYON	0	0	
EUREKA U	0	0	
FRESNO	0	0	
LONG BEACH	13	13	
LOS ANGELES	7	7	
LOS ANGELES U	19	19	
MT SHASTA R	0	0	
OAKLAND	0	0	
RED BLUFF	0	0	
SACRAMENTO	0	0	
SANDBERG R	0	0	
SAN DIEGO	5	5	
SAN FRANCISCO	0	0	
SAN FRANCISCO U	0	0	
SANTA MARIA	0	0	
STOCKTON	0	0	
COLORADO			
ALAMOSA	0	0	
COLORADO SPRINGS	0	0	
DENVER	0	0	
GRAND JUNCTION	0	0	
PUEBLO	0	0	
CONNECTICUT			
BRIDGEPORT	0	0	
HARTFORD	0	0	
NEW HAVEN	0	0	
DELAWARE			
WILMINGTON	0	0	
DIST.OF COLUMBIA			
WASH NATL AP	0	0	
FLORIDA			
APALACHICOLA U	1	1	
DAYTONA BEACH	7	7	
FORT MYERS	33	33	
JACKSONVILLE	2	2	
KEY WEST	169	169	
LAKELAND U	10	10	
MIAMI	104	104	
ORLANDO	12	12	
PENSACOLA	2	2	
TALLAHASSEE	7	7	
TAMPA	8	8	
WEST PALM BEACH	64	64	
GEORGIA			
ATHENS	0	0	
ATLANTA	0	0	
AUGUSTA	0	0	
COLUMBUS	0	0	
MACON	0	0	
ROME	0	0	
SAVANNAH	0	0	
HAWAII			
HILO	207	207	
HONOLULU	133	133	
KAHULUI	137	137	
LIHUE	65	65	
IDAHO			
BOISE	0	0	
LEWISTON	0	0	
POCATELLO	0	0	
ILLINOIS			
CAIRO U	0	0	
CHICAGO O HARE	0	0	
CHICAGO MIDWAY	0	0	
MOLINE	0	0	
PEORIA	0	0	
ROCKFORD	0	0	
SPRINGFIELD	0	0	
INDIANA			
EVANSVILLE	0	0	
FORT WAYNE	0	0	
INDIANAPOLIS	0	0	
SOUTH BEND	0	0	
IOWA			
BURLINGTON	0	0	
DES MOINES	0	0	
DUBUQUE	0	0	
SIOUX CITY	0	0	
WATERLOO	0	0	
KANSAS			
CONCORDIA	0	0	
DODGE CITY	0	0	
GOODLAND	0	0	
TOPEKA	0	0	
WICHITA	0	0	
KENTUCKY			
COVINGTON	0	0	
LEXINGTON	0	0	
LOUISVILLE	0	0	
LOUISIANA			
ALEXANDRIA	9	9	
BATON ROUGE	20	20	
LAKE CHARLES	17	17	
NEW ORLEANS	28	28	
SHREVEPORT	15	15	
MAINE			
CARIBOU	0	0	
PORTLAND	0	0	
MARYLAND			
BALTIMORE	0	0	
MASSACHUSETTS			
BLUE HILL OBS R	0	0	
BOSTON	0	0	
NANTUCKET	0	0	
WORCESTER	0	0	
MICHIGAN			
ALPENA	0	0	
DETROIT	0	0	
DETROIT M WAYNE CO	0	0	
FLINT	0	0	
GRAND RAPIDS	0	0	
HOUGHTON LAKE	0	0	
LANSING	0	0	
MARQUETTE U	0	0	
MUSKEGON	0	0	
SAULT STE MARIE	0	0	
MINNESOTA			
DULUTH	0	0	
INTERNATIONAL FALLS	0	0	
MINNEAPOLIS	0	0	
ROCHESTER	0	0	
ST CLOUD	0	0	
MISSISSIPPI			
JACKSON	3	3	
MERIDIAN	0	0	
MISSOURI			
COLUMBIA	0	0	
KANSAS CITY	0	0	
ST JOSEPH	0	0	
ST LOUIS	0	0	
SPRINGFIELD	0	0	
MONTANA			
BILLINGS	0	0	
GLASGOW	0	0	
GREAT FALLS	0	0	
HAVRE	0	0	
HELENA	0	0	
KALISPELL	0	0	
MILES CITY	0	0	
MISSOULA	0	0	
NEBRASKA			
GRAND ISLAND	0	0	
LINCOLN U	0	0	
NORFOLK	0	0	
NEBRASKA			
NORTH PLATTE	0	0	
OMAHA	0	0	
SCOTTSBLUFF	0	0	
VALENTINE	0	0	
NEVADA			
ELKO	0	0	
ELY	0	0	
LAS VEGAS	0	0	
RENO	0	0	
WINNEMUCCA	0	0	
NEW HAMPSHIRE			
CONCORD	0	0	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	0	0	
ATLANTIC CITY U	0	0	
NEWARK	0	0	
TRENTON U	0	0	
NEW MEXICO			
ALBUQUERQUE	0	0	
CLAYTON	0	0	
ROSWELL	0	0	
NEW YORK			
ALBANY	0	0	
BINGHAMTON	0	0	
BUFFALO	0	0	
J.F. KENNEDY	0	0	
NEW YORK U	0	0	
NEW YORK LA GUARDIA	0	0	
ROCHESTER	0	0	
SYRACUSE	0	0	
NORTH CAROLINA			
ASHEVILLE	0	0	
CAPE HATTERAS R	0	0	
CHARLOTTE	0	0	
GREENSBORO	0	0	
RALEIGH	0	0	
WILMINGTON	0	0	
NORTH DAKOTA			
BISMARCK	0	0	
FARGO	0	0	
WILLISTON	0	0	
OHIO			
AKRON	0	0	
CINCINNATI OBS	0	0	
CLEVELAND	0	0	
COLUMBUS	0	0	
DAYTON	0	0	
MANSFIELD	0	0	
TOLEDO	0	0	
YOUNGSTOWN	0	0	
OKLAHOMA			
OKLAHOMA CITY	0	0	
TULSA	0	0	
OREGON			
ASTORIA	0	0	
BURNS U	0	0	
EUGENE	0	0	
MEACHAM	0	0	
MEDFORD	0	0	
PENDLETON	0	0	
PORTLAND	0	0	
SALEM	0	0	
SEXTON SUMMIT R	0	0	
PACIFIC AREA			
JOHNSTON	333	333	
KOROR R	493	493	
KWAJALEIN	498	498	
MAJURO	475	475	
PAGO PAGO	526	526	
PONAPE R	478	478	
TAGUAC GUAM R	375	375	
TRUK MOEN ISLAND	493	493	
WAKE	379	379	
YAP R	476	476	
PENNSYLVANIA			
ALLENTOWN	0	0	
ERIE	0	0	
HARRISBURG	0	0	
PHILADELPHIA	0	0	
PITTSBURGH	0	0	
PITTSBURGH U	0	0	
READING U	0	0	
SCRANTON	0	0	
WILLIAMSPORT	0	0	
RHODE ISLAND			
BLOCK ISLAND	0	0	
PROVIDENCE	0	0	
SOUTH CAROLINA			
CHARLESTON	0	0	
CHARLESTON U	0	0	
COLUMBIA	0	0	
GNVLE-SPARTANBURG	0	0	
SOUTH DAKOTA			
ABERDEEN	0	0	
HURON	0	0	
RAPID CITY	0	0	
SIOUX FALLS	0	0	
TENNESSEE			
BRISTOL	0	0	
CHATTANOOGA	0	0	
KNOXVILLE	0	0	
MEMPHIS	0	0	
NASHVILLE	0	0	
OAK RIDGE R	0	0	
TEXAS			
ABILENE	0	0	
AMARILLO	0	0	
AUSTIN	25	25	
BROWNSVILLE	123	123	
CORPUS CHRISTI	62	62	
DALLAS	2	2	
DEL RIO	6	6	
EL PASO	0	0	
FORT WORTH	3	3	
GALVESTON U	3	3	
HOUSTON	35	35	
LUBBOCK	0	0	
MIDLAND	0	0	
PORT ARTHUR	17	17	
SAN ANGELO	6	6	
SAN ANTONIO	11	11	
VICTORIA	38	38	
WACO	12	12	
WICHITA FALLS	0	0	
UTAH			
MILFORD	0	0	
SALT LAKE CITY	0	0	
WENDOVER	0	0	
VERMONT			
BURLINGTON	0	0	
VIRGINIA			
LYNCHBURG	0	0	
NORFOLK	0	0	
RICHMOND	0	0	
ROANOKE	0	0	
WALLOPS ISLAND	0	0	
WASHINGTON			
OLYMPIA	0	0	
QUILLAYUTE	0	0	
SEATTLE TACOMA	0	0	
SPOKANE	0	0	
STAMPEDE PASS R	0	0	
WALLA WALLA U	0	0	
YAKIMA	0	0	
WEST INDIES			
SAN JUAN P.R.	328	328	
SWAN ISLAND	416	416	
WEST VIRGINIA			
BECKLEY	0	0	
CHARLESTON	0	0	
ELKINS	0	0	
HUNTINGTON	0	0	
PARKERSBURG U	0	0	
WISCONSIN			
GREEN BAY	0	0	
LA CROSSE	0	0	
MADISON	0	0	
MILWAUKEE	0	0	
WYOMING			
CASPER	0	0	
CHEYENNE	0	0	
LANDER	0	0	
SHERIDAN	0	0	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES NUMBER	TORNADOES DAYS	TORNADOES DEATHS	TORNADOES INJURIES	TORNADOES †DAMAGE	HAILSTORMS DEATHS	HAILSTORMS INJURIES	HAILSTORMS †DAMAGE PROPERTY	HAILSTORMS †DAMAGE CROPS	WINDSTORMS DEATHS	WINDSTORMS INJURIES	WINDSTORMS †DAMAGE PROPERTY	WINDSTORMS †DAMAGE CROPS	LIGHTNING DEATHS	LIGHTNING INJURIES	LIGHTNING †DAMAGE PROPERTY	LIGHTNING †DAMAGE CROPS	‡HEAVY SNOWSTORMS AND BLIZZARDS DEATHS	‡HEAVY SNOWSTORMS AND BLIZZARDS INJURIES	‡HEAVY SNOWSTORMS AND BLIZZARDS †DAMAGE PROPERTY	‡HEAVY SNOWSTORMS AND BLIZZARDS †DAMAGE CROPS	#ICE STORMS DEATHS	#ICE STORMS INJURIES	#ICE STORMS DAMAGE PROPERTY	#ICE STORMS DAMAGE CROPS	∅ALL OTHER DEATHS	∅ALL OTHER INJURIES	∅ALL OTHER DAMAGE PROPERTY	∅ALL OTHER DAMAGE CROPS
Alabama						0	0	2	3																				
Alaska *																													
Arizona *																													
Arkansas										0	0	4	0																
California										4	2	4	0													41	8	8	6
Colorado										2	25	6						0	1	3	0								
Connecticut																						0	0	4	0				
Delaware																						0	189	5	0				
Florida										0	0	3	0																
Georgia																										0	0	5	4
Hawaii						0	0	?	4	0	0	5	0													1	0	?	4
Idaho												6							1	6									
Indiana														0	0	4	0					0	?	4	0				
Illinois *																													
Iowa																						0	0	5	0				
Kansas										0	0	4	0									0	0	4	0				
Kentucky	1	1	0	0	3	0	0	?	0	0	0	4	0																
Louisiana *																													
Maine										0	0	4	0					0	0	4	0	0	0	4	0	0	0	3	0
Maryland																						1	705	5	0				
Massachusetts										0	0	5	0	0	0	2	0					0	2	4	0	0	0	4	0
Michigan																										0	0	5	0
Minnesota																		3	1	5	0	0	?	5	0	6	0	0	0
Mississippi	1	1	32	241	6	0	0	3	0																				
Missouri *																													
Montana														0	0	2	0	0	0	4	0					2	?	0	0
Nebraska																						0	0	5	0				
Nevada										0	0	3	0													0	0	3	3
New Hampshire										0	0	4	0					0	0	4	0	0	0	4	0	0	0	4	0
New Jersey																							?	5					
New Mexico										0	0	4	0																
New York																2													
North Carolina																						0	0	5	0				
North Dakota																		2	0	?	0	0	0	?	0				
Ohio																						1	H	?		0	1	?	
Oklahoma										0	4	4	0									0	0	?	0				
Oregon										0	Few	4	1					0	Many	6	5	0	Few	4	1	0	0	4	3
Pacific Area																										0	1	°5	C
Pennsylvania														0	0	2	0					0	58	4	0				
Puerto Rico																										0	0	4	0
Rhode Island																						0	0	4	0				
South Carolina *																													
South Dakota *																													
Tennessee	1	1	0	3	5					0	0	4	0					0	0	4	0					0	0	4	0
Texas *																													
Utah										0	0	4	3					0	0	3	0								
Vermont										0	0	4	0					0	0	4	0	0	0	4	0				
U. S. Virgin Is.																										0	0	4	0
Virginia *																													
Washington												4								5								6	
West Virginia																										0	0	5	0
Wisconsin																		0	0	6	0	0	0	5	0				
Wyoming *																													

H Hundreds
C Crop damage
° Includes crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JANUARY 1969

Elmer R. Nelson, Office of Hydrology

The most damaging floods during January occurred in southern California. These floods were generally the most severe since 1938. The flooding on the Salinas River was the most severe since 1952. Major damages occurred on the Chouchilla and Fresno Rivers and along streams running into the valley from the foothill areas. Property damage from flooding and mudslides were estimated at about $170 million. The American Red Cross reported that a total of 47 lives were lost in California during January due to floods, mudslides, and snowstorms.

Lake Michigan.--Heavy snowmelt caused minor flooding on the Red Cedar River at Williamston, Mich., on the 23d and 24th. Near flood conditions occurred at East Lansing, Mich., on the 24th and 25th, and again on the 30th and 31st. Unseasonably warm temperatures in the high 40's on the 21st-24th caused complete melting of most of the snow cover in southern Lower Michigan and heavy runoff. Timely arrival of cold weather early on the 24th with an abrupt 40° temperature drop in 18 hours to near zero during the next few days ended temporarily the threat of further flooding. No damage resulted from the minor flooding.

Heavy snowmelt on the 16-24th over the Grand River Basin in Michigan produced sufficient runoff to raise the Lower Grand River to near flood stage in some localities. Comstock Park, just north of Grand Rapids, Mich., reached but did not exceed flood stage on the 26th. Minor lowland flooding was observed. Minor lowland flooding occurred in Robinson Township of Ottawa County, Mich., through the end of the month. This flooding was due to an icejam that reached the bottom of the channel during the last few days of the month.

ST. LAWRENCE DRAINAGE

Lake Erie.--The St. Marys River at Decatur, Ind., rose above flood stage on the 18th and continued in flood to Feb. 5. The crest on the 31st was 5.4 feet above flood stage. The St. Joseph River at Montpelier, Ohio, was out of its banks from Jan. 19 to Feb. 6. It crested on the 31st, 4.7 feet above flood stage. The Maumee River at Napoleon, Ohio, rose rapidly to 8.9 feet above flood stage on the 29th. This rapid rise was due to an icejam at the eastern end of the city. About 25 families were evacuated. The icejam broke shortly after 5 p.m. on the 29th, and the river receded at the rate of 1.5 feet in 10 minutes. The Maumee River rose above flood stage at Ft. Wayne, Ind., Defiance and Grand Rapids, Ohio, on the 30th. It receded within its banks on Feb. 1-5. The crests ranged from 3.3 feet above flood stage at Grand Rapids, Ohio, to 6.2 feet above flood stage at Fort Wayne, Ind.

Heavy rains during the last 2 days of the month caused flooding of some roads and cellars in southwestern New York. Amherst and Cheektowaga, N. Y., had the heaviest cellar flooding. Minor overflows occurred in the Sunset Bay area of Chautauqua, N. Y., due to ice jamming at the mouth of Cattaraugus Creek. Scattered flooding of highways was reported in parts of Genesee and southern Chautauqua counties. In southwest Batavia in Genesee County, N. Y., Tonawanda Creek overflowed its banks in a small area.

ATLANTIC SLOPE DRAINAGE

The Susquehanna River at Vestal, N. Y., reached a stage of 18 to 19 feet (flood stage 18 feet) on the 31st due to an icejam about 1,000 feet below the gage at a bend in the river. It receded within its banks on Feb. 1. No damage resulted.

Significant ice movement and jamming on the 30th and 31st resulted in some minor low-level flooding on the Susquehanna River in Pennsylvania. This rise was due to rainfall and mild temperatures supplemented by snowmelt. Snow cover remaining within the basin at the end of January was limited to the higher elevations in the headwaters of the West Branch above Renovo, Pa., and in the upper Delaware River basin in the Pocono Mountain area.

The Neuse River at Smithfield, N. C., exceeded flood stage on the 23d-25th. The crest on the 24th was 0.6 foot above flood stage. This flooding was due to heavy precipitation on the 19th and 26th.

The Lumber River at Lumberton, N. C., exceeded flood stage for the 4th consecutive month. There were two rises during January. The first rise on the 1st-12th was due to moderate rains during the last few days of December. The second rise, to above flood stage on the 23d and continuing into February, was due to heavy precipitation on the 19-20th. Low swamps and drainage ditches were affected.

The Saluda River at Chappells, S. C. exceeded flood stage on the 20th-23d. The crest on the 21st was 2.7 feet above flood stage. The Broad River at Blair, S. C., was out of its banks on the 21st to the 23d. It crested on the 22d, 3.3 feet above flood stage. This flooding was due to heavy rains (1.5 to over 3 inches) over the upper and central reaches of the basin on the 19-20th. Damage was limited to pastureland with no actual damage occurring.

The Savannah River at Clyo, Ga., rose above flood stage on the 29th and continued in flood with rising stages into February. Very little, if any, damage resulted from the flooding during January.

The Oconee River at Milledgeville, Ga., was out of its banks on the 23d-25th. The crest on the 23d was 4.4 feet above flood stage.

EAST GULF OF MEXICO DRAINAGE

The Cahaba River at Centreville, Ala., exceeded flood stage on the 20th-21st. The crest on the 20th was 4.1 feet above flood stage. The stream rose rapidly due to local rainfall of 4.27 inches on the 19-20th. Damages from the overflow were negligible.

Moderate to occasionally heavy rains on the 18th and 19th caused moderate rises on the Black Warrior River in Alabama. The only crest above flood stage was at Warrior Lock and Dam, Ala., which was 0.4 foot above flood stage on the 23d. No damage was reported.

Heavy rains (3 to 4 inches) over the headwaters of the Pearl River on Dec. 18-22 caused flooding at Jackson, Miss., on Dec. 24 to Jan. 7 and at Bogalusa, La., on Dec. 23 to Jan. 11. Overflow began at Pearl River, La., on Jan. 3 and continued to Jan. 6. Flood heights were not excessive and flooding was confined to the immediate flood plain with only light damage to farms and cattle lands. The highest crest reported was 5.8 feet above flood stage at Jackson, Miss., on Jan. 1. Rainfall of near 1.5 inches on Dec. 27-30 produced secondary crests during January which were lower at Bogalusa and Pearl River than during December.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Precipitation during January in the Upper Mississippi Basin ranged from

normal to much above normal. In Minnesota and northwestern Wisconsin, precipitation was 3 times normal in many locations. In the Minneapolis-St. Paul, Minn., area, the January total snowfall of 21.6 inches (liquid water content, 2.05 inches) was the 4th greatest January snowfall of record. The total season snowfall through Jan. 31 was 55.2 inches. This was the greatest snowfall for any season through Jan. 31. Previous record was 51.6 inches during 1966-1967 and the 3d most snowfall was 46.8 inches during the 1916-1917 season. Normal snowfall through Jan. 31 is 20.8 inches.

At Duluth, Minn., the total snowfall during January was 46.8 inches (4.70 inches, liquid water content). This monthly total exceeded the record fall for any month during the winter season. Previous record was 45.5 inches established March 1965. By the end of January the total snowfall at Duluth was 106.3 inches. This is the most snowfall on record for so early in the season.

At Sioux Falls, S. Dak., the total snowfall during January was 19.6 inches (liquid water content, 1.71 inches). The total seasonal snowfall through Jan. 31 was 63.3 inches (liquid water content, 4.75 inches). Normal snowfall through Jan. 31 is 15.9 inches.

The Wapsipinicon River at DeWitt, Iowa, was in light flood on the 24th and 25th. The crest on the 24th was 1.3 feet above flood stage. The Pecatonica River was out of its banks at Martintown, Wis., on the 24-26th and at Freeport, Ill., on the 25th. The crest at Martintown was 2.6 feet above flood stage on the 24th and 0.2 foot above flood stage at Freeport, Ill., on the 25th. The Rock River at Joslin, Ill., was out of its banks on the 25-28th. This flooding was due to 0.5 to 1 inch of rain on frozen ground and some melting of snow cover on the 23d and 24th. There was very little ice movement. Pastures and farmland were principally involved and damage was negligible.

Locally heavy rains toward the end of December produced minor flooding on the Meramec River in Missouri from Dec. 29 through January 1. The flooding was limited to farmland immediately adjacent to the river and no damage was reported.

Light to moderate rains on the 16th, 17th, 22d, and 23d produced minor flooding along the Fox, Illinois, and Sangamon Rivers in Illinois and on the Fox River in Missouri. The Fox River crested 1 foot above flood stage at Wayland, Mo., on the 17th. In Illinois, the Fox River at Dayton went above flood stage on the 24th and continued above flood stage to Feb. 8. The Sangamon River at Riverton, Ill., crested 2.5 feet above flood stage on the 19th with a secondary crest, 5.8 feet above flood stage on the 23d. Crests during February were slightly lower. The Illinois River at LaSalle, Ill., crested 0.9 foot above flood stage on the 24th with a secondary crest 1.3 feet above flood stage on the 31st. The Kankakee River at Momence, Ill., crested 0.6 foot above flood stage on the 22d. It reached bankfull stage again on the 29th. The Spoon River at Seville, Ill., rose 1.5 feet above flood stage on the 26th. It was out of its banks on the 25th and 26th.

General rain and/or snow began falling over Missouri and Illinois on the 26th and continued through the 29th. The rain became quite heavy on the 28th and 29th. Excessive runoff resulted due to the nearly saturated or frozen condition of the soil at the onset of the precipitation. Major flooding resulted on the Meramec and Big Rivers in Missouri. The Meramec River at Steelville and Sullivan, Mo., crested 11 to nearly 12 feet above flood stage on the 30th. At Pacific, Eureka, and Valley Park, Mo., the Meramec rose above flood stage on the 30th and continued in flood to Feb. 3. The Big River at Byrnsville, Mo., went above flood stage on the 30th and continued in flood to Feb. 1. The Bourbeuse River at Union, Mo., rose 4.3 feet above flood stage on Feb. 1. Major flooding developed on the Kaskaskia and Big Muddy Rivers in Illinois during the latter part of January and the first week in February. The Kaskaskia River at Shelbyville and Vandalia, Ill., rose above flood stage on the 29th and continued in flood to Feb. 6 at Vandalia, Ill. The crests on Jan. 31 ranged from 3.2 feet above flood stage at Shelbyville to 7 feet above flood stage at Vandalia. The Big Muddy River at Murphysboro, Ill., continued in flood to Feb. 17. The crest on Feb. 3 was 16 feet above flood stage. Snowmelt contributed to the overall runoff, but was not a major factor in the areas where substantial flooding occurred.

Some flooding occurred along the main stem of the Mississippi River below the mouth of the Fox River in Missouri. The Mississippi River was out of its banks at Gregory Landing, Mo., on the 25-27th. The crest on the 27th was 0.7 foot above flood stage.

Missouri Basin.--Some minor flooding occurred on the Yellowstone River near Reedpoint, Mont., during January. The overflow was due to icejams.

Temperatures were cold in the South Dakota portion of the Missouri Basin, excpet in the extreme western portion, during the first half of the month. Most streams in South Dakota and northern Nebraska remained frozen over except the Missouri River in northeastern Nebraska. Precipitation for January was generally above normal except in western South Dakota and eastern Wyoming.

Snow depths at the end of January ranged from 11 to 26 inches in eastern South Dakota to little or none in western South Dakota and eastern Wyoming. The liquid water content of the snowpack in eastern South Dakota ranged from 2 to 6 inches. In northeastern Nebraska, the snow depths ranged from 6 to 10 inches with a liquid water content of 1.5 to nearly 3 inches. Snow depths in southwestern Nebraska and extreme north-central Kansas were mostly 2 to 4 inches and over northeastern and east-central Kansas, 3 to 6 inches. In the Blue River basin in Kansas, the snow dpeths were generally 6 inches to locally over 12 inches in the Blue River basin.

Frost depths in South Dakota were generally less than 1 foot under the snow to several feet in unprotected areas in northwest Iowa at the end of January.

Minor flooding occurred in the northwestern quadrant of Missouri during the latter half of January. The Grand River at Sumner, Mo., was out of its banks on the 17th-22d. The crest on the 17th was nearly 7 feet above flood stage. The crest on Moniteau Creek at Fayette, Mo., was estimated to range from bankfull stage to 1 foot above flood stage. The Lamine River at Clifton City, Mo., rose 0.2 foot above flood stage on the 30th. The Petite Saline River at Boonville, Mo., was estimated to have risen 2 feet above flood stage on the 30th-31st.

The Osage River at Lakeside, Mo., crested at bankfull stage on Jan. 1. It rose slightly above bankfull stage at Schell City, Mo., on the 19th. Considerable flooding occurred along the Gasconade River with a crest 3.9 feet above flood stage at Hazelgreen, Mo., on the 31st. At Jerome, Mo., the Gasconade River rose above flood stage on the 30th and continued in flood to Feb. 2. The crest on Feb. 1 was 6.5 feet above flood stage.

Icejam flooding occurred on the upper Missouri River in a 12-mile stretch about 40 miles south of Great Falls, Mont., from the 22d through the end of the month.

About 2 feet of flood water covered U. S. Highway 91 and Interstate Highway 15 between Great Falls and Helena, Mont. Highway crews were not able to reopen the route through the end of the month. Three to 4 inches of water flooded the tracks of the Great Northern Railroad but did not cause any excessive delay in train schedules. Large areas of bottomlands were flooded along with some farmlands, but damage to dwellings and property was not extensive. The major contributor to the flooding was the extremely cold temperatures during the latter half of January. Temperatures in the Cascade area were below zero from the 17th through the 31st, with readings 40° to 50° below zero periodically. Minor damage resulted to a foot bridge and a ferry which was swept downstream as the ice broke loose. The only other flooding along the main stem occurred at Rulo, Nebr., on the 18th to the 23d. The crest on the 18th-21st was 0.4 foot above flood stage.

Ohio Basin.--French Creek at Meadville, Pa., exceeded flood stage by 0.7 foot on Jan. 31 to Feb. 1. This overflow was due to rainfall totalling near 2 inches on the 28-30th plus snowmelt.

Average daily temperatures below 32°F. from Dec. 29 through Jan. 16 resulted in heavy ice formations on the Allegheny River in the East Brady, Pa., to Emlenton, Pa., reach and in the vicinity of Oil City, Pa. A warming trend on the 17th, accompanied by light rain on the 17th and 18th, plus snowmelt resulted in sufficient streamflow to move the 20-mile long ice gorge in the East Brady-Emlenton, Pa., reach. With the movement of ice, backwater at Parker, Pa., caused a stage of 2.8 feet above flood stage on the 19th. Minor flooding occurred to cottages in the East Brady, Pa., area as the ice moved out. The ice gorge at Oil City, Pa., moved out on the 18th with no backwater flooding. Flood damages at Parker, Pa., were minor. The main highway through the city was closed for a short period.

The Hocking River at Enterprise, Ohio, exceeded flood stage on the 30th and 31st. The crest on the 31st was 0.5 foot above flood stage. Flood damage was minor.

Paint Creek at Bourneville, Ohio, reached, but did not exceed, flood stage on the 31st. The Scioto River at LaRue, Ohio, reached flood stage on the 19th. It exceeded flood stage again on the 30th at LaRue, Circleville and Picketon, Ohio, and on Feb. 1 at Prospect, Ohio. This flooding was due to moderate to heavy rains on the 29th and 30th. It crested at LaRue, Ohio, on the 31st, 0.9 foot above flood stage. Crests at the other points occurred on Feb. 1-2 and ranged from 1 to 4 feet above flood stage.

Flooding was confined to farmlands presently not in production. Several secondary roads were under water for 24 to 36 hours. A few families living in the flood plain of Big Walnut Creek were evacuated for the night of the 30th and returned to their homes on the afternoon of the 31st.

Prolonged cold weather and snow cover during the first 2 weeks of January set the stage for a major flood in the Wabash Basin in Indiana during the latter part of January and early February. This cold weather caused ice to cover most streams up to 1 foot thick by the middle of the month. Heavy rainfall (up to 5 inches) over the lower Wabash and lower White Rivers resulted in heavy runoff with crests in February the highest in 10 years at Lafayette, Ind., and the highest since March 1913 at Mt. Carmel, Ill. A few homes were surrounded in rural areas near Lafayette, but few, if any, evacuations were necessary. Flooding began along the White, the East Fork, the Muscatatuck Rivers in Indiana and on the Embarrass and Vermillion Rivers in Illinois during the last 3 days of January. On the White River above Noblesville, Ind., homes in one or two small communities were surrounded by water and some damage resulted downstream at Spencer, Ind.; a few families were temporarily evacuated from a low area, subject to flooding. At Elliston, Ind., the Milwaukee Railroad made preparations for emergency routing of trains. Flooding on all of the streams contributed to the overflow of thousands of acres of bottomland. Many county and state roads were temporarily closed. Some culverts were washed out. A few secondary roads were damaged by washouts. Crop damage was at a minimum since most of the corn had been removed from the bottomlands.

Heavy rains on the 17th and 18th caused moderate flooding on the Saline River at Harrisburg, Ill., on the 17th to the 21st. The crest on the 19th was 7.9 feet above flood stage. Heavy rain during the last 5 days of the month caused additional flooding on the Saline River at Harrisburg from the 28th to Feb. 3. The crest on the 31st was 11.2 feet above flood stage. These rains caused near record crests on the lower Wabash and Little Wabash Rivers in southern Indiana and southern Illinois. Precipitation in the Rough and Green River basins in Kentucky was light so consequently only minor flooding occurred along those streams.

The main stem of the Tennessee River rose above flood stage at Paducah, Ky., on the 30th and continued in flood to Feb 18. The crest on Feb. 10 was 10.9 feet above flood stage.

The main stem of the Ohio River rose out of its banks at Fords Ferry, Ky., on the 30th and at Newburgh, Ind., Shawneetown, Ill., and Cairo, Ill., on the 31st. By Feb. 5, flooding was in progress from Newburgh, Ind., to Cairo, Ill., (except at Evansville, Ind.,) a distance of more than 200 miles. The crests on Feb. 2-12 ranged from 1 foot above flood stage at Cypress, Ind., to 11.2 feet above flood stage at Fords Ferry, Ky. Flooding continued until Feb. 19 at Cairo, Ill.

White Basin.--Three- to 4-inch rains on Dec. 21-22 caused flooding on the Cache River at Patterson, Ark., on Dec. 23. Additional 3- to 4-inch rains on Dec. 27-28 caused flooding on the lower Black and White Rivers in Arkansas. Flooding continued along these rivers into January. The White River receded within its banks at Newport and Augusta, Ark., on Jan. 1-5 and on the Black River at Pocahontas and Black Rock, Ark., on Jan 8-12. The Cache River at Patterson, Ark., continued in flood from Dec. 23 through January into February.

Heavy rain on the 18-19th and 22-23d caused additional flooding on the lower White and Black Rivers. These rains were sufficient to keep streams above flood stage into February. Heavy rain on the 29-30th caused extensive flash flooding in the Buffalo, White, and Black River basins during the night of the 29th and the morning of the 30th. The most dramatic rise was 31 feet in a 13-hour period on the Buffalo River at Gilbert, Ark. The White River at Batesville, Ark., rose 14.4 feet in 24 hours. Seven persons were drowned in 5 separate accidents when cars in which they were riding were swept off highways by the flood waters. A great many cows were drowned by the rapidly rising flood waters. Damage to highways and bridges was heavy. Crop damages, although heavy, were mostly to pasturelands.

Arkansas Basin.--The heavy rain on the 29-30th

caused flooding on the Elk, Illinois, and Poteau Rivers in extreme southwestern Missouri and in extreme eastern Oklahoma. The rainfall averaged 2.5 inches in the Illinois Basin and 1.5 inches in the Poteau and Elk River basin. The high antecedent soil moisture was favorable for heavy runoff. The Elk River crested 3.1 feet above flood stage at Tiff City, Mo., on the 30th. The Illinois River crested 8 to 9 feet above flood stage at Tahlequah and Watts, Okla. The Poteau River at Panama, Okla., was out of its banks on the 30th and 31st and crested 2.7 feet above flood stage on the 31st. At Poteau, Okla., the crest was about 4 feet below flood stage. No damages were reported from the lowland flooding.

Flash flooding occurred in the Arkansas Basin during the night of the 29th and the morning of the 30th. Fourche and Rock Creeks in Pulaski County, Ark., rose rapidly during the night of the 29-30th flooding many residences and businesses in southwestern and southern areas of Little Rock. The Mulberry River at Mulberry, Ark., crested 3 feet above flood stage on the 30th. The Petit Jean River crested 3 to 4 feet above flood stage at Booneville and Danville, Ark., on the 30th and 31st. Flooding was still in progress at Danville at the end of the month. The Fourche LaFave River at Houston, Ark., was out of its banks on the 1st-13th. The crest on the 6th was 6.2 feet above flood stage. It rose above flood stage again on the 30th and continued in flood into February.

The Arkansas River at Van Buren, Ark., reported an average monthly stage of 14.0 feet, 6.5 feet above the normal monthly stage of 7.5 feet. This is the second highest January average stage on record. The highest was 15.6 feet in 1932.

Red Basin.--The Sulphur River at Naples, Tex., was above flood stage in the beginning of January. It rose above flood stage on Dec. 25 and receded within its banks on the 2d. The crest was 3.7 feet above flood stage on Dec. 28.

Heavy rains beginning on the 29th over southeastern Oklahoma, northeastern Texas, and southwestern Arkansas resulted in rapid rises with flooding beginning on the Sulphur River at Hagansport, Tex., on the 30th. Some flooding occurred on the same date on the Blue, and Clear Boggy Rivers and on Glover Creek in southeastern Oklahoma. Overflows also began along streams in southwestern Arkansas which continued into February. Damages along the Rolling Fork and Cossatot in De Queen, Ark., were estimated at $305,000.

Extensive flash flooding occurred in the Ouachita, Caddo, and Saline River basins during the night of the 29th and the morning of the 30th. The Saline River at Benton, Ark., rose 19.7 feet in 24 hours to a crest 11 feet above flood stage on the 30th. The Ouachita River crested 14.1 feet above flood stage at Rockport, Ark., on the 30th and 11.5 feet above flood stage at Arkadelphia, Ark., on the 31st. The Caddo River at Glenwood, Ark., rose 7.2 feet above flood stage on the 30th. The Little Missouri River at Boughton, Ark., rose above flood stage, on the 31st. The flooding on the Little Missouri, Saline, and Ouachita Rivers continued into February. Damage to highways and bridges was heavy. Crop damages, though heavy, were mostly to pasturelands.

Lower Mississippi Basin.--The flooding on the St. Francis River in the beginning of the month was due to heavy rain (2.75 inches) on Dec. 26-28. The crest at Fisk, Mo., on Jan. 1 was 2.8 feet above flood stage. The crest reached St. Francis, Ark., on the 4th and was 1.8 feet above flood stage. It receded within its banks at Fisk on the 5th and at St. Francis, Ark., on the 9th. Heavy rainfall (2.65 inches) near the middle of the month caused sharp rises to above flood stage on the 18th. It crested on the 19th 1 foot above flood stage and receded within its banks on the 21st. It rose above flood stage again on the 23d and continued in flood until Feb. 20. Upstream at Fisk, Mo., it rose above flood stage on Jan. 29 and continued in flood to Feb. 16.

Minor flooding occurred on the Big Black River at Bovina, Miss., from Dec. 31 to Jan. 2. The crest on Dec. 31 was 0.3 foot above flood stage. Flood damage was light.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred on the Calcasieu River at Hineston, La., on the 5th. The crest was 0.2 foot above flood stage. This overflow was due to light rains during the first week of January over a stream that was already at a high level.

Minor overflow occurred on the Sabine River at Deweyville, Tex., from Dec. 12 to Jan. 9. The crest was 0.4 foot above flood stage on Dec. 24-25. No damage was reported.

Levels at Lake Houston, Tex., on the San Jacinto River exceeded the spillway elevation from Dec. 1 through January and February. The crests during December and January were 0.8 and 0.25 foot above the spillway, respectively. The highest level occurred on Feb. 23 when it exceeded the spillway elevation by 2.2 feet.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Heavy rains in southern Utah during the last week of January caused some minor flooding, primarily along the Virgin River and its tributaries. Some damage resulted to a few farms in the Bunkerville, Nev., area. Alton, Utah, near the divide between Sevier and Virgin River basins, reported 9.15 inches of rain, over 5 times normal. Heavy rain was also reported in the Bull Valley Mountains south and west of Enterprise, Utah. Shoal Creek, near Enterprise, flooded about 2,000 acres, but the damage was negligible. There was some minor damage to roads.

Locally heavy rain on the 25th and 26th caused a rapid rise on Oak Creek, a tributary of the Verde River in Arizona to a high level but no overflow was reported. Verde River had a peak flow of 47,000 c.f.s. at noon on Jan. 26. The total flow into the Verde Dam System was the highest for any January with 144,401 acre-feet. The previous highest January flow was 138,000 acre-feet in 1952.

GREAT BASIN

Heavy rains during January caused sufficient rise in the Truckee River near Vista, Nev., (east of Reno) to cause some local overflow. Heavy runoff caused local drainage problems at Sparks, Nev. No damage was reported. Precipitation during January was more than 3 times normal at Reno, Nev., and Truckee, Calif. The snowpack at Norden, Nev., (near Donner Summit) was 175 inches on Jan. 31 compared to a 50-year average of 80 inches. The Soil Conservation Service reported the snowpack at Marlette Lake, between Carson City, Nev., and Lake Tahoe, to be the greatest of record.

PACIFIC SLOPE DRAINAGE

The most severe flood since 1938 occurred in southern California due to excessively heavy rain on the 18th through the 26th. The precipitation averaged from

10 to 15 inches in the lowlands and from 30 to 35 inches over mountain areas. The greatest amounts, in excess of 45 inches, occurred at Opid's Camp and at Mt. Baldy, both in the San Gabriel Mountains and at San Marcos Pass in Santa Barbara County. The 1938 storm was a higher intensity shorter duration storm but the January 1969 storm totals are the greatest on record. Channel flows approached those reached in 1938. Near record flows occurred in most channels; a few exceeded previous records. Preliminary peak flows by the Corps of Engineers for selected locations were as follows:

River	Peak Flow (c.f.s.)	Design Flow (c.f.s.)
Ventura	55,000	150,000
Santa Clara	165,000	225,000
Los Angeles	110,000	146,000
San Jacinto	60,000	110,000
Santa Ynez (Lompoc)	100,000	---
Santa Ynez (Cachuma Res.)	80,000(spill)	---

Property damage in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, San Bernardino, and Riverside Counties in southern California was estimated at near $125 million. Only minor flooding occurred in San Diego County where the rain was beneficial in restoring underground water levels. Damage resulted from erosion in canyons, mudslides in foothill communities, and inundation in low flatland areas. Hundreds of homes were damaged or destroyed by mudslides and several bridges were washed out. Forty-seven deaths were directly attributable to the storm. Of these, at least 20 persons were drowned and 19 deaths resulted from mudslides.

The flooding on the Salinas River in California on the 25-27th was the most severe since 1952. This flooding was due to heavy rain over the headwaters during the afternoon of the 24th. Santa Margarita reported 6.55 inches of rain during the 24-hour period ending at 8 a.m. on the 25th. During the same period, Paso Robles reported less than 2 inches, and Salinas about 1 inch. It is estimated that heavy rain occurred on the east side of the Salinas Basin from King City southward and over the San Lorenzo Basin. The antecedent conditions were favorable for heavy runoff as the heavy rain on the 18th and 19th caused a heavy base flow after the stream receded. Considerable flooding occurred at Priest Valley, Calif., on the San Lorenzo, a tributary of the Salinas. Record flow occurred at San Lorenzo and at Bradley, Calif. The Salinas River at Bradley, Calif., crested 3.9 feet above flood stage on the 25th and at Spreckles, Calif., 3.1 feet above flood stage on the 27th.

San Joaquin Basin.--Record precipitation fell over most of the San Joaquin Basin, particularly south of Yosemite Valley. Some stations reported over 600% of January normal, and the entire basin averaged well over 300%. During the period Jan. 18-27, several stations reported between 35 to 40 inches of precipitation. The snowpack in the southern Sierra Nevada reached record depths and in some areas approached that of 1962.

There were two periods of significant flooding in the San Joaquin Basin. The first overflow occurred on the 19th-23d, and the second on the 25-27th. Actual rainfall accumulations varied widely from station to station, but 24-hour amounts between 5 and 9 inches were measured at several places on the 19-20th and again on the 25-26th. In general, there was more precipitation in the first storm, but the runoff from the second was much greater. The two-day interval between the storms left the ground saturated and runoff from the second storm was almost instantaneous.

Major damages occurred on the Chowchilla and Fresno Rivers and along streams running into the valley from the foothill areas. There was also considerable damage caused by ponding on the valley floor from some of the heaviest rainfalls on record. Tributary streams of the Kings River measured their highest flows of record. Sycamore Creek which enters the Kings River above Pine Flat Reservoir crested at 13.0 feet on the 25th compared to 9.8 feet in 1954. This was more than twice the previous record discharge. However, the Kaweah River at Three Rivers crested at 14.0 feet on the 25th compared to 22.2 feet in 1966.

Peak flows moving down the Tuolumne River caused flooding in the city of Modesto, Calif., along the river. The Stanislaus River caused some flooding in and around the city of Ripon, Calif. Farther downstream, one-half mile above its junction with the San Joaquin some 5,000 acres were flooded and remained under water through the end of January. Warning stages were reached or exceeded at all points and danger or flood stages were reached or exceeded at several points. The San Joaquin River at Vernalis, Calif. reached a crest of 34.3 feet on the 27th, the highest stage of record.

Most of the damage resulted to agricultural lands and inundation of homes in small communities and portions of the city of Fresno. Ponding was responsible for much of the communities of Cutler, Orosi, Woodlake, Lindsay, Yettem, and Seville being inundated and more than 500 persons had to flee their homes. Water was from 1 to 2 feet deep in places in these communities. More than $1 million damage has been estimated to ditches in the Fresno Irrigation District. A family of four was marooned for 4 days in heavy snow in the Sierras west of Johnsondale, but suffered only frostbite. One youth was missing and assumed drowned while trying to swim the San Joaquin River north of Fresno, Calif., on the 24th. A small child was killed on the 25th when the truck in which she was riding overturned as it hit a flooded portion of a country road. There were many accidents attributed to the rain but only 4 other lives were lost. Most county and stage roads were either washed out, or blocked by mud- and rockslides. Millions of dollars in road and culvert damage was sustained in the national forests and national parks. The total cost of damage in Fresno, Tulare, and Kern Counties were estimated slightly in excess of $31 million. Preliminary estimates by the Corps of Engineers for the Stanislaus, Tuolumne and the main stem of the San Joaquin River were placed at $ 6 million.

Sacramento Basin.--Precipitation during January over the Sacramento drainage ranged from around 200% to over 400% of the January normal. Snow accumulation by month's end was near 200% of normal at high levels and 250% of normal at the 5,000-foot level in the Sierra. These amounts are near those of the record snow-year of 1952 at a number of points on the same date.

Eight major crests moved down the Sacramento River during January. Warning stages were exceeded at many points and flood or danger levels were exceeded at Butte City and Lisbon and at all weirs. No record high levels were reached on the Sacramento River. Stages on the lower Sacramento approached the danger level of 29 feet at Sacramento, Calif., and necessitated opening 16 gates of the Sacramento Weir on the 21st.

These gates remained open through the end of the month.

All Yolo Bypass islands were flooded by the 21st. Ample warning permitted early evacuation of all people and moving farm equipment from the bypass islands to safety. In the Sacramento Delta, more than 10,000 acres of agricultural land were flooded.

Preliminary damage estimates by the U. S. Corps of Engineers for the Sacramento Basin was placed at $9 million.

Russian Basin.--There were two periods of flooding on the Russian River at Guerneville, Calif. The first occurred on the 12-14th and was due to rainfall averaging about 8 inches. Moderate rainfall amounts occurred in the headwater and the Santa Rosa sectors. The precipitation in the Guerneville-Venada-Healdsburg sector was heavy and accounted for about two-thirds of the average. The flow from this sector crested at Healdsburg before the crest arrived from upstream. As a result, the flooding was moderate and confined mostly to the southern portion of the river. The crest at Guerneville on the 13th was 11 feet above flood stage.

During the second flood on the 20th-22d, the average rainfall and distribution was similar to that during the first flood. However, the rainfall was spread over 4 days instead of 3 days as during the first overflow. Consequently, the crest at Guerneville was about 5 feet lower than in the first flood. Only minor damage resulted from the two floods in the Russian Basin.

Eel Basin.--There were two floods on the Eel River at Fernbridge, Calif., during January. The first overflow occurred on the 12-14th with a crest 5.1 feet above flood stage on the 13th. The second flood occurred on the 20th-22d with a crest of 4.5 feet above flood stage on the 21st. The water spread out over farmlands near the river from Fernbridge, Calif., to the mouth. Mostly pastureland (not cropland) was affected. There was a moderate deposit of silt and debris.

The Van Duzen River near Bridgeville, Calif., crested 4.3 feet above flood stage on the 13th and 2.9 feet above flood stage on the 20th. Residents in a low area were evacuated both times as a precautionary measure. No particular damage was reported except for considerable mud in the lower part of the flats.

A state of disaster was declared for Humbolt County. Most of the loss and difficulty came from storm damage, not flooding. There were many slides and slipouts on State and County roads. The California Division of Highways reports approximately $3 million damage to their highway system and Humbolt County estimated their loss at $1 million. Only $50,000 of this amount is directly attributable to flooding in the Eel River.

Warnings had been given out sufficiently far in advance that stock and machinery worth nearly $4.5 million had been moved to safe ground.

Coquille Basin.--Heavy rain around the middle of January caused the Coquille River to rise above flood stage along the Middle and South Forks. The South Fork Coquille rose 1 foot above flood stage on the 11th and 2.6 feet above flood stage on the 13th and 14th. The main stem of the Coquille River rose to within 0.2 foot of flood stage on the 13th. Damage along the Coquille River was at a minimum.

The heavy snowfall during the last few days of January did appreciable damage, isolating communities and collapsing buildings. The community of Powers, Oreg., on the south fork of the Coquille River was without telephone or electrical power for 3 days. Normal power and communications were not restored for more than a week.

Columbia Basin.--January was one of the coldest and snowiest on record for most of the Columbia Basin. It was also the 6th consecutive month with precipitation above average. Substantial increase in snowpack occurred in the mountains.

Considerable flash flooding occurred on tributaries to the Clearwater River in Idaho, where drainage was poor, due to warming and snowmelt on the 5-7th. Flash flooding also occurred in the upper Snake Basin in the areas of Idaho Falls, Rexburg, Blackfoot, and Barcroft, Idaho, due to warming and snowmelt associated with icejams.

Minor flooding occurred on the Coeur d'Alene River at Kingston, Idaho, on the 7th. A few families were evacuated, but freezing temperatures stopped the snowmelt and damage was very light.

Some of the low elevation Willamette Tributaries experienced moderate rises over the New Year Holiday.

The Pudding River at Aurora, Oreg., rose 1 foot above flood stage on the 2d and receded within its banks on the 4th. Temperatures moderated and freezing levels rose by the 5th. Heavy precipitation on the 6-11th caused a gradual rising along the Willamette River. At Salem, Oreg., the river rose from 60,000 c.f.s. on the 5th to 100,000 c.f.s. on the 12th. The uncontrolled low elevation coast range tributaries exceeded flood stage. Several streams had multiple rises above flood stage. The second rise of Johnson Creek crested 4.2 feet above flood stage on the 7th, inundating some 600 acres.

Considerable flood damage occurred in the Tucannon and Touchet drainages in Washington and in the upper reaches of the Walla Walla River of Oregon. The Umatilla River at Pendleton, Oreg., crested 1.1 feet above flood stage on the 6th. Levees prevented extensive flooding. Flood damage in the lower Snake River drainages was estimated by the Corps of Engineers at $542,000 and in the Willamette Basin tributaries at $307,000. According to news stories, damages in southeastern Washington were nearly as high as in the December 1964 and January 1965 floods.

During the last week in January, snow accumulated over the Columbia Basin and by the 30th the following snow depths were reported: Astoria, Oreg., 18 inches; North Bend, Oreg., 14 inches; Portland, Oreg., 10 inches; Salem, Oreg., 10 inches; Eugene, Oreg., 34 inches; Pendleton, Oreg., 15 inches; and Walla Walla, Wash. 19 inches.

PUDGET SOUND DRAINAGE

The western Cascade Rivers in Washington exceeded flood stage on the 4-7th. Most of the flooding occurred in the Nooksack, Snohomish, and Snoqualmie Valleys. This flooding was due to warm rains averaging around 5 inches in 4 days on top of a heavy low-level snowpack. Lowland temperatures reached the 50's in 2 days. Flooding in the Nooksack was aggravated by an icejam at a bridge near its mouth near Marietta, Wash., which caused overflow into the town.

Flood damage was caused mostly by overflow of farmland, low-lying roads and some residences in the Snohomish and Snoqualmie Valleys. Overflow into the town of Marietta on the Lower Nooksack was due to an icejam. The high water in the Snohomish was similar to the flood of 1967. The flood in the Snoqualmie was the highest since 1959. A number of families were evacuated but no lives were lost. Flood damages were estimated at over $2 million by the Corps of Engineers.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From-	To-	Crest* Stage	Date
	Ft.			Ft.	
ST. LAWRENCE DRAINAGE					
Lake Michigan					
Red Cedar: Williamston, Mich.	7	23	24	7.5	24
Lake Erie					
St. Marys: Decatur, Ind.	15	18	Feb. 5	20.4	31
St. Joseph: Montpelier, Ohio	10	19	Feb. 6	14.7	31
Maumee: Fort Wayne, Ind.	15	30	Feb. 5	21.2	31
Defiance, Ohio	10	30	Feb. 3	14.1	Feb. 1
Napoleon, Ohio	10	28	Feb. 1	18.9	29
Grand Rapids, Ohio	15	30	Feb. 1	18.3	30
ATLANTIC SLOPE DRAINAGE					
Susquehanna: Vestal, N. Y.	18	31	Feb. 1	E18.5	31
Neuse: Smithfield, N. C.	13	23	25	13.6	24
Lumber: Lumberton, N. C.	8	(1 (23	12 1/	8.3 (8.5 (8.8	7 31 Feb.12-13
Saluda: Chappells, S. C.	14	20	23	16.7	21
Broad: Blair, S. C.	14	21	23	17.3	22
Savannah: Clyo, Ga.	11	29	1/	13.3	Feb. 11
Oconee: Milledgeville, Ga.	20	23	25	24.4	23
EAST GULF OF MEXICO DRAINAGE					
Cahaba: Centreville, Ala.	23	20	21	27.1	20
Black Warrior: Warrior Lock and Dam, Ala.	30	22	23	30.4	23
Pearl: Jackson, Miss.	18	Dec. 24	7	(23.5 (23.8	Dec. 30 1
Bogalusa, La.	15	Dec. 23	11	(18.2 (17.4	Dec. 23 2
Pearl River, La.	12	3	6	(13.6 (12.3	Dec. 27 4
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Wapsipinicon: DeWitt, Iowa	10	24	25	11.3	24
Pecatonica: Martintown, Wis.	11	24	26	13.6	24
Freeport, Ill.	13	25	25	13.2	25
Rock: Joslin, Ill.	12	25	28	14.5	27
Kankakee: Momence, Ill.	4	(22 (29	22 29	4.6 4.0	22 29
Fox: Wayland, Mo.	15	17	17	16.2	17
Fox: Dayton, Ill.	12	24	Feb. 8	22.5	26
Mackinaw: Green Valley, Ill.	11	22	22	11.4	22
Spoon: Seville, Ill.	22	25	26	23.5	26
Sangamon: Monticello, Ill.	13	30	30	13.2	30
Riverton, Ill.	13	19 23 29	19 24 Feb. 17	15.5 18.8 (18.7 (18.2	19 23 Feb. 1 Feb. 10
LaMoine: Ripley, Ill.	22	22	22	22.1	22
Illinois: Morris, Ill.	13	30	30	13.1	30
LaSalle, Ill.	20	24 31	25 Feb. 2	20.9 21.3	24 31
Havana, Ill.	14	24	Feb. 17	16.5	Feb. 3
Beardstown, Ill.	14	24	Feb. 20	18.1	Feb. 10
Meredosia, Ill.	10	16	Feb. 25	17.5	Feb. 10
Bourbeuse: Union, Mo.	15	31	Feb. 1	19.3	Feb. 1
Big: Byrnsville, Mo.	16	30	Feb. 1	23.6	31
Meramec: Steelville, Mo.	12	30	31	23.0	30
Sullivan, Mo.	15	30	Feb. 1	26.9	30
Pacific, Mo.	11	Dec. 29 30	1 Feb. 3	17.8 24.4	Dec. 31 Feb. 1
Eureka, Mo.	16	Dec. 30 30	Dec. 31 Feb. 3	17.3 31.4	Dec. 31 Feb. 1
Valley Park, Mo.	16	Dec. 30 30	1 Feb. 3	17.0 29.7	Dec. 31 Feb. 2
Big Muddy: Plumfield, Ill.	20	31	Feb. 7	23.4	Feb. 3
Murphysboro Ill.	16	24	Feb. 17	32.0	Feb. 3

River and station	Flood stage	Above flood stages -dates From-	To-	Crest* Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM					
Kaskaskia: Shelbyville, Ill.	13	29	Feb. 4	16.2	31
Vandalia, Ill.	18	29	Feb. 6	25.0	31
Mississippi: Gregory Landing, Mo.	15	25	27	15.7	27
Missouri Basin					
Grand: Sumner, Mo.	26	17	22	32.8	17
Lamine: Clifton City, Mo.	19	30	30	19.2	30
Moniteau Creek: Fayette, Mo.	16	17	17	E16.5	17
Petite Saline: Boonville, Mo.	16	30	31	E18.0	30-31
Osage: Schell City, Mo.	25	(Dec. 29 (19	Dec. 31 19	27.8 25.1	Dec. 30 19
Lakeside (Baghell Dam), Mo.	60	1	1	60.0	1
Gasconade: Hazelgreen, Mo.	21	31	31	24.9	31
Jerome, Mo.	15	30	Feb. 2	21.5	Feb. 1
Missouri: Rulo, Nebr.	17	18	23	17.4	18-21
Ohio Basin					
French Creek: Meadville, Pa.	13	31	Feb. 1	13.7	Feb. 1
Allegheny: Parker, Pa.	20	18	19	22.8	19
Hocking: Enterprise, Ohio	12	30	31	12.5	31
Paint Creek: Bourneville, Ohio	10	31	31	10.0	31
Scioto: LaRue, Ohio	11	(19 (30	19 31	#11.0 #11.9	19 31
Prospect, Ohio	10	Feb. 1	Feb. 2	11.0	Feb. 1
Circleville, Ohio	14	30	Feb. 3	17.7	Feb. 1
Piketon, Ohio	16	30	Feb. 4	19.7 #19.85	31 Feb. 2
Rough: Dundee, Ky.	25	31	Feb. 1	#26.15	31
Green: Calhoun, Ky.	23	Feb. 1	Feb. 4	23.8	Feb. 3
Vermillion: Danville, Ill.	18	31	31	18.75	31
Sugar Creek: Crawfordsville, Ind.	8	30	31	9.3	30
Embarrass: St. Marie, Ill.	18	30	Feb. 5	22.75	31
Lawrenceville, Ill.	15	31	Feb. 13	21.7	Feb. 2
Eagle Creek: Zionsville, Ind.	7	29	30	9.2	30
Eel: Bowling Green, Ind.	17	30	31	E19.0	30-31
Muscatatuck: Austin, Ind.	T16	29	Feb. 2	23.9	31
East Fork: Columbus, Ind.	10	31	Feb. 1	11.0	31
Seymour, Ind.	14	(19 (30	21 Feb. 3	15.9 17.9	19 30-31
Bedford, Ind.	20	31	Feb. 6	27.35	Feb. 3
White: Anderson, Ind.	10	(19 (30	19 Feb. 1	11.1 11.7	19 31
Noblesville, Ind.	14	30	Feb. 1	#15.2	31
Nora, Ind.	T12	30	Feb. E1	#13.5	31
Ravenswood, Ind.	T 6	30	Feb. 1	8.1	31
Centerton, Ind.	T603	30	Feb. 3	608.1	30
Spencer, Ind.	14	Dec. 29 19	1 Feb. 10	16.3 22.6	Dec. 30 Feb. 1
Elliston, Ind.	18	Dec. 29 19	2 Feb. 7	21.2 28.2	Dec. 31 Feb. 2
Newberry, Ind.	18	30	Feb. 5	#23.85	Feb. 3
Edwardsport, Ind.	15	Dec. 30 19	3 Feb. 14	18.0 19.0 25.0	2 22 Feb. 2-3
Petersburg, Ind.	16	Dec. 31 19	4 Feb. 16	17.5 #24.8	3 Feb. 4-5
Hazleton, Ind.	16	1 20	5 Feb. 16	E17.5 (21.2 (26.8	4 (26 (Feb. 5
Skillet Fork: Wayne City, Ill.	15	24 29	24 Feb. 3	16.1 21.5	24 31
Little Wabash: Wilcox, Ill.	16	19 29	26 Feb. 14	18.8 24.0	20 Feb. 1
Carmi, Ill.	27	30	Feb. 19	34.6	Feb. 5
Wabash: Bluffton, Ind.	10	21 30	21 Feb. 1	10.05 12.6	21 Feb. 1
Wabash, Ind.	12	29	Feb. 1	15.9	29

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	To–	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Wabash (Cont'd.): Lafayette, Ind.	11	Dec. 29	2	14.3	Dec. 29
		19	Feb. 8	22.85	30
Covington, Ind.	16	2	17	16.6	4-17
		20	Feb. 10	27.0	31
Montezuma, Ind.	14	Dec. 30	1	#15.1	31
		23	Feb. 13	29.05	Feb. 1
Clinton, Ind.	16	24	Feb. E12	28.25	Feb. 1
Terre Haute, Ind.	14	29	Feb. E13	23.5	Feb. 2
Hutsonville, Ill.	T20	30	Feb. 13	26.2	Feb. 2-3
Riverton, Ind.	18	30	Feb. 14	E22.3	Feb. 3
Vincennes, Ind.	16	30	Feb. 16	25.0	Feb. 4
Mt. Carmel, Ill.	17	24	Feb. 18	28.6	Feb. 6
New Harmony, Ind.	15	27	Feb. 18	20.9	Feb. 7
Saline: Harrisburg, Ill.	13	17	21	20.9	19
		28	Feb. 3	24.2	31
South Chickamauga Creek: Chickamauga (nr), Tenn.	20	20	22	12.2	21
Tennessee: Paducah, Ky.	320	30	Feb. 18	330.9	Feb. 10
Ohio: Dam 47, Newburgh, Ind.	38	31	Feb. 7	39.6	Feb. 2
Dam 48, Cypress, Ind.	38	Feb. 2	Feb. 8	39.0	Feb. 3
Mt. Vernon, Ind.	35	Feb. 1	Feb. 12	38.1	Feb. 7
Dam 49, Uniontown, Ky.	37	Feb. 2	Feb. 14	42.1	Feb. 8
Shawneetown, Ill.	33	31	Feb. 16	42.2	Feb. 9
Dam 50, Fords Ferry, Ky.	34	30	Feb. 17	45.2	Feb. 8
Dam 51, Golconda, Ill.	40	Feb. 5	Feb. 14	42.8	Feb. 9
Paducah, Ky.	39	Feb. 4	Feb. 16	41.9	Feb. 10
Dam 52, Brookport, Ill.	37	Feb. 2	Feb. 18	43.7	Feb. 8
Dam 53, Grand Chain, Ill.	42	Feb. 1	Feb. 18	48.9	Feb. 11
Cairo, Ill.	40	31	Feb. 19	47.3	Feb. 12
White Basin					
Kings: Berryville, Ark.	6	30	1/	21.45	30
Buffalo: Gilbert, Ark.	30	30	30	38.0	30
Black: Poplar Bluff, Ark.	16	30	Feb. 1	U	U
Corning, Ark.	9	19	1/		
Pocahontas, Ark.	17	Dec. 29	8	19.9	3
		29	Feb. 14	24.3	Feb. 3
Black Rock, Ark.	14	Dec. 27	12	23.2	Dec. 29
		18	Feb. 20	27.7	31
				26.6	Feb. 3
Little Red: Judsonia, Ark.	30	30	Feb. 1	36.1	30
Cache: Patterson, Ark.	7	Dec. 23	1/	11.3	Feb. 1
White: Calico Rock, Ark.	19	30	1/	23.3	30
Batesville, Ark.	23	Dec. 27	Dec. 31	29.4	Dec. 28
		30	Feb. 1	30.9	30
Newport, Ark.	26	Dec. 29	1	27.7	Dec. 30
		31	Feb. 10	30.5	Feb. 1
Augusta, Ark.	32	Dec. 30	5	32.6	2
		31	Feb. 11	34.15	Feb. 3
Georgetown, Ark.	21	Dec. 28	31	23.5	3
		31	1	26.7	Feb. 4
Des Arc, Ark.	24	Dec. U	16	26.4	5-6
		18	21	24.2	19
		30	1	30.3	Feb. 5
Clarendon, Ark.	26	Dec. 27	1/	29.0	7-9
				32.0	Feb. 7
St. Charles, Ark.	25	3	1	26.0	10
				30.1	Feb. 12
Arkansas Basin					
Elk: Tiff City, Mo.	15	30	U	18.1	30
Illinois: Watts, Okla.	13	29	31	21.8	30
Tahlequah, Okla.	11	30	Feb. 1	19.1	31
Poteau: Panama, Okla.	24	30	31	26.7	31
Mulberry: Mulberry, Ark.	11	30	30	14.0	30
Petit Jean: Booneville, Ark.	18	30	30	20.9	30
Danville, Ark.	20	30	1	23.9	31

River and station	Flood stage	Above flood stages -dates From–	To–	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Fourche LaFave: Houston, Ark.	18	1	13	24.2	[illegible]
		30	Feb. [illegible]	31.4	Feb. 1
Red Basin					
Blue: Blue, Okla.	21	30	30	22.5	30
Clear Boggy: Caney, Okla.	19	30	30	20.8	[illegible]
Clover Creek: Clover, Okla.	16	30	30	20.2	30
Rolling Fork: DeQueen, Ark.	20	30	30	21.9	30
[illegible]	16	30	30	21.1	30
Saline: Dierks, Ark.	11	30	30	19.9	[illegible]
Silver Ridge, Ark.	16	30	Feb. 2	17.7	[illegible]
Little River: Idabel, Okla.	30	30	Feb. 2	32.7	[illegible]
Horatio, Ark.	27	31	Feb. 3	32.4	Feb. [illegible]
Sulphur: Hagansport, Tex.	[illegible]	30	Feb. 5	[illegible]	31
Naples, Tex.	22	Dec. 25	2	25.7	Dec. 28
Caddo: Glenwood, Ark.	15	30	30	22.2	30
Little Missouri: Boughton, Ark.	20	31	1/		
Saline: Benton, Ark.	20	30	1/	31.0	30
Ouachita: Rockport (Malvern), Ark.	10	30	1/	24.05	30
Arkadelphia, Ark.	17	30	Feb. 2	[illegible]	31
Camden, Ark.	26	30	Feb. 13	39.1	Feb. 3
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	Dec. 30	[illegible]	22.8	1
		29	Feb. 16	24.8	Feb. 2
St. Francis, Ark.	18	Dec. 28	9	19.75	4
		18	21	19.0	19
		23	Feb. 20	22.8	Feb. 3
Big Black: Bovina, Miss.	28	Dec. 31	2	28.3	31
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	5	5	12.2	5
Sabine: Deweyville, Tex.	14	Dec. 12	9	14.4	Dec. 24-25
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	1/	45.3	Dec. 3
				44.75	17-19
				46.7	Feb. [illegible]
PACIFIC SLOPE DRAINAGE					
Salinas: Bradley, Calif.	15	25	26	18.9	25
Spreckles, Calif.	23	26	27	26.1	27
Tuolumne: Modesto, Calif.	65	27	27	65.7	27
Stanislaus: Ripon, Calif.	60	21	23	60.5	22
		27	28	60.4	27
San Joaquin: Vernalis, Calif.	34	22	1/	34.3	[illegible]
Sacramento: Woodson Bridge (nr) Vina, Calif.	183	12	14	188.6	[illegible]
		20	24	186.2	20
				186.5	21
		26	27	184.6	26
Russian: Guerneville, Calif.	29	12	14	40.0	13
		20	22	35.0	21
Van Duzen: Bridgeville, Calif.	15	U	U	19.3	13
				17.9	[illegible]
Eel: Fernbridge, Calif.	17	12	14	22.1	13
		20	22	21.5	21
South Fork Coquille: Myrtle Point, Oreg.	35	11	11	36.0	11
		13	14	37.55	13
Columbia Basin					
Umatilla: Pendleton, Oreg.	9	5	7	10.1	[illegible]
Luckiamute: Suver, Oreg.	27	11	11	27.1	[illegible]
South Yamhill: Whiteson, Oreg.	38	11	12	38.9	11
Pudding: Aurora, Oreg.	20	2	4	21.0	[illegible]
		6	17	25.0	8
				24.0	11
Tualatin: Farmington, Oreg.	29	8	17	32.5	11
Johnson Creek: Sycamore, Oreg.	8	5	6	9.8	5
		6	7	12.2	7
Puget Sound Drainage					
Snoqualmie: Carnation, Wash.	[illegible]	[illegible]	[illegible]	#58.6	[illegible]
Skykomish: Gold Bar, Wash.	15	5	5	#15.2	[illegible]

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
PACIFIC SLOPE DRAINAGE	Ft.			Ft.	
Snohomish: Snohomish, Wash.	25	4	7	#30.6	5
Stillaguamish: Arlington, Wash.	16	4	5	#17.0	4
Nooksack: Deming, Wash.	12	4	5	E12.8	5

* Provisional
\# Highest stage observed
1/ Continued at end of month
E Estimated
T Tentative
U Unknown

RAWINSONDE DATA

Average monthly values

[illegible]

Columns: Standard pressure surface (mb) | No. of observations | Dynamic height | Temperature | Dew Point † | Resultant Wind: Direction | Resultant Wind: Speed M.p.s.

ALBANY, N. Y. 1009 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	86	-7.7	-11.0	28	3.0
1000	31	157			29	2.8
950	31	556	-7.4	-11.0	28	5.3
900	31	979	-7.3	-12.3	29	6.9
850	31	1,423	-7.9	-13.8	29	8.3
800	31	1,893	-9.3	-17.0	29	8.9
750	31	2,391	-10.2	-17.3	28	10.3
700	31	2,921	-12.3	-19.4	28	11.5
650	31	3,482	-15.1	-22.6	28	12.5
600	31	4,086	-18.5	-26.8	28	14.0
550	31	4,728	-22.1	-30.7	27	16.0
500	31	5,426	-26.4	-34.9	27	17.8
450	31	6,177	-31.7	-39.1	27	18.9
400	31	7,004	-37.1	-41.7	27	21.6
350	31	7,917	-42.4	-46.5	27	24.5
300	31	8,947	-47.9		27	26.3
250	30	10,145	-52.9		28	27.7
200	30	11,573	-55.3		28	26.2
175	30	12,426	-55.1		28	25.6
150	30	13,412	-54.5		28	23.7
125	30	14,577	-55.7		27	20.3
100	30	15,990	-57.9		28	18.4
80	30	17,390	-59.7		28	15.3
70	30	18,223	-60.8		28	13.3
60	29	19,185	-61.0		28	11.3
50	28	20,319	-61.4		28	12.0
40	27	21,705	-61.2		29	9.2
30	26	23,493	-60.4		29	9.8
25	25	24,633	-59.2		28	9.9
20	21	26,034	-57.7		28	12.2
15	17	27,869	-53.7		28	16.7
10	14	30,544	-45.1		27	26.7
7	5	32,924	-41.2			

ALBUQUERQUE, N. MEX. 837 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,619	-1.2	-5.1	21	.3
1000	31	173				
950	31	589				
900	31	1,030				
850	31	1,493				
800	31	1,982	3.1	-7.5	28	3.3
750	31	2,501	.4	-9.0	29	7.0
700	31	3,054	-2.3	-12.8	28	10.6
650	31	3,635	-5.1	-16.7	28	13.7
600	31	4,265	-8.5	-23.4	28	15.8
550	31	4,925	-12.4	-26.8	28	19.0
500	31	5,658	-17.0	-29.7	28	20.8
450	31	6,436	-22.1	-34.3	28	22.6
400	31	7,298	-28.2	-40.1	28	23.7
350	31	8,242	-35.5	-46.5	28	25.6
300	31	9,296	-43.9	-52.6	28	27.8
250	31	10,497	-52.8		28	32.7
200	31	11,912	-59.4		28	35.3
175	30	12,743	-60.1		28	30.9
150	30	13,703	-60.8		28	28.7
125	30	14,833	-62.8		28	26.5
100	30	16,199	-65.8		28	22.2
80	28	17,557	-67.8		28	17.4
70	28	18,359	-68.2		28	15.6
60	28	19,288	-66.9		28	12.1
50	28	20,394	-65.3		29	8.2
40	28	21,757	-64.0		28	8.7
30	27	23,534	-60.3		28	8.8
25	27	24,675	-58.6		28	9.8
20	27	26,086	-55.9		27	14.5
15	23	27,935	-53.1		27	18.9
10	6	30,523	-48.6			

AMARILLO, TEXAS 888 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,095	-.1	-6.0	27	2.6
1000	31	134				
950	31	554				
900	31	992				
850	31	1,451	4.5	-4.8	25	6.3
800	31	1,947	5.2	-8.2	26	8.9
750	31	2,468	3.1	-10.6	27	10.2
700	31	3,029	.1	-13.8	27	11.4
650	31	3,619	-3.2	-17.9	27	13.2
600	31	4,249	-7.1	-21.7	28	14.9
550	31	4,917	-11.4	-25.4	28	16.1
500	31	5,648	-16.4	-30.0	28	18.7
450	31	6,425	-22.0	-34.3	28	21.7
400	31	7,289	-28.6	-39.0	27	23.8
350	31	8,231	-35.9	-45.1	27	24.5
300	31	9,284	-44.1		28	27.7
250	31	10,482	-53.3		28	31.7
200	30	11,894	-60.2		28	33.5
175	30	12,725	-61.3		28	32.8
150	30	13,680	-61.9		28	30.9
125	30	14,807	-62.5		28	28.5
100	29	16,170	-65.2		28	27.5
80	28	17,518	-66.5		28	22.7
70	26	18,323	-67.1		27	17.9
60	24	19,257	-66.8		27	13.7
50	24	20,342	-65.5		27	9.2
40	24	21,726	-63.2		28	8.1
30	24	23,506	-60.2		28	8.3
25	23	24,649	-58.4		28	10.4
20	21	26,065	-55.7		27	12.6
15	18	27,899	-53.5		27	16.7

* ANCHORAGE, ALASKA 1012 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	45	-14.9	-20.9	34	2.4
1000	31	134			[illegible]	3.8
950	31	531	-10.5	-17.1	02	5.4
900	31	943	-9.7	-18.2	02	4.7
850	31	1,384	-10.4	-20.1	36	4.7
800	31	1,849	-12.2	-21.8	36	5.1
750	31	2,342	-14.3	-24.6	35	5.8
700	31	2,861	-17.1	-27.1	35	7.2
650	31	3,410	-20.1	-29.5	34	8.8
600	31	4,002	-23.6	-32.8	34	10.2
550	31	4,629	-27.5	-36.3	34	11.5
500	31	5,313	-31.7	-39.8	34	13.1
450	31	6,049	-36.6	-43.1	34	14.8
400	31	6,859	-41.6	-47.2	34	17.3
350	31	7,754	-47.1		34	18.3
300	31	8,765	-51.7		33	17.3
250	31	9,935	-55.6		32	17.2
200	31	11,355	-56.0		32	13.8
175	31	12,208	-53.8		31	11.8
150	31	13,201	-52.9		31	10.6
125	31	14,378	-52.5		31	10.1
100	31	15,821	-52.9		31	8.7
80	31	17,258	-53.8		30	7.1
70	31	18,113	-54.7		30	6.2
60	30	19,097	-55.5		30	6.3
50	30	20,258	-56.1		30	4.4
40	30	21,674	-56.9		30	4.1
30	29	23,489	-58.2		33	4.5
25	26	24,643	-58.5		33	4.6
20	23	26,044	-59.2		34	4.9
15	22	27,846	-59.3		35	5.6
10	16	30,389	-60.0		35	6.9

* ANNETTE, ALASKA [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	37	-6.3	-12.4	03	3.2
1000	31	88			02	3.2
950	31	484	-8.9	-17.0	06	4.7
900	31	915	-11.1	-18.5	05	3.9
850	31	1,342	-12.9	-19.9	06	[illegible]
800	31	1,803	-14.7	[illegible]	[illegible]	[illegible]
750	31	2,286	-16.7	-25.2	04	2.7
700	31	2,816	-19.1	-28.1	33	2.0
650	31	3,350	-22.5	[illegible]	34	[illegible]
600	31	3,937	-26.4	-34.5	34	[illegible]
550	31	4,555	-30.9	-36.9	35	6.2
500	31	5,232	-35.4	[illegible]	35	8.8
450	31	5,955	-40.5	-42.7	34	10.4
400	31	6,754	-45.3		32	10.9
350	31	7,637	-49.0		32	13.8
300	31	8,644	-51.3		32	[illegible]
250	31	9,825	-52.0		31	13.1
200	31	11,275	-50.6		31	[illegible]
175	31	12,145	-50.4		31	[illegible]
150	31	13,150	-50.6		31	12.9
125	31	14,336	-51.5		31	11.9
100	31	15,780	-52.6		31	10.9
80	30	17,214	-54.0		31	10.0
70	30	18,069	-54.8		32	9.2
60	30	19,053	-55.7		31	7.7
50	30	20,210	-57.0		32	7.5
40	30	21,619	-58.3		33	7.4
30	30	23,425	-59.6		33	6.4
25	30	24,563	-60.5		33	6.3
20	29	25,949	-61.1		34	6.8
15	25	27,729	-61.6		35	7.6
10	18	30,241	-61.5		35	7.8
7	9	32,388	-62.9			

ATHENS, GEORGIA 992 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	1.8	-3.5	02	1.2
1000	31	180				
950	31	594	4.0	-4.3	26	.5
900	31	1,035	3.3	-5.1	25	4.6
850	31	1,498	2.6	-7.3	26	7.5
800	31	1,987	1.4	-8.8	27	10.3
750	31	2,504	-.6	-11.9	27	12.5
700	31	3,055	-2.6	-14.5	27	15.4
650	31	3,635	-5.5	-17.0	27	17.8
600	31	4,265	-8.8	-20.4	27	21.2
550	31	4,929	-12.4	-25.2	27	20.7
500	31	5,656	-17.2	-29.2	27	23.3
450	31	6,433	-22.6	-33.0	27	23.9
400	31	7,291	-28.7	-38.7	27	25.9
350	31	8,233	-36.2	-43.5	27	28.6
300	31	9,284	-44.6		27	32.7
250	31	10,482	-52.8		27	35.5
200	31	11,897	-59.9		27	38.5
175	31	12,727	-61.4		27	36.2
150	30	13,681	-61.3		27	33.5
125	29	14,805	-62.8		27	30.8
100	29	16,171	-65.1		27	25.9
80	29	17,524	-66.9		27	18.3
70	29	18,328	-67.2		27	15.0
60	29	19,259	-66.7		27	13.6
50	29	20,366	-64.9		27	10.6
40	29	21,732	-62.8		28	11.1
30	29	23,521	-58.9		27	13.5
25	29	24,670	-56.5		27	16.9
20	28	26,099	-53.9		27	19.5
15	24	27,963	-48.9		27	22.4
10	23	30,676	-40.8		27	29.0
7	16	33,126	-35.1		26	42.0

* BARROW, ALASKA 1024 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	-24.7	-24.8	12	2.3
1000	31	181	-20.4	-22.7	12	4.0
950	31	566	-17.0	-20.4	15	3.7
900	31	970	-16.6	-20.7	16	2.5
850	31	1,399	-17.2	-21.7	17	2.1
800	31	1,853	-18.6	-24.5	20	2.1
750	31	2,335	-20.5	-27.3	23	1.8
700	31	2,840	-23.2	-30.5	25	2.4
650	31	3,381	-25.9	-33.3	26	3.4
600	31	3,956	-28.9	-36.5	28	4.8
550	31	4,573	-31.9	-39.3	28	6.8
500	31	5,243	-35.6	-41.7	28	8.3
450	31	5,972	-40.2	-43.4	29	9.9
400	31	6,765	-45.2	-46.7	29	11.4
350	31	7,646	-50.4		29	12.7
300	31	8,642	-54.2		29	14.0
250	31	9,805	-55.8		28	11.7
200	31	11,231	-53.9		28	9.2
175	31	12,090	-52.9		27	8.1
150	31	13,086	-52.4		28	7.3
125	31	14,263	-52.6		27	6.4
100	29	15,698	-52.4		27	6.4
80	28	17,137	-53.5		26	6.8
70	28	17,993	-54.3		26	6.1
60	28	18,979	-55.0		27	6.0
50	28	20,141	-56.1		27	6.2
40	25	21,565	-57.0		29	6.3
30	22	23,385	-58.2		28	5.7
25	19	24,520	-58.7		29	7.5
20	18	25,917	-59.5		30	9.5
15	16	27,730	-60.6		31	12.0
10	10	30,319	-59.7			

BARTER IS., ALASKA 1025 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	15	-26.6	-29.2	21	1.4
1000	27	189	-22.4	-24.9	25	2.0
950	27	573	-18.9	-21.1	27	3.3
900	27	973	-18.3	-21.8	27	4.4
850	27	1,399	-18.8	-23.8	28	4.2
800	27	1,849	-20.3	-25.8	29	3.4
750	27	2,324	-22.3	-28.2	31	3.3
700	27	2,830	-24.7	-30.7	31	3.4
650	27	3,364	-27.6	-34.1	32	4.1
600	27	3,938	-30.7	-37.0	32	5.1
550	27	4,567	-34.2	-40.2	31	5.7
500	27	5,214	-38.1	-41.3	31	6.3
450	27	5,930	-42.4	-43.3	31	7.7
400	27	6,723	-46.8		31	9.3
350	27	7,600	-50.7		31	11.0
300	27	8,597	-53.1		31	11.8
250	26	9,762	-53.5		31	11.7
200	26	11,199	-52.3		32	9.6
175	26	12,063	-51.6		31	8.8
150	26	13,065	-51.2		32	8.8
125	26	14,249	-51.3		32	7.9
100	26	15,698	-51.9		32	7.8
80	26	17,142	-52.7		32	7.6
70	26	18,003	-53.2		31	8.0
60	26	18,994	-54.2		31	8.6
50	26	20,161	-55.4		31	8.1
40	26	21,580	-56.5		31	7.8
30	26	23,397	-58.8		32	8.2
25	22	24,520	-60.2		32	10.5
20	20	25,905	-61.2		32	10.9
15	11	27,645	-64.9			

BETHEL, ALASKA 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	39	-13.2	-15.7	08	1.2
1000	31	145	-11.7	-16.3	08	2.4
950	31	542	-7.5	-13.6	19	2.6
900	31	964	-8.2	-14.1	22	2.7
850	31	1,407	-9.2	-14.9	24	3.8
800	31	1,876	-10.6	-16.7	26	4.9
750	31	2,368	-12.4	-19.0	27	5.5
700	31	2,895	-15.0	-22.5	27	6.2
650	31	3,451	-17.9	-24.6	27	7.6
600	31	4,047	-21.5	-27.9	27	8.0
550	31	4,682	-25.3	-31.5	27	7.4
500	31	5,370	-29.8	-35.3	26	9.3
450	31	6,110	-35.0	-38.3	25	11.6
400	31	6,926	-40.5	-43.8	25	12.9
350	31	7,825	-46.5		25	13.9
300	31	8,834	-52.6		26	13.9
250	31	9,998	-57.8		25	16.8
200	31	11,400	-57.9		25	11.7
175	31	12,246	-55.9		24	11.1
150	31	13,231	-54.1		25	10.2
125	31	14,401	-54.0		25	8.9
100	31	15,833	-54.1		25	6.8
80	31	17,261	-54.9		25	6.7
70	31	18,113	-55.5		25	5.7
60	31	19,095	-55.9		24	4.3
50	31	20,253	-56.4		24	4.6
40	31	21,667	-57.2		24	4.0
30	31	23,483	-58.0		25	2.7
25	30	24,630	-58.3		28	1.2
20	28	26,037	-58.7		01	2.6
15	25	27,866	-58.3		35	3.1
10	7	30,430	-57.0			

* BISMARCK, N. DAK. 958 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	503	-18.7	-23.9	34	2.0
1000	31	178				
950	31	560			34	2.0
900	31	965	-16.4	-19.5	31	3.1
850	31	1,398	-12.6	-15.9	29	3.6
800	31	1,863	-10.8	-15.4	28	5.9
750	31	2,359	-10.6	-16.5	27	7.7
700	31	2,889	-12.3	-19.2	28	[illegible]
650	31	3,448	-15.4	-21.7	27	12.6
600	31	4,052	-18.9	-25.0	27	15.1
550	31	4,690	-23.1	-29.1	27	17.3
500	31	5,387	-27.8	-34.0	27	19.5
450	31	6,130	-33.0	-37.2	27	22.2
400	31	6,954	-39.1	-40.8	27	25.0
350	31	7,857	-45.2	-43.1	28	28.7
300	31	8,873	-50.8		28	31.2
250	31	10,046	-55.5		28	30.7
200	31	11,462	-56.0		28	28.1
175	31	12,314	-54.5		27	25.3
150	31	13,304	-53.7		27	24.8
125	31	14,474	-54.3		28	21.9
100	31	15,900	-55.5		28	19.1
80	31	17,316	-57.5		28	16.1
70	30	18,160	-58.8		28	14.4
60	30	19,125	-59.7		28	12.0
50	30	20,261	-61.2		28	10.7
40	29	21,647	-61.9		29	7.9
30	27	23,422	-62.8		29	7.3
25	23	24,539	-62.5		29	7.4
20	18	25,921	-62.4		27	9.0
15	17	27,714	-61.4		29	12.3
10	6	30,230	-57.9			

BOISE, IDAHO 912 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	867	.0	-4.1	12	2.6
1000	31	119				
950	31	536				
900	31	970	-.2	-5.8	14	2.3
850	31	1,428	-.6	-6.8	19	3.2
800	31	1,910	-3.5	-8.5	24	6.4
750	31	2,418	-6.6	-10.5	25	9.7
700	31	2,954	-10.1	-14.3	26	12.5
650	31	3,521	-13.6	-18.0	26	16.1
600	31	4,127	-17.2	-23.0	26	18.5
550	31	4,774	-20.7	-26.9	26	20.4
500	31	5,474	-25.0	-31.3	26	23.0
450	31	6,229	-30.1	-35.0	27	26.4
400	31	7,063	-35.7	-38.7	27	29.6
350	31	7,980	-42.2	-42.1	27	31.8
300	31	9,008	-48.7		27	34.8
250	30	10,189	-55.1		27	36.8
200	30	11,603	-57.3		28	33.8
175	30	12,450	-56.6		28	31.5
150	29	13,426	-56.6		27	26.7
125	28	14,575	-57.0		27	22.7
100	28	15,981	-58.9		27	18.8
80	28	17,377	-60.5		27	16.2
70	27	18,206	-61.1		27	14.3
60	25	19,182	-61.2		27	11.5
50	23	20,290	-61.9		27	8.9
40	22	21,665	-62.4		28	7.9
30	17	23,445	-62.0		29	5.6
25	15	24,567	-62.0		28	5.4
20	12	25,943	-61.1		28	8.9
15	8	27,710	-58.4			
10						
7						
5						

BOOTHVILLE, LA. 1019 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1	11.1	9.1	05	2.3
1000	31	155	12.2	8.5	07	3.1
950	31	587	10.6	5.0	14	2.4
900	31	1,036	10.1	-.1	27	2.6
850	31	1,510	8.7	-2.9	29	4.1
800	31	2,010	7.1	-5.8	29	5.7
750	31	2,536	4.9	-9.9	26	7.4
700	31	3,099	1.9	-15.2	26	8.5
650	31	3,692	-1.2	-16.9	27	9.0
600	31	4,327	-5.1	-19.1	27	10.8
550	31	4,999	-9.1	-23.8	27	12.5
500	31	5,737	-13.7	-27.2	27	15.5
450	31	6,524	-19.5	-30.8	26	17.3
400	31	7,393	-25.9	-35.0	26	19.6
350	31	8,347	-33.0	-41.4	27	23.3
300	31	9,413	-40.9	-49.4	27	26.2
250	31	10,630	-49.9		27	27.8
200	31	12,058	-59.0		27	31.2
175	31	12,889	-61.9		27	31.2
150	31	13,843	-62.1		27	30.4
125	31	14,963	-65.0		27	26.7
100	31	16,310	-68.7		27	24.1
80	30	17,637	-70.5		27	16.6
70	30	18,429	-70.4		27	13.7
60	30	19,348	-68.9		27	12.3
50	27	20,453	-65.9		26	11.2
40	26	21,820	-62.1		27	12.2
30	26	23,616	-57.8		27	15.2
25	26	24,772	-55.7		27	18.0
20	24	26,200	-53.1		27	19.1
15	21	28,084	-48.7		27	17.7
10	15	30,773	-44.2			
7	6	33,159	-39.8			

* BROWNSVILLE, TEXAS 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	7	15.0	12.1	22	.5
1000	31	133	15.0	12.3	18	1.5
950	31	571	14.3	10.1	16	5.6
900	31	1,025	13.0	6.6	17	5.5
850	31	1,505	11.6	2.0	19	5.0
800	31	2,011	10.3	-4.5	21	3.7
750	31	2,545	8.2	-9.7	24	3.5
700	31	3,113	5.1	-11.8	26	5.5
650	31	3,711	1.5	-16.2	27	7.7
600	31	4,353	-2.9	-19.4	27	9.7
550	31	5,029	-7.6	-23.9	28	10.8
500	31	5,772	-12.5	-27.5	27	11.8
450	31	6,565	-17.8	-33.3	27	14.3
400	31	7,441	-23.9	-38.6	27	16.1
350	31	8,402	-31.1	-44.6	28	17.9
300	31	9,476	-39.5	-50.6	28	20.3
250	31	10,699	-48.7		29	21.7
200	31	12,136	-57.5		29	25.6
175	31	12,971	-61.4		28	25.4
150	31	13,921	-63.6		28	24.7
125	31	15,032	-67.1		28	23.1
100	29	16,364	-71.1		27	19.4
80	26	17,674	-73.3		27	14.9
70	25	18,455	-73.5		27	12.3
60	25	19,363	-70.5		27	10.2
50	24	20,457	-66.4		27	10.4
40	24	21,827	-61.1		27	12.9
30	24	23,631	-57.8		27	13.9
25	23	24,789	-56.5		27	15.1
20	23	26,215	-53.7		27	13.8
15	22	28,084	-49.1		27	14.0
10	19	30,793	-44.1		27	14.5
7	16	33,196	-39.9		26	15.4
5	7	35,528	-34.9			

BUFFALO, N. Y. 992 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	218	-5.2	-8.8	25	3.6
1000	31	153				
950	31	557	-5.5	-9.2	25	8.1
900	31	980	-6.8	-10.5	26	10.5
850	31	1,425	-8.4	-12.9	26	10.3
800	31	1,895	-10.1	-14.8	27	10.7
750	31	2,391	-11.7	-17.1	27	11.4
700	31	2,918	-13.5	-20.8	28	12.2
650	31	3,476	-16.1	-25.0	28	14.2
600	31	4,079	-19.2	-28.7	28	15.0
550	31	4,718	-22.9	-31.9	28	16.9
500	31	5,415	-27.0	-35.8	28	17.9
450	31	6,165	-32.0	-39.9	28	19.7
400	31	6,991	-37.3	-41.9	27	21.4
350	31	7,902	-43.0	-47.1	27	24.4
300	31	8,929	-48.6		28	24.0
250	31	10,115	-53.4		27	25.8
200	31	11,543	-55.6		27	26.1
175	30	12,389	-55.1		27	24.4
150	30	13,375	-54.6		28	23.0
125	30	14,538	-56.2		28	19.2
100	29	15,954	-58.0		28	17.1
80	27	17,336	-60.4		27	13.4
70	27	18,166	-61.6		27	12.2
60	26	19,120	-62.2		28	11.4
50	26	20,244	-62.8		28	9.3
40	26	21,618	-62.8		28	8.3
30	23	23,393	-62.4		28	8.4
25	22	24,518	-61.2		27	10.5
20	19	25,918	-59.0		28	13.0
15	18	27,740	-54.5		28	15.5
10	12	30,366	-46.0			

CAPE HATTERAS, N. C. 1020 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	4.7	1.3	34	4.0
1000	31	165	4.9	-.4	34	4.8
950	31	587	4.0	-3.3	31	5.6
900	31	1,022	3.2	-5.9	29	5.7
850	31	1,485	1.7	-8.0	28	8.5
800	31	1,972	-.1	-11.7	27	11.5
750	31	2,489	-2.2	-12.8	27	13.6
700	31	3,033	-4.3	-16.6	27	15.6
650	31	3,615	-7.0	-19.6	27	17.3
600	31	4,236	-10.3	-23.2	27	19.4
550	31	4,898	-14.4	-26.2	27	22.0
500	31	5,619	-18.7	-30.4	27	24.6
450	31	6,393	-23.8	-34.4	27	27.6
400	31	7,248	-29.7	-38.3	27	30.4
350	31	8,188	-36.0	-44.2	27	32.7
300	31	9,242	-43.6		27	34.5
250	31	10,447	-51.3		27	37.7
200	31	11,872	-58.3		27	39.8
175	31	12,710	-59.2		27	39.6
150	30	13,673	-59.1		27	34.7
125	30	14,813	-60.3		27	32.5
100	30	16,197	-62.8		27	27.2
80	30	17,564	-64.6		27	21.6
70	29	16,379	-64.7		27	18.5
60	29	19,371	-64.4		27	15.2
50	29	20,438	-63.5		27	11.7
40	28	21,816	-61.7		27	10.4
30	27	23,614	-58.2		27	11.7
25	27	24,748	-56.0		27	15.3
20	26	26,196	-53.1		28	18.4
15	25	28,074	-49.2		27	21.5
10	27	30,792	-40.8		27	31.7
7	11	33,248	-35.5			

See reference note at end of table

*** CARIBOU, MAINE — 992 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	191	-10.1	-12.5	30	1.4
1000	31	124			35	1.3
950	31	525	-8.7	-11.4	29	2.9
900	31	939	-9.4	-12.9	28	3.8
850	31	1,381	-10.2	-13.8	29	3.8
800	31	1,847	-11.1	-15.6	28	4.6
750	31	2,345	-12.1	-17.9	28	5.8
700	31	2,868	-14.3	-20.2	28	6.7
650	31	3,430	-17.1	-23.1	27	6.8
600	31	4,025	-20.1	-27.3	27	6.4
550	31	4,664	-23.9	-31.4	27	8.5
500	31	5,355	-28.1	-35.2	27	10.7
450	31	6,101	-33.4	-39.8	27	11.5
400	31	6,923	-38.9	-43.8	26	10.6
350	31	7,828	-44.3		25	12.1
300	31	8,848	-50.5		26	14.8
250	31	10,026	-54.2		26	15.9
200	31	11,453	-54.7		27	17.6
175	31	12,308	-53.9		26	16.7
150	31	13,300	-53.2		26	15.2
125	30	14,471	-53.9		26	14.3
100	29	15,897	-56.4		27	12.5
80	29	17,307	-58.2		27	11.3
70	29	18,145	-59.4		28	9.7
60	29	19,108	-60.3		28	8.9
50	29	20,244	-60.8		28	8.5
40	28	21,630	-61.7		28	9.5
30	27	23,415	-61.1		28	8.6
25	27	24,549	-60.5		28	9.8
20	24	25,948	-60.0		28	10.2
15	27	27,744	-58.4		28	15.6
10	19	30,318	-53.1		27	26.0
7	15	32,649	-46.4		27	38.8
5						

CHARLESTON, S. C. — 1020 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	13	3.2	-.9	35	1.8
1000	31	175	6.3	-.6	02	2.3
950	31	595	6.3	-4.3	33	2.0
900	31	1,040	5.9	-4.6	27	4.7
850	31	1,507	4.7	-6.0	26	7.7
800	31	2,000	2.8	-7.0	27	10.2
750	31	2,519	.8	-8.8	27	12.1
700	31	3,073	-1.3	-13.4	27	14.3
650	31	3,658	-4.3	-17.0	27	16.7
600	31	4,288	-7.8	-19.5	27	18.4
550	31	4,956	-11.7	-24.3	27	20.4
500	31	5,685	-16.1	-28.7	27	22.1
450	31	6,463	-21.3	-33.7	27	24.6
400	31	7,330	-27.4	-39.9	27	27.1
350	31	8,276	-34.8	-45.6	27	29.6
300	31	9,334	-42.7		27	32.8
250	31	10,541	-51.5		27	35.4
200	31	11,961	-59.6		27	38.6
175	31	12,792	-61.4		27	38.1
150	31	13,750	-60.9		27	35.2
125	31	14,879	-62.8		27	31.7
100	31	16,244	-65.4		27	25.9
80	31	17,596	-67.1		27	20.2
70	31	18,401	-67.4		27	16.7
60	31	19,332	-66.6		27	14.1
50	31	20,439	-64.9		27	11.9
40	31	21,809	-62.1		27	11.2
30	29	23,605	-57.8		27	14.9
25	29	24,763	-55.1		27	16.7
20	29	26,199	-52.0		27	20.8
15	27	28,078	-47.6		27	24.2
10	22	30,786	-40.5		26	26.7
7	7	33,264	-34.9			
5						

CHIHUAHUA, MEXICO — 857 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,428	4.8	-1.3	27	1.4
1000	31	142				
950	31	568				
900	31	1,016				
850	31	1,491	6.4	-.9	26	1.7
800	31	1,994	9.3	-4.6	27	3.9
750	31	2,519	7.0	-8.0	27	6.1
700	31	3,091	4.3	-11.0	27	8.5
650	31	3,687	1.0	-15.5	27	10.0
600	31	4,329	-3.1	-19.0	27	10.4
550	31	5,009	-7.6	-22.3	27	11.3
500	31	5,748	-12.6	-26.1	27	14.1
450	31	6,536	-18.2	-31.0	27	15.3
400	31	7,414	-24.6	-34.8	28	17.3
350	31	8,371	-31.8	-41.4	28	19.9
300	31	9,442	-40.1	-47.2	28	23.1
250	31	10,662	-49.2		29	27.1
200	31	12,096	-57.9		29	26.3
175	30	12,927	-61.5		28	25.0
150	30	13,881	-62.6		29	25.9
125	29	14,992	-65.7		29	24.3
100	29	16,335	-69.6		28	18.3
80	24	17,661	-72.0		29	15.3
70	20	18,448	-71.0		29	14.2
60	18	19,367	-68.9		28	11.6
50	17	20,468	-66.0		29	11.6
40	15	21,830	-62.4		28	13.1
30	15	23,627	-58.1		28	14.0
25	12	24,789	-56.6			
20	9	26,220	-52.6			
15						
10						
7						
5						

*** COLD BAY, ALASKA — 1015 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	30	.2	-2.5	17	3.3
1000	29	152	-.3	-2.5	17	3.3
950	29	559	-1.8	-5.2	20	3.6
900	29	992	-3.2	-8.3	23	4.0
850	29	1,443	-4.8	-12.7	24	5.4
800	29	1,919	-6.5	-15.4	25	7.3
750	29	2,420	-8.9	-17.6	25	9.1
700	29	2,953	-11.4	-20.1	26	10.0
650	29	3,515	-14.5	-22.9	26	10.7
600	29	4,121	-18.3	-26.5	25	11.5
550	29	4,760	-22.4	-30.6	25	12.0
500	29	5,459	-26.9	-35.7	24	10.4
450	29	6,204	-32.1	-40.0	23	12.6
400	29	7,033	-38.0	-44.2	23	12.4
350	29	7,940	-44.6		24	11.5
300	29	8,955	-52.0		24	12.7
250	29	10,116	-58.9		23	13.4
200	29	11,503	-60.7		24	11.2
175	29	12,339	-58.0		25	8.0
150	28	13,314	-55.9		24	8.0
125	28	14,476	-55.6		25	8.8
100	28	15,898	-55.6		24	6.6
80	28	17,317	-56.4		24	5.8
70	27	18,165	-56.6		24	5.1
60	26	19,144	-56.8		24	4.7
50	26	20,298	-57.1		24	4.3
40	25	21,703	-57.8		23	2.2
30	22	23,526	-58.6		20	.4
25	21	24,680	-58.6		34	.4
20	19	26,101	-58.0		02	2.7
15	18	27,919	-57.2		05	3.6
10	16	30,497	-56.1		01	6.1
7	12	32,784	-55.2			
5	8	34,958	-53.1			

COLUMBIA, MO. — 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	238	-4.6	-7.7	15	.5
1000	31	159				
950	31	561	-4.8	-8.9	22	2.7
900	31	990	-2.2	-8.6	25	5.4
850	31	1,445	-1.6	-10.5	27	7.2
800	31	1,928	-2.5	-11.9	28	8.8
750	31	2,432	-4.4	-13.4	28	10.7
700	31	2,980	-6.8	-16.5	28	13.0
650	31	3,550	-9.4	-19.2	28	15.2
600	31	4,172	-12.8	-22.2	28	18.2
550	31	4,825	-16.8	-26.7	28	21.5
500	31	5,541	-21.2	-30.4	28	23.8
450	31	6,305	-26.1	-35.9	28	24.8
400	31	7,156	-32.2	-41.8	28	27.7
350	31	8,084	-38.9	-45.2	28	29.9
300	31	9,125	-46.3		28	32.2
250	31	10,314	-54.0		28	35.1
200	31	11,725	-59.4		28	35.7
175	31	12,561	-59.0		28	33.1
150	31	13,529	-58.2		28	30.8
125	31	14,674	-59.5		28	25.6
100	27	16,069	-61.1		28	21.0
80	26	17,446	-63.6		28	17.6
70	24	18,267	-64.0		28	15.3
60	24	19,210	-64.7		28	12.3
50	22	20,324	-64.7		28	11.3
40	21	21,689	-63.4		28	9.7
30	18	23,478	-61.0		28	8.2
25	16	24,608	-59.5		28	9.6
20	13	26,005	-57.3		28	13.1
15	17	27,828	-54.0		28	18.1
10	8	30,470	-46.9			
7						
5						

DAYTON, OHIO — 985 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	297	-4.9	-7.5	23	2.1
1000	31	173				
950	31	575	-5.5	-8.9	23	5.3
900	31	1,000	-5.5	-10.7	29	7.4
850	31	1,449	-5.1	-13.3	26	8.8
800	31	1,925	-5.9	-14.4	27	10.2
750	31	2,427	-7.0	-15.3	28	12.0
700	31	2,966	-9.2	-17.5	28	13.6
650	31	3,535	-12.0	-20.4	28	14.1
600	31	4,146	-15.2	-23.9	27	16.7
550	31	4,795	-18.9	-28.5	28	17.9
500	31	5,502	-23.7	-32.7	27	19.3
450	31	6,259	-29.0	-37.3	27	22.1
400	31	7,098	-34.3	-41.3	27	25.4
350	31	8,020	-40.5	-44.5	27	29.3
300	31	9,055	-47.3		27	30.8
250	31	10,242	-54.0		27	31.6
200	30	11,673	-57.9		27	34.6
175	30	12,513	-58.3		27	32.7
150	30	13,487	-56.9		27	28.7
125	30	14,639	-56.3		27	23.6
100	29	16,029	-60.6		27	20.6
80	27	17,406	-62.1		28	16.2
70	27	18,230	-63.0		28	14.2
60	27	19,178	-63.4		28	11.8
50	26	20,298	-63.7		28	10.2
40	25	21,656	-63.3		28	10.1
30	24	23,443	-61.6		28	10.1
25	22	24,548	-60.1		28	11.3
20	18	25,977	-57.5		27	14.5
15	14	27,839	-53.0		27	19.7
10	10	30,526	-43.3			
7						

DEL RIO, TEXAS — 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	314	8.5	3.6	08	1.6
1000	29	143				
950	29	568	9.7	2.2	14	3.3
900	29	1,019	10.4	-.2	19	4.1
850	29	1,495	10.7	-2.4	23	3.2
800	29	2,000	9.3	-5.5	25	4.3
750	29	2,526	7.0	-9.6	26	6.5
700	29	3,097	3.8	-12.8	27	7.7
650	29	3,690	.1	-16.2	27	9.3
600	29	4,332	-3.8	-19.6	28	11.7
550	29	5,007	-8.3	-22.5	27	13.6
500	29	5,748	-13.5	-25.5	27	15.3
450	29	6,532	-19.1	-31.2	27	16.6
400	29	7,408	-25.6	-36.7	27	19.9
350	29	8,363	-32.5	-42.3	27	21.9
300	29	9,431	-40.8	-48.4	28	26.3
250	29	10,646	-50.1		28	29.6
200	29	12,076	-58.6		28	31.8
175	29	12,909	-62.0		28	32.2
150	29	13,861	-62.6		28	29.9
125	29	14,978	-65.5		28	28.6
100	28	16,323	-69.1		28	23.3
80	27	17,645	-71.9		27	17.3
70	27	18,433	-71.0		27	13.1
60	27	19,348	-69.5		27	10.8
50	27	20,445	-66.2		27	10.5
40	27	21,812	-61.8		27	11.5
30	27	23,610	-57.8		27	14.1
25	27	24,768	-55.1		26	16.1
20	26	26,201	-52.9		27	19.4
15	23	28,081	-49.0		27	19.5
10	17	30,764	-44.4		27	19.0
7						

DENVER, COLO. — 831 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,611	-2.6	-7.9	22	1.9
1000	31	120				
950	31	534				
900	31	974				
850	31	1,431				
800	31	1,916	1.7	-10.5	26	4.8
750	31	2,433	.0	-13.8	28	6.9
700	31	2,985	-3.5	-16.9	28	8.9
650	31	3,561	-7.6	-19.9	28	12.1
600	31	4,184	-11.9	-23.6	29	15.5
550	31	4,843	-15.8	-27.5	29	17.7
500	31	5,559	-20.4	-31.9	29	18.9
450	31	6,325	-26.1	-36.6	28	20.7
400	31	7,173	-32.2	-40.4	28	24.5
350	31	8,102	-39.2	-44.4	28	26.4
300	31	9,139	-47.5		28	28.2
250	31	10,323	-54.8		28	32.4
200	31	11,731	-59.5		28	35.4
175	31	12,566	-59.5		28	34.2
150	31	13,531	-59.0		27	30.8
125	31	14,673	-59.6		28	26.6
100	31	16,063	-60.8		28	20.2
80	31	17,442	-63.3		27	15.9
70	31	18,263	-63.5		27	12.0
60	31	19,209	-64.1		27	9.0
50	31	20,325	-63.7		28	8.2
40	30	21,693	-63.4		29	6.3
30	26	23,464	-62.1		28	6.0
25	23	24,600	-60.4		28	8.3
20	23	25,999	-58.2		28	11.6
15	16	27,842	-54.5		27	17.9
10	5	30,444	-49.6			
7						

DODGE CITY, KANS. — 922 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	791	-3.3	-5.5	16	.7
1000	31	141				
950	31	548				
900	31	982	-1.2	-6.1	18	2.2
850	31	1,440	1.4	-7.2	24	5.9
800	31	1,930	2.7	-10.1	26	9.1
750	31	2,449	.7	-12.6	27	10.4
700	31	3,002	-2.5	-15.5	27	12.6
650	31	3,581	-6.2	-18.2	27	14.6
600	31	4,209	-10.0	-22.8	27	17.2
550	31	4,872	-14.1	-28.1	28	19.9
500	31	5,594	-18.6	-31.4	28	22.3
450	31	6,368	-23.9	-36.1	28	26.6
400	31	7,223	-30.2	-41.3	28	30.8
350	31	8,160	-37.5	-46.4	28	32.7
300	31	9,206	-45.5		28	36.5
250	31	10,399	-54.0		28	34.9
200	31	11,809	-59.8		28	36.7
175	31	12,644	-60.0		28	34.8
150	31	13,605	-60.5		28	33.3
125	31	14,761	-60.8		28	28.5
100	31	16,126	-62.5		28	22.1
80	30	17,496	-64.4		28	14.5
70	30	18,311	-64.7		28	11.1
60	28	19,253	-64.6		28	6.8
50	26	20,367	-64.5		28	5.8
40	25	21,732	-63.4		28	4.6
30	23	23,513	-60.8		29	5.9
25	21	24,650	-59.1		26	5.7
20	21	26,058	-56.4		27	11.2
15	18	27,908	-52.4		27	18.3
10	9	30,616	-44.7			
7						

EL PASO, TEXAS — 881 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,193	5.2	-3.4	27	1.8
1000	31	145				
950	31	572				
900	31	1,020				
850	31	1,491	8.7	-2.7	28	4.2
800	31	1,992	6.9	-5.0	28	7.2
750	31	2,519	4.3	-7.7	27	8.9
700	31	3,079	1.3	-11.8	27	11.2
650	31	3,669	-1.7	-16.7	28	12.8
600	31	4,305	-5.5	-20.4	27	14.4
550	31	4,975	-9.8	-23.8	27	15.7
500	31	5,712	-14.5	-28.4	28	17.0
450	31	6,496	-20.0	-32.6	28	19.6
400	31	7,367	-26.4	-37.6	27	19.7
350	31	8,318	-33.7	-43.5	27	23.0
300	31	9,381	-41.8	-48.8	28	26.5
250	31	10,593	-50.9		29	29.4
200	31	12,016	-59.4		29	33.1
175	31	12,848	-61.5		29	32.1
150	31	13,803	-61.9		29	29.3
125	31	14,924	-64.6		29	25.4
100	31	16,274	-68.4		29	22.2
80	31	17,607	-70.2		29	15.7
70	31	18,400	-69.9		28	13.7
60	31	19,321	-68.3		29	11.5
50	30	20,419	-66.7		28	8.9
40	30	21,778	-63.6		28	10.5
30	30	23,563	-59.7		28	10.8
25	30	24,709	-57.3		27	12.5
20	29	26,131	-54.6		27	15.1
15	27	27,987	-51.7		27	19.3
10	21	30, 75	-44.1		27	24.5
7	10	33,092	-38.5			

ELY, NEV. — 804 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,908	-3.5	-8.4	20	4.3
1000	31	151				
950	31	565				
900	31	1,002				
850	31	1,465				
800	31	1,947			22	3.8
750	31	2,461	-1.9	-9.5	20	5.3
700	31	3,009	-5.1	-12.3	25	8.2
650	31	3,584	-8.4	-15.6	26	12.3
600	31	4,206	-11.8	-20.5	27	15.8
550	31	4,860	-15.6	-24.6	27	17.7
500	31	5,581	-20.3	-29.3	27	20.3
450	31	6,345	-25.5	-33.2	27	24.0
400	31	7,200	-31.6	-39.0	27	25.9
350	31	8,132	-38.5	-43.2	28	28.4
300	30	9,173	-46.4	-48.2	28	29.4
250	30	10,362	-54.4		28	35.6
200	29	11,770	-59.8		29	38.8
175	29	12,604	-60.1		28	37.9
150	27	13,572	-60.0		28	31.1
125	24	14,703	-59.8		28	28.0
100	23	16,093	-61.3		28	22.4
80	23	17,473	-63.1		28	17.2
70	23	18,292	-64.0		27	14.7
60	23	19,236	-64.0		28	12.0
50	23	20,352	-64.1		29	7.5
40	23	21,722	-63.1		29	6.3
30	23	23,495	-61.9		28	7.1
25	21	24,625	-60.7		29	7.8
20	20	26,024	-59.2		28	10.1
15	13	27,843	-56.6		28	15.5
10	9	30,462	-51.8			

EMPALME, MEXICO — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	12	13.5	8.4	31	1.1
1000	30	131	17.3	8.0	33	1.9
950	30	568	18.2	3.2	36	2.2
900	30	1,030	16.2	.0	31	.9
850	30	1,514	13.9	-3.8	26	2.0
800	30	2,022	11.3	-6.5	26	3.7
750	30	2,559	8.2	-8.3	26	4.5
700	30	3,124	4.9	-12.3	27	6.0
650	30	3,721	1.4	-15.5	28	6.7
600	30	4,363	-2.7	-19.0	28	8.6
550	30	5,043	-7.1	-21.7	27	10.3
500	30	5,784	-12.1	-26.5	28	12.1
450	30	6,579	-17.7	-30.6	28	14.8
400	30	7,454	-23.8	-35.9	28	17.1
350	30	8,415	-30.9	-41.9	28	21.4
300	30	9,490	-39.2	-48.4	28	23.3
250	30	10,713	-48.9		28	25.8
200	30	12,147	-58.1		29	29.8
175	29	12,979	-61.7		29	28.4
150	29	13,930	-63.5		29	27.9
125	29	15,039	-67.4		29	24.9
100	29	16,371	-71.3		29	19.2
80	29	17,683	-73.0		29	14.4
70	28	18,467	-71.4		29	12.2
60	27	19,382	-70.2		29	9.8
50	26	20,477	-67.2		29	8.5
40	25	21,835	-63.4		28	8.5
30	24	23,628	-58.5		27	13.0
25	23	24,781	-56.9		27	14.8
20	22	26,209	-53.0		27	17.7
15	19	28,074	-49.6		27	20.7
10	11	30,776	-44.2			

*** FAIRBANKS, ALASKA — 1009 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	135	-33.2	-25.8	05	.3
1000	31	196	-29.4	-27.8	06	.9
950	31	574	-20.9	-23.0	10	3.3
900	31	972	-17.7	-22.2	10	3.0
850	31	1,400	-17.1	-22.9	08	1.8
800	31	1,855	-17.6	-24.5	01	2.0
750	31	2,337	-19.0	-26.5	35	3.2
700	31	2,849	-21.0	-28.3	34	4.4
650	31	3,392	-23.7	-30.8	33	5.7
600	31	3,974	-27.0	-33.9	33	7.7
550	30	4,601	-30.7	-36.7	33	8.9
500	30	5,274	-34.7	-39.6	33	10.3
450	30	5,999	-39.1	-42.8	33	12.8
400	30	6,803	-44.0		33	14.9
350	30	7,689	-49.0		33	17.8
300	30	8,691	-53.5		33	18.9
250	30	9,857	-55.7		32	16.8
200	30	11,278	-54.8		32	13.0
175	30	12,134	-53.7		32	12.3
150	30	13,125	-53.1		32	10.3
125	29	14,306	-52.5		32	9.5
100	29	15,745	-52.8		31	8.1
80	29	17,182	-53.8		31	6.8
70	29	18,039	-54.5		32	7.1
60	29	19,023	-55.6		31	6.6
50	29	20,183	-56.5		32	5.4
40	29	21,596	-57.1		31	4.7
30	27	23,408	-58.8		33	5.0
25	27	24,551	-59.8		33	5.2
20	23	25,944	-60.1		34	5.6
15	20	27,747	-61.0		36	7.4
10						

FLINT, MICH. — 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	236	-5.5	-8.8	24	3.0
1000	31	150				
950	31	552	-6.2	-8.7	25	7.0
900	31	974	-7.5	-10.2	25	8.1
850	31	1,419	-8.3	-13.5	26	8.4
800	31	1,889	-9.8	-15.7	27	9.6
750	31	2,387	-10.6	-19.0	27	10.8
700	31	2,916	-12.4	-22.4	27	12.3
650	31	3,476	-15.0	-25.9	27	13.4
600	31	4,082	-17.9	-28.8	27	15.4
550	31	4,719	-21.5	-31.2	28	18.2
500	31	5,425	-25.9	-35.6	28	20.1
450	31	6,178	-30.9	-40.5	28	22.0
400	31	7,007	-36.5	-43.2	28	24.7
350	31	7,920	-42.6	-46.9	28	26.4
300	31	8,947	-48.5		27	29.3
250	31	10,133	-53.4		28	31.7
200	31	11,557	-55.9		28	28.9
175	31	12,406	-55.8		28	26.7
150	31	13,390	-54.9		27	22.6
125	31	14,554	-55.6		28	20.7
100	31	15,967	-58.3		27	19.1
80	31	17,365	-60.3		28	13.8
70	31	18,195	-61.2		27	12.5
60	30	19,150	-61.4		28	11.3
50	29	20,283	-62.4		28	8.9
40	29	21,659	-62.8		28	8.4
30	26	23,431	-61.6		28	8.7
25	26	24,562	-61.1		28	9.6
20	25	25,956	-59.4		28	11.2
15	21	27,776	-55.9		28	15.4
10	15	30,417	-47.2			

FORT WORTH, TEXAS — 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	180	5.8	.6	21	.5
1000	31	148			04	.9
950	31	569	5.9	-.5	21	5.0
900	31	1,013	7.6	-3.6	23	6.6
850	31	1,484	7.7	-4.2	25	7.2
800	31	1,983	5.6	-5.8	25	8.0
750	31	2,507	3.7	-9.2	26	9.1
700	31	3,067	.9	-13.0	27	10.3
650	31	3,659	-2.5	-16.7	27	12.5
600	31	4,290	-6.2	-20.0	27	12.9
550	31	4,962	-10.5	-23.2	27	15.4
500	31	5,693	-15.5	-27.2	28	17.8
450	31	6,473	-21.1	-31.6	28	18.8
400	31	7,340	-27.6	-37.6	28	20.2
350	31	8,286	-34.8	-43.9	28	23.3
300	31	9,344	-43.1	-47.5	28	25.7
250	31	10,547	-52.0		28	30.8
200	31	11,964	-59.9		28	34.0
175	31	12,793	-62.2		28	33.2
150	31	13,744	-62.6		27	30.9
125	31	14,867	-63.8		27	28.9
100	29	16,222	-66.8		27	23.5
80	27	17,560	-69.1		28	17.3
70	27	18,358	-69.3		28	13.1
60	26	19,281	-68.1		27	10.4
50	25	20,378	-66.4		27	9.1
40	24	21,737	-63.4		28	10.5
30	24	23,520	-59.8		27	12.2
25	22	24,669	-57.2		27	15.0
20	21	26,088	-54.9		27	18.4
15	20	27,944	-51.3		27	22.8
10	17	30,620	-43.4		27	26.2

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT. 934 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	696	-22.4	-25.5	03	1.1
1000	31	190				
950	31	568				
900	31	969	-18.8	-21.6	32	1.0
850	31	1,396	-15.2	-19.1	29	4.5
800	31	1,858	-12.9	-17.8	28	6.0
750	31	2,354	-12.2	-16.7	28	9.2
700	31	2,878	-14.1	-17.7	28	11.7
650	31	3,437	-16.9	-20.4	28	13.8
600	31	4,035	-20.5	-24.6	28	15.5
550	31	4,670	-24.6	-29.4	27	17.2
500	31	5,361	-29.5	-33.4	27	19.9
450	31	6,099	-34.8	-36.2	28	22.4
400	31	6,918	-40.3	-39.0	28	25.0
350	31	7,816	-46.2	-42.8	28	28.9
300	31	8,877	-51.3		27	30.9
250	31	10,000	-55.1		27	31.2
200	31	11,422	-55.3		27	25.9
175	31	12,276	-53.7		27	23.7
150	31	13,267	-53.7		27	22.9
125	31	14,439	-53.8		27	20.7
100	31	15,848	-55.2		27	18.6
80	31	17,287	-56.9		27	16.8
70	31	18,129	-57.9		27	14.8
60	30	19,101	-59.3		27	13.3
50	30	20,239	-60.6		28	11.5
40	29	21,621	-61.4		28	9.7
30	26	23,409	-62.4		28	6.7
25	22	24,531	-62.4		29	6.9
20	19	25,913	-62.4		29	8.2
15	10	27,674	-61.8			
10						
7						

GRAND JUNCTION, COLO. 852 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	1,472	-4.3	-6.9	12	1.9
1000	31	175				
950	31	585				
900	31	1,018				
850	31	1,472			12	2.4
800	31	1,956	-.6	-7.3	17	3.3
750	31	2,472	-2.3	-9.2	22	5.1
700	31	3,016	-5.4	-12.3	25	9.5
650	31	3,592	-6.6	-16.0	26	11.8
600	31	4,211	-12.0	-19.4	27	14.2
550	31	4,870	-16.1	-23.4	27	17.5
500	31	5,583	-20.6	-29.4	27	19.6
450	31	6,351	-25.6	-34.5	27	21.8
400	31	7,200	-32.0	-39.6	28	24.0
350	31	8,129	-39.2	-42.6	28	26.3
300	31	9,167	-47.2		28	31.6
250	30	10,351	-54.6		28	34.5
200	30	11,763	-58.8		29	32.8
175	30	12,600	-59.2		28	31.8
150	30	13,567	-58.6		29	28.1
125	30	14,711	-59.6		28	25.6
100	30	16,110	-61.8		28	19.9
80	30	17,469	-65.1		27	16.0
70	27	18,281	-65.2		29	14.2
60	29	19,223	-64.2		28	10.1
50	29	20,339	-64.0		28	7.8
40	28	21,707	-64.0		29	6.8
30	23	23,473	-61.8		29	6.8
25	21	24,602	-60.5		28	9.1
20	17	25,985	-58.7		27	13.8
15	15	27,809	-56.7		27	17.4
10	6	30,432	-52.3			

• GREAT FALLS, MONT. 883 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	30	1,116	-19.7	-24.9	23	1.6
1000	30	188				
950	30	578				
900	30	985				
850	30	1,426	-16.2	-21.7	24	3.8
800	30	1,867	-13.2	-17.6	25	7.6
750	30	2,364	-11.2	-15.4	26	11.4
700	30	2,889	-13.3	-17.8	26	13.1
650	30	3,448	-16.5	-21.5	27	15.4
600	30	4,049	-20.0	-25.3	27	17.7
550	30	4,684	-24.3	-29.6	27	20.2
500	30	5,377	-29.4	-34.1	27	21.7
450	30	6,114	-35.0	-37.3	26	24.9
400	30	6,934	-40.3	-40.1	27	29.2
350	30	7,833	-45.9	-42.0	27	32.9
300	30	8,845	-51.3		27	33.8
250	30	10,019	-54.8		27	32.3
200	30	11,439	-55.5		27	27.4
175	30	12,292	-54.5		27	25.1
150	30	13,260	-54.1		27	23.0
125	30	14,450	-53.9		27	20.6
100	30	15,877	-56.1		27	17.6
80	30	17,293	-57.6		26	16.7
70	30	18,133	-58.7		27	15.8
60	30	19,101	-59.3		27	13.0
50	29	20,237	-60.3		26	10.9
40	27	21,624	-61.5		27	8.6
30	24	23,401	-62.5		28	6.7
25	23	24,574	-62.2		28	7.6
20	17	25,907	-62.2		28	9.5
15	14	27,703	-60.2		28	17.2
10	11	30,218	-59.1		27	16.3

GREEN BAY, WIS. 992 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	[illegible]	-11.8	-14.8	28	2.4
1000	31	147				
950	31	543	[illegible]	[illegible]	28	3.6
900	31	959	-9.7	-13.4	29	[illegible]
850	31	1,402	-9.4	[illegible]	28	6.1
800	31	1,870	-11.2	[illegible]	28	7.2
750	31	2,363	-11.6	-17.4	28	8.8
700	31	2,893	-13.4	-16.9	29	10.8
650	31	3,451	-15.4	[illegible]	28	13.1
600	31	4,085	-18.6	-26.9	28	15.3
550	31	4,692	-22.6	-30.8	28	17.0
500	31	5,394	-26.8	-35.4	28	18.8
450	31	6,139	-32.0	-39.4	27	20.3
400	31	6,970	-37.6	-42.9	27	23.1
350	31	7,880	-43.6	-46.6	27	25.7
300	31	8,903	-49.3		27	[illegible]
250	31	10,085	-54.2		27	29.6
200	31	11,507	-55.9		27	29.6
175	31	12,358	-54.8		28	27.2
150	31	13,345	-54.0		27	23.5
125	31	14,514	-55.1		27	21.0
100	31	15,932	-57.1		28	18.5
80	30	17,334	-59.1		28	15.2
70	30	18,169	-60.1		28	13.5
60	30	19,129	-61.0		28	11.3
50	29	20,259	-61.8		28	[illegible]
40	29	21,641	-61.9		28	8.1
30	29	23,420	-62.0		29	7.2
25	28	24,568	-61.5		29	8.1
20	23	25,939	-60.1		28	9.8
15	21	27,742	-57.3		27	11.8
10	8	30,354	-50.4			

GREENSBORO, N. C. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	[illegible]	-1.0	[illegible]	[illegible]	[illegible]
1000	31	[illegible]				
950	31	[illegible]	.2	-6.3	30	[illegible]
900	31	[illegible]	-.2	-10.1	[illegible]	[illegible]
850	31	1,486	-.4	[illegible]	28	8.1
800	31	1,970	-1.1	[illegible]	[illegible]	[illegible]
750	31	[illegible]	[illegible]	[illegible]	26	13.0
700	31	3,026	-5.8	[illegible]	28	14.1
650	31	3,602	-8.1	[illegible]	28	16.7
600	31	4,226	-11.4	-23.2	28	18.2
550	31	4,885	-15.1	-26.1	28	[illegible]
500	31	5,604	-19.6	-29.4	28	23.1
450	31	6,370	[illegible]	[illegible]	28	[illegible]
400	31	7,225	-30.8	-40.7	28	27.8
350	31	8,159	-37.7	-46.7	28	30.0
300	31	9,205	-45.2		27	32.3
250	31	[illegible]	-52.7		27	35.0
200	31	[illegible]	-56.9		27	[illegible]
175	31	12,654	-59.5		27	[illegible]
150	31	13,619	[illegible]		27	[illegible]
125	31	14,758	-60.6		27	24.1
100	31	[illegible]	-63.1		27	[illegible]
80	31	[illegible]	-64.7		27	16.4
70	31	18,321	-64.7		27	[illegible]
60	31	19,264	-64.5		27	17.1
50	[illegible]	[illegible]	-63.7		27	10.5
40	[illegible]	21,747	-62.3		27	[illegible]
30	[illegible]	23,537	-59.3		28	11.5
25	[illegible]	[illegible]	-56.9		28	13.1
20	[illegible]	[illegible]	[illegible]		28	[illegible]
15	[illegible]	[illegible]	[illegible]		28	[illegible]
10	22	30,681	-39.5		27	30.4
7	[illegible]	[illegible]	-36.5			

• GUAM, MARIANA IS. 999 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	111	24.4	20.8	07	5.3
1000	31	105			07	4.9
950	31	552	21.4	18.7	07	11.9
900	31	1,021	18.3	15.6	07	11.8
850	31	1,510	15.7	11.3	07	10.6
800	31	2,024	14.4	2.2	07	9.5
750	31	2,567	12.8	-5.6	07	7.8
700	31	3,145	11.0	-10.5	08	6.9
650	31	3,758	7.8	-14.5	08	7.2
600	31	4,413	3.6	-17.2	07	7.0
550	30	5,112	-.5	-21.3	08	7.5
500	30	5,869	-5.0	-25.4	08	7.1
450	30	6,687	-10.0	-30.5	08	7.4
400	30	7,567	-16.1	-35.3	08	7.0
350	29	8,578	-22.9	-40.7	06	5.1
300	29	9,688	-31.4	-47.0	09	2.5
250	29	10,951	-41.5		10	.3
200	28	12,423	-53.6		19	1.7
175	28	13,268	-60.7		18	3.4
150	28	14,209	-68.2		18	4.1
125	28	15,280	-76.3		15	5.3
100	28	16,539	-83.7		12	6.7
80	28	17,773	-83.8		10	5.8
70	26	18,521	-79.3		10	6.0
60	26	19,413	-72.4		09	8.0
50	26	20,502	-67.0		09	10.0
40	25	21,866	-62.6		09	13.6
30	25	23,667	-56.6		09	9.0
25	25	24,834	-53.1		09	1.2
20	25	26,286	-49.5		27	7.5
15	25	28,182	-46.7		28	13.0
10	23	30,893	-43.1		27	16.2
7	20	33,293	-40.6		25	18.4
5	15	35,597	-38.8		28	16.7
4	5	37,139	-36.3			

HILO, HAWAII 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	11	19.5	15.8	23	1.5
1000	31	93	20.1	15.5	24	1.4
950	31	531	18.0	13.4	36	.7
900	31	997	14.7	11.5	17	.6
850	31	1,479	11.7	7.9	19	2.7
800	31	1,986	9.9	2.1	22	3.2
750	31	2,517	8.6	-5.2	25	4.9
700	31	3,090	6.3	-10.0	26	7.4
650	31	3,692	2.8	-13.7	26	11.0
600	31	4,338	-1.1	-17.1	26	14.2
550	31	5,024	-5.3	-20.7	25	16.2
500	31	5,769	-10.2	-25.0	26	18.4
450	31	6,569	-14.9	-28.0	25	21.8
400	30	7,457	-20.1	-32.3	25	25.0
350	30	8,434	-26.9	-39.8	26	28.5
300	30	9,528	-34.9	-47.2	26	33.7
250	30	10,778	-43.0		26	39.6
200	30	12,250	-53.2		26	42.1
175	30	13,099	-59.2		27	42.4
150	30	14,090	-65.0		27	37.1
125	30	15,145	-70.8		27	29.4
100	29	16,449	-75.5		26	21.0
80	28	17,737	-76.0		26	10.3
70	27	18,512	-72.8		26	6.1
60	27	19,425	-69.4		24	1.4
50	26	20,577	-64.7		28	1.7
40	25	21,904	-61.3		31	1.8
30	25	23,699	-58.6		32	3.6
25	25	24,850	-56.4		30	3.9
20	23	26,276	-53.1		27	6.0
15	20	28,137	-49.3		26	11.2
10	15	30,833	-42.8			
7	9	33,264	-39.4			

HUNTINGTON, W. VA. 992 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	246	-2.8	-6.2	21	1.0
1000	31	182				
950	31	588	-2.9	-7.3	24	4.7
900	31	1,016	-3.5	-9.2	25	7.7
850	31	1,468	-3.9	-11.6	26	10.3
800	31	1,946	-4.9	-12.0	27	12.9
750	31	2,450	-6.5	-13.8	28	14.7
700	31	2,991	-8.3	-16.1	28	15.1
650	31	3,564	-10.7	-17.6	28	17.1
600	31	4,176	-14.2	-20.5	28	19.0
550	31	4,827	-16.1	-24.6	28	21.9
500	31	5,538	-22.2	-29.3	28	25.0
450	31	6,301	-27.1	-33.5	28	26.5
400	31	7,146	-32.6	-39.1	27	29.7
350	31	8,074	-39.2	-43.8	27	32.1
300	31	9,114	-46.5		28	31.8
250	31	10,305	-53.5		27	34.4
200	30	11,732	-57.6		27	34.3
175	30	12,573	-58.4		27	33.9
150	29	13,541	-57.9		27	28.9
125	29	14,688	-59.3		27	24.5
100	29	16,078	-61.6		27	21.1
80	27	17,456	-62.6		27	15.8
70	27	18,278	-63.2		27	13.5
60	27	19,224	-63.8		27	10.6
50	28	20,346	-62.9		27	9.0
40	25	21,723	-62.0		27	7.7
30	25	23,511	-59.6		28	9.3
25	25	24,657	-57.5		28	11.3
20	21	26,079	-55.1		28	13.5
15	15	27,916	-50.4		27	19.6
10	10	30,616	-43.3			

• INTERNATIONAL FALLS, MINN. 974 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	360	-18.4	-21.7	33	.4
1000	31	160				
950	31	544	-16.6	[illegible]	34	1.1
900	31	952	-15.0	-17.6	33	1.7
850	31	1,385	-13.9	-16.6	29	2.7
800	31	1,846	-13.5	-17.4	28	4.3
750	31	2,331	-14.2	-18.3	29	5.8
700	31	2,859	-15.8	-20.6	28	7.6
650	31	3,410	-18.4	-23.3	29	9.8
600	31	4,009	-21.6	-27.9	28	10.8
550	31	4,642	-25.6	-31.9	28	12.9
500	31	5,331	-30.0	-36.3	28	15.3
450	31	6,068	-35.0	-39.6	28	17.5
400	31	6,887	-40.4	-42.6	28	19.9
350	31	7,786	-46.2		28	21.9
300	31	8,797	-51.6		29	24.7
250	31	9,969	-55.1		29	23.7
200	31	11,393	-54.7		27	22.9
175	30	12,237	-52.8		28	20.4
150	30	13,232	-52.7		27	19.0
125	30	14,407	-53.4		27	17.7
100	30	15,839	-54.9		28	16.3
80	30	17,260	-56.8		28	13.3
70	30	18,105	-57.7		29	12.3
60	29	19,072	-59.1		27	10.9
50	29	20,211	-60.9		28	8.7
40	28	21,595	-61.8		28	7.9
30	27	23,373	-62.8		28	6.9
25	26	24,493	-62.8		29	8.6
20	25	25,869	-62.2		30	8.2
15	21	27,656	-60.6		29	11.7
10	19	30,205	-56.8		29	16.0
7	9	32,511	-49.6			

JACKSON, MISS. 1008 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	100	5.8	2.3	10	1.0
1000	31	164	5.6	.2	10	1.9
950	31	595	5.9	-2.0	17	2.8
900	31	1,029	6.7	-3.6	22	4.9
850	31	1,498	5.6	-4.6	25	6.6
800	31	1,994	4.1	[illegible]	27	7.9
750	31	2,520	1.9	-10.5	27	10.1
700	31	3,072	-.4	-13.6	27	12.2
650	31	3,656	-3.4	-17.7	27	13.5
600	31	4,291	-7.2	-19.6	26	15.3
550	31	4,957	-11.3	-24.4	27	16.1
500	31	5,690	-15.9	-27.3	27	18.6
450	31	6,471	-21.4	-31.9	27	20.7
400	31	7,336	-28.0	-37.2	27	22.3
350	31	8,282	-35.1	-43.3	27	25.0
300	31	9,339	-43.2		27	28.5
250	31	10,545	-51.9		27	32.1
200	29	11,965	-60.5		27	35.8
175	29	12,792	-62.6		27	35.8
150	29	13,743	-62.5		27	32.8
125	29	14,860	-64.1		27	[illegible]
100	29	16,223	-67.1		27	24.4
80	27	17,560	-66.7		27	18.5
70	27	18,358	-69.0		27	15.8
60	25	19,284	-67.8		27	12.3
50	24	20,386	-66.0		27	11.7
40	24	21,749	-63.1		27	11.6
30	22	23,534	-59.5		27	15.0
25	19	24,685	-57.6		27	16.9
20	18	26,104	-55.0		27	20.6
15	13	27,971	-50.7		27	23.8
10	7	30,644	-45.2			

JACKSONVILLE, FLA. 1021 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	5	7.5	5.1	36	2.0
1000	31	174	10.0	5.6	02	2.7
950	31	600	10.3	3.6	10	1.3
900	31	1,050	9.0	1.0	24	2.6
850	31	1,523	7.5	-2.9	26	4.4
800	31	2,021	5.9	-6.1	27	6.9
750	31	2,543	3.7	-9.5	27	9.2
700	31	3,105	.6	-12.4	27	10.1
650	31	3,688	-2.6	-15.8	27	11.7
600	31	4,327	-6.0	-19.4	28	14.5
550	31	4,992	-10.1	-21.9	27	16.4
500	31	5,732	-14.7	-25.4	27	19.2
450	31	6,512	-19.9	-30.7	27	21.7
400	31	7,387	-26.2	-37.7	27	24.4
350	31	8,339	-33.4	-43.2	27	26.7
300	31	9,403	-41.4	-49.1	27	30.0
250	31	10,618	-50.3		27	31.6
200	31	12,043	-59.2		27	36.0
175	31	12,874	-61.7		27	36.0
150	31	13,830	-61.6		27	34.0
125	29	14,958	-64.0		27	30.6
100	28	16,316	-68.0		27	25.1
80	27	17,653	-69.9		27	17.9
70	27	18,448	-69.4		27	14.1
60	27	19,369	-68.4		27	11.8
50	27	20,473	-65.0		27	10.7
40	27	21,845	-61.4		27	13.2
30	27	23,648	-56.6		27	16.3
25	27	24,812	-54.1		27	17.4
20	27	26,251	-51.5		28	19.1
15	23	28,140	-47.0		27	18.1
10	18	30,864	-41.7		26	21.1
7						

JOHN F. KENNEDY INT. AP NY 1020 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	30	5	-1.7	-5.3	30	3.8
1000	30	163	-2.6	-9.0	31	4.5
950	30	574	-3.9	-9.6	30	4.6
900	30	996	-4.5	-12.8	29	6.1
850	30	1,445	-5.3	-13.1	29	8.3
800	30	1,921	-6.2	-13.1	28	10.5
750	30	2,428	-7.9	-16.0	28	13.1
700	30	2,960	-10.1	-18.9	27	14.8
650	30	3,530	-12.5	-21.7	27	17.5
600	30	4,137	-15.8	-24.9	27	19.5
550	30	4,784	-19.8	-29.4	27	21.0
500	30	5,490	-24.3	-33.6	27	24.3
450	30	6,248	-29.3	-38.6	27	27.9
400	30	7,084	-34.7	-42.3	27	32.6
350	30	8,005	-40.7	-43.7	27	36.2
300	30	9,041	-46.9		27	35.6
250	30	10,234	-52.1		28	32.3
200	30	11,665	-55.6		27	31.3
175	30	12,515	-55.7		28	29.9
150	30	13,496	-55.4		28	26.9
125	30	14,657	-57.0		28	23.7
100	30	16,062	-59.1		27	21.7
80	28	17,457	-61.4		28	16.4
70	28	18,285	-61.5		27	13.1
60	27	19,242	-61.8		27	11.5
50	24	20,373	-61.7		27	9.8
40	23	21,753	-61.2		28	6.1
30	22	23,541	-59.8		28	7.0
25	21	24,686	-58.5		28	9.3
20	18	26,095	-55.5		27	11.6
15	15	27,935	-51.6		27	17.6
10	11	30,609	-44.5			

JOHNSTON IS., PACIFIC AREA 1012 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	3	23.4	16.6	05	5.4
1000	31	104	22.5	15.7	05	6.1
950	31	546	18.6	13.9	05	7.3
900	31	1,010	14.7	11.9	05	6.7
850	31	1,491	11.6	7.3	05	5.2
800	31	1,998	10.9	-2.3	05	3.3
750	31	2,533	9.7	-9.7	35	1.8
700	31	3,105	7.1	-13.1	29	3.1
650	31	3,704	3.7	-16.3	28	5.7
600	31	4,356	-.2	-21.4	27	8.3
550	31	5,038	-4.5	-24.5	28	11.2
500	31	5,792	-8.9	-27.6	29	14.2
450	31	6,595	-13.8	-32.0	28	18.1
400	31	7,488	-19.1	-36.1	28	21.6
350	31	8,470	-24.9	-41.2	28	25.5
300	31	9,575	-31.8	-47.7	27	29.8
250	31	10,838	-41.0	-54.2	27	33.3
200	31	12,319	-52.2		27	35.1
175	31	13,170	-58.8		27	34.5
150	31	14,122	-65.6		27	31.7
125	31	15,209	-73.0		28	[illegible]
100	31	16,496	-79.1		28	20.7
80	30	17,760	-79.6		28	9.2
70	29	18,573	-76.7		27	[illegible]
60	29	19,424	-70.8		09	[illegible]
50	28	20,519	-65.2		10	4.1
40	28	21,891	-61.4		09	5.9
30	28	23,686	-56.3		07	3.6
25	27	24,845	-55.7		36	.6
20	26	26,271	-51.6		30	5.1
15	24	28,159	-47.1		27	8.5
10	22	30,869	-42.4		29	14.0
7	12	33,244	-40.5			

KEY WEST, FLA. 1017 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	30	3	19.5	16.0	06	3.0
1000	30	143	18.9	15.6	07	4.5
950	30	585	16.5	11.6	09	5.4
900	30	1,044	14.3	8.5	11	4.3
850	30	1,525	12.2	2.8	15	1.9
800	30	2,032	10.5	-2.6	24	1.2
750	30	2,565	7.9	-6.9	26	2.6
700	30	3,134	4.9	-13.0	27	4.6
650	30	3,732	1.9	-17.4	27	6.8
600	30	4,377	-1.5	-22.0	27	8.9
550	30	5,058	-6.1	-25.7	27	10.2
500	30	5,803	-11.3	-30.1	27	11.7
450	30	6,595	-16.8	-33.9	27	12.7
400	30	7,478	-23.5	-36.5	27	14.1
350	30	8,441	-30.8	-45.0	26	16.3
300	30	9,517	-39.3	-52.3	26	19.4
250	29	10,739	-48.5		26	25.0
200	29	12,174	-58.1		26	29.6
175	29	13,009	-60.9		26	29.3
150	29	13,962	-63.6		26	29.1
125	29	15,070	-67.7		26	26.1
100	29	16,400	-71.9		27	20.9
80	28	17,707	-73.4		26	14.8
70	28	18,489	-72.4		27	10.7
60	28	19,403	-68.5		26	10.4
50	28	20,509	-63.6		27	11.0
40	27	21,893	-59.3		29	11.2
30	27	23,712	-55.9		29	10.7
25	27	24,879	-53.4		29	8.3
20	26	26,326	-51.1		29	9.5
15	26	28,221	-46.6		27	8.9
10	21	30,936	-42.2		28	[illegible]
7	9	33,352	-37.7			

KING SALMON, ALASKA 1016 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	15	-14.4	[illegible]	01	.6
1000	31	137	-11.8	[illegible]	01	2.4
950	31	572	-8.7	[illegible]	34	3.9
900	31	953	-9.1	-14.6	33	5.2
850	31	1,390	-8.3	-16.1	32	5.6
800	31	1,868	-9.5	-19.4	30	5.3
750	31	2,365	-11.4	-20.7	30	7.4
700	31	2,892	[illegible]	-22.8	30	9.3
650	31	3,450	-17.2	-25.5	30	10.0
600	31	4,048	-21.1	[illegible]	30	10.3
550	31	4,681	-24.9	[illegible]	30	12.0
500	31	5,373	-29.4	[illegible]	30	13.2
450	30	6,112	-34.3	[illegible]	30	13.6
400	30	6,932	-39.9	[illegible]	30	14.5
350	30	7,832	-45.7		31	15.9
300	30	8,846	-51.4		29	15.4
250	30	[illegible]	-56.7		28	15.6
200	30	11,420	-58.2		29	13.6
175	30	12,264	-56.1		28	11.7
150	30	13,248	-54.6		28	10.6
125	30	14,418	-53.8		28	9.5
100	30	15,852	-53.7		27	7.4
80	30	17,281	-55.2		27	[illegible]
70	30	18,133	-55.4		28	[illegible]
60	30	19,116	-55.6		28	[illegible]
50	30	20,276	-56.3		28	3.7
40	30	21,692	[illegible]		28	[illegible]
30	30	23,509	-54.2		29	2.7
25	27	24,842	-58.8		30	2.3
20	[illegible]	[illegible]	[illegible]		34	[illegible]
15	[illegible]	[illegible]	-53.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1969

* KOROR, CAROLINE IS. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	27.1	23.4	07	4.5
1000	31	95	26.4	22.6	07	5.5
950	31	541	22.8	18.8	07	10.4
900	31	1,016	19.8	15.1	07	11.2
850	31	1,510	17.1	10.5	07	10.0
800	31	2,024	15.7	4.8	07	8.6
750	31	2,569	13.4	-.3	08	8.4
700	31	3,148	10.2	-6.1	08	8.5
650	31	3,758	6.8	-11.0	08	8.4
600	31	4,414	3.2	-15.9	09	8.2
550	31	5,109	-.7	-19.2	09	9.9
500	31	5,870	-4.9	-23.3	10	11.5
450	31	6,689	-9.7	-28.2	10	10.8
400	31	7,591	-15.4	-32.6	10	10.5
350	31	8,586	-22.1	-38.4	09	8.5
300	31	9,700	-30.4	-45.7	10	6.9
250	31	10,968	-40.9		11	6.5
200	31	12,445	-53.2		12	9.1
175	31	13,291	-60.3		12	9.3
150	31	14,235	-67.7		12	9.1
125	31	15,310	-75.5		11	11.4
100	31	16,578	-81.8		10	10.4
80	31	17,826	-81.0		09	7.0
70	31	18,588	-75.4		09	6.7
60	31	19,491	-71.1		09	8.9
50	31	20,582	-66.6		09	18.1
40	31	21,955	-59.7		09	24.2
30	30	23,788	-52.0		10	7.4
25	30	24,976	-49.4		25	4.6
20	30	26,445	-47.1		26	14.7
15	28	28,364	-44.7		27	16.8
10	25	31,099	-41.5		26	14.3
7	15	33,541	-38.5			

KOTZEBUE, ALASKA 1022 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	5	-17.0	-21.7	11	8.4
1000	29	165	-15.2	-19.8	12	10.9
950	29	558	-12.5	-16.4	13	9.4
900	29	969	-12.2	-16.2	15	6.7
850	29	1,405	-12.9	-16.7	17	4.8
800	29	1,866	-14.3	-18.1	19	3.8
750	29	2,353	-15.7	-21.3	21	4.1
700	29	2,873	-18.1	-24.4	23	5.1
650	29	3,423	-20.5	-27.1	24	5.9
600	29	4,013	-23.8	-30.4	25	6.4
550	29	4,639	-27.8	-34.3	26	7.9
500	29	5,322	-32.2	-37.4	27	10.2
450	29	6,056	-37.2	-39.7	26	11.8
400	28	6,859	-43.1	-45.5	26	13.7
350	28	7,747	-48.9		27	13.9
300	28	8,746	-54.4		26	16.6
250	28	9,903	-57.7		26	16.8
200	28	11,313	-55.8		26	12.8
175	27	12,163	-53.7		25	11.0
150	27	13,155	-53.2		26	10.1
125	27	14,330	-52.8		25	8.3
100	27	15,770	-52.8		25	6.1
80	26	17,212	-54.0		24	5.6
70	26	18,068	-54.6		24	5.3
60	24	19,054	-55.2		25	4.3
50	24	20,215	-56.1		24	4.2
40	20	21,651	-57.1		25	3.7
30	16	23,471	-57.6		29	3.2
25	12	24,636	-58.1			
20	8	26,094	-58.2			
15	5	27,929	-58.1			

KWAJALEIN, MARSHALL IS. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	26.3	22.3	06	8.2
1000	31	81	25.7	21.5	06	9.0
950	31	531	22.2	18.6	06	10.8
900	31	1,000	19.0	16.2	07	9.8
850	31	1,491	16.4	12.2	07	8.1
800	31	2,006	14.4	7.3	07	5.7
750	31	2,551	12.9	1.0	07	4.7
700	31	3,129	10.4	-4.5	07	4.5
650	31	3,742	7.3	-10.0	07	5.3
600	31	4,397	3.7	-14.5	06	6.7
550	31	5,099	.0	-20.0	06	7.7
500	31	5,855	-4.5	-25.2	06	8.1
450	31	6,677	-9.3	-29.9	06	7.5
400	31	7,578	-14.8	-34.3	06	6.5
350	31	8,576	-21.5	-39.0	04	5.1
300	31	9,694	-30.0	-44.3	03	1.5
250	30	10,966	-39.9	-51.2	17	2.0
200	30	12,449	-52.5	-60.0	17	5.8
175	30	13,298	-59.5	-67.0	17	6.4
150	30	14,245	-67.6		17	5.0
125	30	15,320	-76.0		14	2.8
100	26	16,579	-83.4		07	4.4
80	17	17,815	-84.5		08	7.0
70	15	18,565	-80.1		08	7.2
60	15	19,449	-74.2		09	5.9
50	15	20,524	-69.6		09	11.7
40	14	21,873	-63.8		08	19.3
30	14	23,673	-55.4		09	9.9
25	14	24,847	-51.7		29	3.6
20	13	26,298	-49.5		27	11.1
15	13	28,198	-45.6		27	14.2
10	12	30,925	-42.3		26	12.5
7	10	33,344	-41.9			

LAKE CHARLES, LA. 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	9.4	7.2	08	1.7
1000	31	152	10.2	6.5	11	3.4
950	31	580	10.1	3.5	18	4.5
900	31	1,030	9.6	.4	22	3.8
850	31	1,503	8.1	-2.9	24	4.4
800	31	2,003	6.6	-6.7	25	6.0
750	31	2,530	4.2	-9.9	25	7.8
700	31	3,090	1.7	-14.2	26	9.9
650	31	3,685	-1.4	-18.0	26	11.8
600	31	4,318	-5.3	-22.2	26	13.2
550	31	4,994	-9.2	-25.3	27	14.3
500	31	5,727	-14.5	-28.4	27	16.0
450	31	6,511	-20.1	-31.5	27	18.2
400	31	7,381	-26.4	-37.5	27	20.1
350	30	8,331	-33.8	-43.8	27	22.2
300	30	9,393	-41.9	-49.9	26	24.6
250	30	10,604	-50.6		26	28.0
200	29	12,026	-58.6		27	30.5
175	29	12,859	-61.5		27	30.4
150	29	13,811	-62.3		27	32.0
125	29	14,933	-63.9		27	27.5
100	29	16,286	-68.2		27	24.1
80	27	17,614	-70.1		27	18.4
70	26	18,409	-70.1		27	15.2
60	26	19,327	-69.5		26	11.7
50	26	20,423	-66.1		26	11.6
40	26	21,789	-62.5		27	12.0
30	25	23,585	-58.4		27	15.5
25	25	24,738	-56.3		26	18.0
20	23	26,159	-53.7		27	20.3
15	20	28,030	-49.1		27	21.0
10	18	30,729	-43.3		26	26.4
7	7	33,200	-36.0			

LANDER, WYO. 821 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,696	-5.6	-12.2	24	.5
1000	31	124				
950	31	532				
900	31	965				
850	31	1,422				
800	31	1,900	-2.5	-12.3	28	1.8
750	31	2,410	-3.7	-14.8	27	5.4
700	31	2,955	-7.1	-17.5	27	11.4
650	31	3,524	-11.0	-20.7	27	16.4
600	31	4,140	-14.7	-25.0	27	19.3
550	31	4,791	-18.3	-30.1	27	22.0
500	31	5,500	-23.2	-34.1	28	24.5
450	31	6,258	-28.7	-38.3	27	26.0
400	31	7,098	-35.1	-40.2	27	27.8
350	31	8,015	-42.0	-44.0	27	31.5
300	31	9,042	-49.1		28	36.1
250	31	10,220	-55.9		28	36.7
200	31	11,630	-58.5		28	33.1
175	31	12,470	-58.2		27	30.9
150	31	13,444	-56.8		27	30.3
125	31	14,599	-57.5		27	24.8
100	31	16,003	-58.8		26	19.4
80	31	17,400	-60.4		26	15.4
70	31	18,230	-61.6		27	12.9
60	31	19,182	-62.4		27	10.4
50	31	20,308	-62.8		27	8.2
40	30	21,686	-63.1		28	4.8
30	26	23,459	-62.5		29	6.1
25	24	24,582	-62.5		29	6.1
20	22	25,967	-60.7		28	9.4
15	20	27,765	-57.6		28	11.9
10	10	30,336	-51.4			

* LIHUE KAUAI, HAWAII 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	36	16.8	13.6	29	1.5
1000	31	101	18.3	13.2	31	1.5
950	31	532	17.0	11.9	35	2.4
900	31	1,000	13.4	9.6	33	2.2
850	31	1,479	10.2	6.0	31	3.3
800	31	1,983	8.9	-3.0	29	4.7
750	31	2,511	7.4	-8.4	28	7.3
700	31	3,082	4.7	-13.1	27	9.1
650	31	3,680	1.2	-16.7	27	10.5
600	31	4,321	-2.7	-20.1	27	13.8
550	31	4,999	-7.0	-23.4	26	15.8
500	31	5,743	-11.9	-26.8	26	19.6
450	30	6,534	-17.4	-31.9	26	23.3
400	30	7,414	-22.5	-37.3	26	27.7
350	30	8,383	-28.2	-42.4	26	31.9
300	30	9,472	-35.6	-47.4	26	36.8
250	30	10,718	-43.7	-54.0	26	41.1
200	30	12,189	-52.5		26	47.1
175	30	13,042	-57.5		26	47.7
150	29	14,002	-62.6		27	42.2
125	29	15,111	-68.0		27	36.1
100	28	16,435	-73.0		27	28.1
80	27	17,739	-73.7		26	16.1
70	27	18,523	-71.4		26	9.0
60	25	19,439	-68.8		27	5.6
50	21	20,545	-64.7		27	4.0
40	20	21,916	-61.9		27	4.5
30	20	23,708	-58.7		29	6.1
25	20	24,859	-56.4		28	8.0
20	20	26,282	-54.1		27	10.9
15	20	28,148	-49.5		27	12.1
10	19	30,840	-43.7		26	18.2
7	17	33,263	-38.5		26	21.6
5	13	35,588	-36.3		26	26.8
4	5	37,212	-34.3			

LITTLE ROCK, ARK. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	79	3.8	-.6	08	.8
1000	31	158	3.4	-2.8	05	1.7
950	31	575	3.5	-3.5	21	2.5
900	31	1,014	4.0	-4.6	25	4.8
850	31	1,479	3.9	-5.6	27	7.8
800	31	1,971	2.4	-6.9	27	9.7
750	31	2,487	.4	-8.5	27	11.2
700	31	3,042	-2.1	-11.5	27	13.3
650	31	3,627	-4.9	-16.0	27	14.1
600	31	4,254	-8.3	-19.0	27	16.6
550	31	4,918	-12.4	-23.7	27	18.7
500	31	5,648	-17.0	-27.4	27	21.5
450	31	6,420	-22.6	-32.3	27	23.0
400	31	7,284	-28.9	-38.6	28	25.7
350	31	8,225	-36.0	-44.4	28	28.0
300	30	9,284	-43.7		28	30.5
250	30	10,484	-52.6		29	34.1
200	30	11,899	-59.9		27	37.1
175	30	12,731	-60.8		27	36.7
150	30	13,690	-60.2		27	34.4
125	30	14,822	-61.7		27	31.0
100	30	16,196	-64.5		27	25.3
80	28	17,557	-66.3		27	18.1
70	26	18,366	-66.8		27	15.1
60	23	19,298	-66.4		27	10.9
50	20	20,399	-65.5		27	10.3
40	20	21,764	-63.2		28	9.1
30	18	23,542	-60.3		27	10.8
25	17	24,679	-58.0		27	13.4
20	15	26,096	-55.4		27	18.6
15	13	27,962	-50.7			
10	8	30,642	-44.3			

MCGRATH, ALASKA 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	103	-24.4	-21.7	07	.5
1000	29	176			07	1.3
950	29	561	-16.0	-18.3	08	3.8
900	29	968	-12.0	-16.7	08	3.2
850	29	1,406	-11.4	-18.4	05	2.0
800	29	1,870	-12.1	-20.1	01	2.2
750	29	2,360	-13.9	-22.2	35	2.9
700	29	2,884	-16.3	-23.9	31	4.4
650	29	3,436	-19.0	-26.6	32	6.1
600	29	4,032	-22.1	-29.2	31	7.8
550	29	4,662	-25.8	-32.7	31	10.5
500	29	5,351	-30.0	-37.0	30	10.6
450	29	6,091	-34.9	-39.6	27	8.1
400	29	6,907	-41.0	-44.6	26	11.0
350	29	7,803	-47.3		27	11.4
300	29	8,809	-53.3		28	15.5
250	29	9,969	-58.0		28	16.5
200	29	11,371	-57.9		28	13.0
175	29	12,217	-55.2		27	10.4
150	29	13,204	-54.3		28	9.9
125	29	14,373	-54.0		27	8.7
100	29	15,806	-53.8		28	7.3
80	27	17,227	-55.0		26	6.6
70	25	18,081	-55.6		27	6.2
60	25	19,061	-56.2		27	5.0
50	25	20,219	-56.5		28	5.2
40	23	21,635	-56.8		27	5.0
30	21	23,457	-57.5		29	3.3
25	19	24,613	-58.1		32	3.5
20	18	26,020	-58.0		33	3.8
15	9	27,859	-56.3			

\+ MAJURO, MARSHALL IS. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	[illegible]	28.3	23.9	05	5.3
1000	31	76	27.2	21.7	05	6.3
950	31	520	23.3	17.4	05	10.0
900	31	999	20.0	14.2	06	8.7
850	31	1,491	17.5	9.9	06	7.6
800	31	2,008	15.5	5.8	07	4.5
750	31	2,552	13.1	1.0	07	3.4
700	31	3,132	10.7	-4.6	08	3.7
650	31	3,743	7.7	-8.0	08	4.2
600	31	4,404	4.3	-12.4	07	5.6
550	31	5,102	.4	-17.4	07	5.9
500	31	5,866	-3.9	-22.0	06	7.6
450	31	6,688	-8.9	-26.9	06	7.1
400	31	7,596	-14.2	-31.2	06	5.6
350	31	8,596	-20.7	-37.2	06	3.5
300	31	9,717	-28.9	-43.5	13	2.3
250	31	10,996	-39.1	-52.9	17	3.4
200	31	12,486	-51.3		18	4.4
175	31	13,339	-58.6		18	5.1
150	31	14,291	-66.4		16	3.3
125	31	15,372	-74.8		12	3.6
100	31	16,643	-82.1		07	5.7
80	31	17,882	-83.1		08	7.6
70	31	18,635	-77.4		08	7.0
60	30	19,534	-72.1		09	8.4
50	29	20,623	-67.0		09	15.5
40	29	21,992	-59.8		09	21.5
30	28	23,823	-52.1		10	9.2
25	27	25,012	-49.1		24	1.8
20	26	26,487	-46.3		26	11.1
15	25	28,409	-44.5		27	15.8
10	23	31,147	-40.4		28	11.7
7	17	33,594	-37.2		30	5.4

* MEDFORD, OREG. 966 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	401	1.1	-.3	20	1.3
1000	31	122				
950	31	541	1.0	-.7	19	1.2
900	31	971	-.1	-2.4	21	3.8
850	31	1,428	-1.4	-4.3	23	7.1
800	31	1,910	-3.9	-6.4	24	10.3
750	31	2,418	-6.5	-11.1	25	13.3
700	31	2,955	-8.5	-14.9	26	15.7
650	31	3,527	-11.6	-18.7	26	17.6
600	31	4,137	-14.9	-22.8	26	20.6
550	31	4,787	-18.9	-27.6	26	23.0
500	31	5,495	-23.5	-32.0	26	25.0
450	31	6,255	-28.8	-36.4	26	26.9
400	31	7,092	-34.5	-40.3	26	30.0
350	31	8,013	-41.0	-41.4	26	33.3
300	31	9,046	-47.8	-50.2	26	35.2
250	31	10,230	-54.8		27	36.8
200	31	11,649	-56.9		27	35.7
175	30	12,495	-58.2		27	32.6
150	30	13,466	-57.8		27	31.2
125	30	14,615	-58.5		27	27.2
100	30	16,014	-59.5		27	22.7
80	28	17,408	-61.2		27	17.7
70	27	18,229	-61.3		27	15.6
60	27	19,186	-61.5		27	13.1
50	23	20,311	-61.7		27	10.3
40	20	21,698	-62.0		27	9.0
30	18	23,480	-61.7		28	7.2
25	18	24,609	-61.8		28	8.1
20	19	25,993	-61.0		28	10.3
15	17	27,802	-58.0		28	11.5
10	14	30,375	-54.8		27	20.5
7	8	32,714	-49.6			

MERIDA, MEXICO 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	17.9	17.2	08	2.4
1000	31	139	20.4	18.0	08	4.5
950	31	583	18.7	14.2	10	5.1
900	31	1,046	16.4	10.5	11	3.7
850	31	1,531	13.8	6.7	14	1.3
800	31	2,041	11.6	.6	19	1.8
750	31	2,577	9.3	-4.9	21	2.3
700	31	3,148	7.0	-12.7	24	2.5
650	31	3,750	3.5	-14.9	27	3.3
600	31	4,399	-.4	-18.1	26	4.6
550	31	5,082	-4.6	-23.2	25	5.9
500	31	5,834	-9.6	-27.2	26	7.5
450	31	6,637	-15.2	-31.8	27	9.8
400	31	7,521	-21.8	-37.0	27	10.9
350	31	8,490	-28.8	-42.9	27	12.9
300	31	9,574	-37.3	-50.5	27	14.6
250	31	10,808	-46.7		28	15.3
200	31	12,254	-56.3		28	16.6
175	27	13,100	-60.9		27	16.5
150	27	14,053	-63.8		26	16.4
125	27	15,159	-68.1		27	18.3
100	27	16,482	-73.3		26	13.7
80	27	17,776	-76.4		26	8.5
70	25	18,550	-75.0		26	6.7
60	24	19,459	-69.7		26	5.4
50	24	20,561	-64.3		25	4.2
40	24	21,942	-60.0		28	4.1
30	24	23,753	-56.0		02	2.0
25	23	24,921	-53.1		33	2.2
20	23	26,373	-48.7		29	3.6
15	23	28,280	-44.8		27	5.9
10	14	31,0[illegible]	-42.5			
7						
5						

MIAMI, FLA. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	17.3	13.9	03	1.9
1000	31	150	17.5	13.8	05	3.2
950	31	587	15.7	11.8	08	4.3
900	31	1,046	13.2	7.8	09	2.8
850	31	1,525	10.7	3.7	10	.8
800	31	2,029	9.5	-4.1	28	1.5
750	31	2,563	7.2	-7.4	28	3.9
700	31	3,128	4.1	-11.5	28	5.1
650	31	3,725	.9	-14.1	28	7.0
600	31	4,368	-2.7	-19.8	27	9.8
550	31	5,045	-6.8	-23.3	27	11.5
500	31	5,791	-11.9	-25.9	27	13.4
450	31	6,586	-17.3	-31.5	27	14.4
400	31	7,463	-23.8	-36.9	27	15.8
350	31	8,425	-30.8	-42.9	27	18.2
300	31	9,501	-39.2	-49.1	27	22.1
250	31	10,726	-48.0		27	25.8
200	31	12,165	-57.7		27	30.1
175	31	13,001	-60.7		26	30.4
150	31	13,956	-62.6		26	28.4
125	31	15,072	-66.5		27	27.1
100	30	16,407	-70.8		27	22.7
80	30	17,722	-72.7		27	16.1
70	30	18,507	-71.8		27	13.1
60	30	19,420	-69.4		27	11.6
50	29	20,517	-64.8		27	12.2
40	29	21,895	-59.6		28	11.8
30	28	23,715	-55.3		28	12.2
25	26	24,886	-53.6		28	11.5
20	25	26,331	-50.1		28	10.3
15	22	28,236	-45.6		27	11.8
10	19	30,957	-41.8		26	16.3
7	9	33,378	-39.0			
5	5	35,691	-34.2			

MIDLAND, TEXAS 915 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	874	3.0	-3.0	22	1.5
1000	31	149				
950	31	567				
900	31	1,012	6.7	-2.3	23	2.4
850	31	1,486	9.9	-5.1	27	6.5
800	31	1,988	7.9	-7.3	28	8.2
750	31	2,516	5.5	-10.0	27	10.6
700	31	3,079	2.1	-13.3	27	12.1
650	31	3,672	-1.1	-17.0	27	12.3
600	31	4,308	-5.0	-20.4	27	12.7
550	31	4,981	-9.5	-23.9	27	16.0
500	31	5,716	-14.5	-27.2	27	17.0
450	31	6,497	-20.3	-30.5	27	18.5
400	31	7,367	-26.9	-36.8	27	21.0
350	31	8,315	-34.4	-43.3	27	23.5
300	31	9,375	-42.5	-50.0	27	25.7
250	31	10,583	-51.5		27	28.7
200	31	12,003	-59.8		28	32.2
175	31	12,833	-61.6		29	30.0
150	31	13,786	-62.9		29	26.0
125	31	14,905	-64.3		29	25.5
100	31	16,258	-66.3		29	20.7
80	30	17,589	-70.2		28	16.4
70	28	18,384	-70.8		28	14.2
60	25	19,300	-68.2		28	10.5
50	24	20,399	-66.0		27	9.8
40	24	21,764	-62.9		27	10.7
30	22	23,553	-59.7		27	13.0
25	21	24,701	-57.4		27	15.9
20	20	26,119	-54.7		26	19.8
15	17	27,993	-49.9		27	23.8
10	12	30,680	-42.8			

MONTERREY, MEXICO 969 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	423	10.7	5.9	29	1.7
1000	31	155				
950	31	586	13.0	6.5	30	1.2
900	31	1,040	13.1	4.1	25	1.4
850	31	1,520	12.1	.1	19	1.9
800	31	2,028	11.6	-5.9	25	2.3
750	31	2,570	9.2	-8.9	27	5.5
700	31	3,133	5.6	-12.2	28	8.0
650	31	3,732	1.6	-15.7	27	9.5
600	31	4,376	-2.6	-18.5	27	10.6
550	31	5,055	-7.1	-22.9	27	11.5
500	31	5,797	-11.9	-27.9	27	13.9
450	31	6,590	-17.3	-32.0	27	16.6
400	31	7,469	-23.8	-37.4	27	19.0
350	31	8,430	-31.3	-43.7	28	22.0
300	31	9,503	-39.9	-48.9	28	24.8
250	31	10,722	-49.3		28	26.7
200	31	12,155	-57.8		28	28.0
175	30	12,984	-62.3		28	29.3
150	30	13,933	-63.8		28	30.3
125	29	15,041	-67.2		28	26.9
100	28	16,376	-71.8		27	19.2
80	28	17,687	-73.0		27	14.1
70	28	18,469	-72.9		27	10.8
60	26	19,373	-70.5		26	10.2
50	26	20,470	-65.2		26	10.5
40	26	21,845	-60.6		26	14.0
30	26	23,653	-57.7		26	13.7
25	25	24,811	-55.9		26	13.6
20	25	26,242	-52.3		27	13.7
15	23	28,121	-48.0		27	12.8
10	9	30,821	-41.7			

MONTGOMERY, ALA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	61	4.7	1.2	05	1.1
1000	31	174	5.5	.0	08	2.6
950	31	596	6.7	-2.1	16	2.6
900	31	1,039	6.6	-4.6	23	3.9
850	31	1,507	5.5	-6.7	26	6.4
800	31	2,002	4.2	-7.8	26	8.6
750	31	2,526	2.2	-9.2	27	10.3
700	31	3,080	-.5	-11.4	27	12.8
650	31	3,667	-3.8	-14.4	27	14.8
600	31	4,297	-7.2	-17.9	27	16.3
550	31	4,964	-11.3	-22.4	27	17.9
500	31	5,696	-15.9	-27.5	27	19.7
450	31	6,479	-21.3	-33.0	27	21.6
400	31	7,341	-27.7	-38.1	27	24.9
350	31	8,287	-34.8	-43.3	27	27.7
300	31	9,346	-42.6		27	31.0
250	31	10,553	-51.3		27	34.2
200	31	11,973	-59.7		27	36.1
175	31	12,803	-61.8		27	35.5
150	31	13,758	-61.4		27	33.9
125	31	14,885	-63.0		27	30.2
100	31	16,246	-66.8		27	25.1
80	30	17,590	-68.3		27	19.8
70	30	18,392	-67.9		27	15.8
60	29	19,323	-67.1		27	12.8
50	29	20,428	-64.9		27	10.2
40	29	21,798	-62.4		27	9.9
30	29	23,594	-58.0		27	14.2
25	29	24,750	-55.3		27	17.9
20	28	26,184	-52.3		27	19.0
15	26	28,063	-47.9		27	21.0
10	24	30,779	-40.8		26	24.7
7	11	33,189	-38.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1969

* NANTUCKET, MASS. — 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	14	-.1	-3.6	32	3.2
1000	31	150	-1.2	-5.2	32	3.3
950	31	545	-2.5	-7.0	29	4.8
900	31	986	-4.0	-10.0	29	6.1
850	31	1,437	-5.3	-13.6	27	7.6
800	31	1,912	-6.7	-15.2	27	8.7
750	31	2,413	-8.4	-18.3	27	12.0
700	31	2,948	-10.6	-20.6	27	13.5
650	31	3,512	-13.2	-22.7	26	15.8
600	31	4,171	-16.5	-26.4	26	18.5
550	31	4,768	-20.4	-29.7	26	18.8
500	31	5,470	-24.9	-33.7	26	20.9
450	31	6,222	-29.9	-38.1	27	24.2
400	31	7,057	-35.6	-42.5	27	26.9
350	31	7,975	-41.6	-45.4	27	29.9
300	31	9,007	-47.7		26	31.3
250	31	10,194	-53.6		27	33.2
200	30	11,622	-56.7		27	32.6
175	30	12,469	-56.3		27	29.3
150	30	13,449	-56.2		27	25.8
125	30	14,606	-57.0		27	22.9
100	30	16,011	-59.3		27	20.2
80	30	17,403	-61.1		27	15.9
70	30	18,230	-61.9		27	14.4
60	30	19,182	-62.4		28	12.7
50	29	20,306	-62.6		28	11.1
40	29	21,683	-62.3		28	10.2
30	27	23,467	-61.0		28	11.0
25	27	24,604	-59.5		28	11.6
20	26	26,002	-57.3		28	15.1
15	25	27,834	-53.4		27	18.7
10	21	30,487	-46.8		27	27.4
7	13	32,931	-37.4			

NASHVILLE, TENN. — 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	180	.1	-3.8	12	.4
1000	31	179			05	1.3
950	31	592	-.5	-6.1	20	3.3
900	31	1,023	-.1	-8.1	24	6.1
850	31	1,481	.0	-9.2	25	7.5
800	31	1,966	-1.4	-9.7	26	9.9
750	31	2,481	-2.8	-12.0	27	12.3
700	31	3,025	-5.0	-13.3	27	14.9
650	31	3,606	-7.8	-14.6	27	16.8
600	31	4,274	-11.2	-18.4	28	19.3
550	31	4,887	-15.1	-22.6	28	22.0
500	31	5,603	-19.1	-27.5	27	24.1
450	31	6,375	-24.2	-32.6	27	26.3
400	31	7,229	-30.3	-39.6	27	27.4
350	31	8,165	-37.8	-45.9	27	29.1
300	31	9,210	-46.0		27	31.6
250	30	10,397	-53.9		27	35.0
200	30	11,810	-59.7		27	36.1
175	30	12,643	-60.1		27	36.1
150	30	13,608	-59.3		28	30.7
125	30	14,745	-61.1		27	28.4
100	29	16,123	-63.9		27	23.0
80	29	17,488	-65.1		27	17.9
70	28	18,294	-65.2		27	15.2
60	26	19,232	-65.3		27	12.8
50	26	20,343	-64.6		28	10.4
40	24	21,711	-62.5		27	8.8
30	23	23,501	-59.2		27	11.6
25	22	24,654	-56.7		27	13.2
20	21	26,079	-54.3		27	16.0
15	20	27,936	-46.8		27	21.6
10	16	30,635	-40.6		27	29.0

* NOME, ALASKA — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	19	5	-7.4	-9.1	10	6.0
1000	19	106	-7.9	-10.3	11	7.6
950	19	505	-7.4	-11.2	14	9.3
900	19	927	-7.1	-10.2	16	8.2
850	19	1,373	-8.2	-11.7	17	7.8
800	19	1,843	-10.2	-15.6	19	6.7
750	19	2,335	-12.4	-17.2	19	7.2
700	19	2,864	-15.3	-20.8	20	8.5
650	19	3,418	-18.3	-23.4	20	9.7
600	19	4,014	-21.9	-28.0	20	10.8
550	19	4,646	-26.3	-32.1	21	10.3
500	19	5,333	-31.4	-36.2	21	11.5
450	19	6,064	-36.6	-40.0	21	11.5
400	19	6,879	-42.1	-45.0	22	13.1
350	19	7,771	-47.9		23	15.6
300	19	8,775	-53.9		23	14.2
250	19	9,931	-58.7		23	15.4
200	17	11,317	-57.5		23	11.8
175	17	12,166	-54.9		23	10.6
150	17	13,154	-53.6		23	8.7
125	17	14,325	-53.6		22	9.4
100	17	15,759	-53.7		22	7.7
80	17	17,193	-54.1		22	7.4
70	17	18,049	-54.5		22	6.8
60	17	19,034	-54.9		23	5.7
50	17	20,199	-55.3		23	5.1
40	16	21,616	-56.4		24	4.5
30	16	23,439	-56.8		25	4.1
25	15	24,587	-57.2		28	3.6
20	15	25,997	-57.5		30	3.2
15	14	27,826	-57.4		32	3.3
10	8	30,445	-55.8			

NORTH PLATTE, NEBR. — 905 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	847	-10.1	-11.8	26	[illegible]
1000	31	158				
950	31	548				
900	31	975	-8.3	-11.8	26	.8
850	31	1,423	-4.1	-9.3	28	4.0
800	31	1,903	-2.8	-9.9	28	7.1
750	31	2,413	-3.3	-11.4	29	9.6
700	31	2,958	-6.0	-14.0	28	12.6
650	31	3,527	-9.5	-17.3	29	14.4
600	31	4,148	-13.6	-21.2	28	16.4
550	31	4,800	-17.6	-25.8	29	18.5
500	31	5,512	-22.4	-30.4	28	20.3
450	31	6,271	-27.5	-36.2	28	22.4
400	31	7,116	-33.0	-40.7	28	25.0
350	31	8,042	-40.0	-43.2	28	28.3
300	31	9,077	-48.0		28	31.1
250	31	10,258	-55.4		28	34.1
200	31	11,666	-59.2		28	34.4
175	31	12,503	-58.4		28	33.7
150	31	13,476	-57.2		28	30.4
125	31	14,629	-57.9		28	25.7
100	31	16,028	-60.1		28	19.7
80	30	17,413	-62.3		28	15.7
70	30	18,236	-62.6		28	17.6
60	29	19,183	-62.9		28	9.3
50	28	20,307	-63.8		28	7.3
40	27	21,674	-63.1		29	7.0
30	22	23,450	-61.8		28	7.2
25	20	24,582	-61.1		28	7.8
20	20	25,973	-59.4		27	9.2
15	15	27,796	-56.5		28	15.6
10	8	30,421	-51.6			

* OAKLAND, CALIF. — [illegible]

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	6	6.5	[illegible]	[illegible]	[illegible]
1000	31	127	7.1	3.6	[illegible]	[illegible]
950	31	[illegible]	7.6	[illegible]	[illegible]	[illegible]
900	31	[illegible]	6.3	-1.7	[illegible]	[illegible]
850	31	1,462	4.8	-6.5	[illegible]	[illegible]
800	31	1,955	3.1	-10.4	[illegible]	[illegible]
750	31	2,474	.3	-12.7	[illegible]	[illegible]
700	31	3,026	-2.6	-15.9	[illegible]	[illegible]
650	31	[illegible]	-6.0	-19.5	[illegible]	[illegible]
600	31	4,233	-9.9	-23.2	[illegible]	[illegible]
550	31	4,895	-14.2	-27.6	[illegible]	[illegible]
500	31	5,617	-19.1	-30.9	[illegible]	[illegible]
450	31	6,390	-24.6	-35.7	[illegible]	[illegible]
400	31	7,241	[illegible]	-38.7	[illegible]	[illegible]
350	31	8,177	-37.7	-41.9	27	[illegible]
300	31	9,222	[illegible]	-47.5	27	[illegible]
250	31	[illegible]	-53.8		27	[illegible]
200	[illegible]	11,822	-58.8		27	[illegible]
175	[illegible]	[illegible]	[illegible]		29	[illegible]
150	[illegible]	13,676	-59.5		28	[illegible]
125	[illegible]	14,766	[illegible]		27	[illegible]
100	[illegible]	16,148	-62.7		27	[illegible]
80	[illegible]	17,517	-64.7		27	[illegible]
70	[illegible]	18,326	-64.9		27	[illegible]
60	[illegible]	19,256	-64.9		27	[illegible]
50	[illegible]	20,381	-64.2		28	[illegible]
40	[illegible]	21,749	-63.6		28	[illegible]
30	27	23,518	-62.7		29	[illegible]
25	[illegible]	24,644	-61.2		28	[illegible]
20	19	26,043	-59.1		27	[illegible]
15	[illegible]	[illegible]	-55.6		27	15.8
10	[illegible]	30,497	-48.5			

OMAHA, NEBR. — 970 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	403	-10.1	-14.1	05	1.3
1000	31	163				
950	31	560	-10.0	-12.4	02	1.4
900	31	979	-6.6	-10.3	26	2.2
850	31	1,427	-4.9	-11.2	28	5.9
800	31	1,904	-4.5	-12.8	28	9.0
750	31	2,409	-5.7	-15.2	28	10.9
700	31	2,951	-7.9	-18.5	28	13.0
650	31	3,519	-10.9	-20.9	28	16.4
600	31	4,135	-14.8	-24.3	28	18.9
550	31	4,787	-18.6	-29.1	28	23.1
500	31	5,494	-23.1	-32.6	28	26.1
450	31	6,251	-28.3	-37.1	28	28.4
400	31	7,095	-34.3	-42.1	28	34.3
350	31	8,016	-40.8	-44.1	28	37.7
300	31	9,049	-48.0		28	36.7
250	31	10,231	-55.2		28	35.9
200	31	11,642	-58.5		27	38.4
175	31	12,483	-57.5		28	36.4
150	31	13,458	-56.8		29	32.3
125	31	14,612	-57.5		27	27.9
100	30	16,016	-59.5		28	19.1
80	30	17,405	-61.9		28	17.0
70	30	18,231	-62.5		29	14.4
60	30	19,179	-63.6		29	10.7
50	29	20,297	-63.5		29	7.8
40	27	21,676	-63.4		28	6.1
30	25	23,447	-62.1		29	6.1
25	24	24,576	-61.2		28	8.5
20	18	25,986	-59.7		28	11.6
15	17	27,807	-56.5		27	15.9
10	6	30,445	-49.1			
7						
5						

PAGO PAGO, AMERICAN SAMOA — * 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	29.2	25.4	06	1.8
1000	31	55	28.3	23.6	07	2.0
950	31	503	24.3	19.3	04	2.6
900	31	982	21.3	16.3	02	3.6
850	31	1,477	18.7	12.7	01	4.1
800	31	1,996	16.3	8.8	01	4.5
750	31	2,534	13.9	5.4	01	4.6
700	31	3,124	10.9	1.0	36	4.0
650	31	3,737	7.6	-3.3	36	4.4
600	31	4,394	3.9	-7.2	35	4.2
550	31	5,095	.0	-11.6	35	3.9
500	31	5,857	-4.0	-17.0	35	3.8
450	31	6,678	-8.7	-22.7	36	3.0
400	31	7,588	-14.2	-27.8	35	2.0
350	31	8,589	-20.7	-34.6	03	1.4
300	31	9,711	-29.0	-43.3	04	.6
250	31	10,989	-39.2	-51.6	17	.5
200	30	12,477	-51.7		22	2.1
175	30	13,330	-58.6		20	3.8
150	30	14,282	-66.0		19	4.7
125	30	15,368	-73.6		16	3.4
100	30	16,647	-81.2		10	4.0
80	30	17,895	-80.7		09	9.0
70	30	18,658	-75.3		09	12.2
60	30	19,562	-70.3		09	17.1
50	30	20,661	-64.6		09	21.2
40	30	22,041	-59.7		09	24.4
30	29	23,861	-55.3		09	25.0
25	27	25,033	-52.3		09	22.9
20	27	26,488	-48.4		09	19.6
15	23	28,402	-44.6		09	16.3
10	18	31,152	-39.4		09	14.3

* PEORIA, ILL. — 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	200	-7.9	-11.1	27	.6
1000	31	163			35	.6
950	31	564	-7.2	-10.5	26	2.8
900	31	986	-5.5	-11.8	27	5.4
850	31	1,435	-5.0	-12.5	27	6.7
800	31	1,912	-5.6	-14.3	28	8.1
750	31	2,416	-6.9	-15.7	28	10.7
700	31	2,953	-9.1	-18.4	28	13.1
650	31	3,520	-11.9	-20.9	28	15.8
600	31	4,132	-15.4	-23.7	28	18.1
550	31	4,781	-19.0	-27.8	28	20.0
500	31	5,488	-23.3	-32.1	28	22.4
450	31	6,246	-28.3	-36.0	28	24.1
400	31	7,086	-34.4	-40.2	28	27.3
350	31	8,006	-41.0	-44.5	28	29.3
300	31	9,039	-47.6		28	32.5
250	30	10,277	-54.4		27	34.1
200	30	11,642	-58.2		27	34.9
175	30	12,483	-57.6		28	32.1
150	30	13,458	-57.1		28	29.8
125	30	14,612	-57.9		28	25.6
100	30	16,012	-60.2		28	20.2
80	30	17,396	-62.4		28	16.3
70	30	18,218	-63.0		28	13.8
60	28	19,161	-63.7		27	11.7
50	28	20,277	-63.9		28	9.8
40	27	21,648	-63.4		28	8.6
30	25	23,414	-62.2		28	9.0
25	24	24,539	-61.1		28	9.8
20	24	25,932	-58.8		28	13.2
15	22	27,758	-54.9		27	17.3
10	16	30,382	-47.6		27	26.1
7	14	32,793	-38.9		26	37.1
5	8	35,036	-33.9			

* PITTSBURGH, PA. — 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	359	-4.7	-6.6	24	2.3
1000	31	173				
950	31	579	-4.9	-8.6	23	4.6
900	31	1,001	-6.0	-8.7	25	8.1
850	31	1,448	-7.0	-11.6	26	8.7
800	31	1,920	-8.1	-13.9	27	10.0
750	31	2,424	-9.1	-16.3	28	12.1
700	31	2,953	-10.8	-19.4	28	13.4
650	31	3,520	-13.6	-23.2	28	15.4
600	31	4,125	-16.6	-26.7	29	18.0
550	31	4,774	-20.2	-30.1	28	19.8
500	31	5,475	-24.5	-33.7	28	21.0
450	31	6,231	-29.5	-37.7	28	23.5
400	31	7,067	-34.8	-41.6	28	27.2
350	31	7,988	-40.6	-43.5	28	30.1
300	31	9,025	-46.5		27	33.2
250	31	10,219	-52.3		27	34.5
200	31	11,649	-56.2		28	34.1
175	30	12,494	-56.6		27	31.7
150	30	13,472	-56.2		27	29.6
125	29	14,623	-57.0		27	25.7
100	29	16,028	-59.3		27	21.3
80	29	17,422	-60.8		28	17.0
70	29	18,250	-62.1		28	13.7
60	28	19,201	-63.2		28	11.3
50	27	20,327	-62.6		29	10.4
40	27	21,703	-62.3		28	9.7
30	26	23,481	-60.8		29	10.2
25	26	24,620	-59.0		28	12.2
20	24	26,023	-57.5		27	13.4
15	23	27,847	-53.9		28	18.4
10	22	30,496	-46.4		27	23.8
7	21	32,911	-38.8		27	34.8
5	5	35,343	-26.5			

PONAPE, CAROLINE IS. — * 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	39	27.6	22.9	06	4.7
1000	31	72	27.2	22.1	06	5.5
950	31	518	23.2	18.0	06	8.2
900	31	995	21.0	14.4	06	8.7
850	31	1,486	17.7	9.2	07	7.4
800	31	2,004	15.7	4.5	07	4.3
750	31	2,547	13.7	-1.5	08	3.9
700	31	3,129	11.0	-6.1	08	4.8
650	31	3,743	7.4	-10.3	08	5.7
600	31	4,398	3.6	-15.7	08	7.7
550	31	5,098	.1	-20.0	07	9.3
500	31	5,858	-4.3	-23.7	07	10.1
450	31	6,681	-9.1	-27.7	07	9.4
400	31	7,587	-14.3	-32.6	07	8.4
350	31	8,586	-21.2	-38.6	07	6.7
300	31	9,705	-29.6	-45.7	08	5.3
250	31	10,978	-39.9	-53.9	11	4.2
200	31	12,462	-52.4		13	6.3
175	31	13,311	-59.5		12	7.9
150	31	14,258	-67.2		12	9.1
125	30	15,335	-75.0		10	8.7
100	30	16,606	-81.9		08	9.6
80	30	17,847	-82.9		09	12.3
70	30	18,602	-76.6		09	8.4
60	30	[illegible]	-71.3		09	8.9
50	30	[illegible]	-67.0		09	16.4
40	30	[illegible]	-61.5		09	22.8
30	30	23,778	-52.6		09	9.1
25	26	24,965	-50.3		26	3.4
20	27	26,435	-47.0		26	11.0
15	27	28,348	-44.7		27	14.3
10	24	31,079	-41.4		27	11.8
7	15	33,526	-37.7		27	9.8

PORTLAND, MAINE — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	20	-6.7	-12.5	29	2.5
1000	31	137			32	2.7
950	31	541	-5.5	-11.0	30	3.1
900	31	963	-6.3	-12.6	29	3.7
850	31	1,410	-7.4	-13.5	29	4.6
800	31	1,881	-8.6	-15.9	28	6.4
750	31	2,378	-10.8	-18.8	28	8.2
700	31	2,908	-12.9	-20.9	28	10.1
650	31	3,466	-15.6	-23.1	27	12.2
600	31	4,071	-18.9	-27.1	27	14.6
550	31	4,706	-22.6	-31.7	27	16.3
500	31	5,407	-27.2	-35.4	26	18.1
450	31	6,150	-32.3	-39.5	26	20.3
400	31	6,980	-38.0	-43.0	26	22.7
350	31	7,888	-43.5	-46.0	26	25.0
300	31	8,913	-48.5		27	27.1
250	31	10,099	-53.1		28	27.8
200	30	11,536	-55.7		28	24.6
175	30	12,388	-54.9		27	22.6
150	30	13,375	-54.5		27	19.8
125	30	14,539	-55.8		27	19.0
100	28	15,941	-58.1		27	18.0
80	28	17,398	-60.0		28	14.1
70	28	18,191	-60.3		27	12.4
60	28	19,149	-61.2		28	10.9
50	28	20,280	-61.7		28	9.1
40	27	21,653	-62.1		28	8.4
30	27	23,476	-60.9		28	8.5
25	27	24,573	-59.8		28	9.6
20	26	25,965	-58.5		28	11.6
15	21	27,792	-56.0		28	17.6
10	20	30,465	-49.4		27	28.4
7	16	32,763	-44.2		27	43.7
5	13	35,037	-36.9			

* QUILLAYUTE, WASH. — 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	58	-1.1	-2.4	06	1.1
1000	31	71			11	.6
950	31	479	-1.7	-4.3	18	3.7
900	31	909	-3.8	-6.1	21	5.5
850	31	1,359	-6.6	-9.4	23	7.0
800	31	1,830	-9.3	-13.5	24	8.3
750	31	2,325	-12.4	-17.8	25	8.9
700	31	2,851	-15.8	-21.2	25	9.8
650	31	3,404	-19.2	-24.5	26	11.2
600	31	3,997	-22.9	-28.6	26	13.7
550	31	4,627	-26.8	-33.7	26	16.5
500	31	5,313	-30.6	-37.5	26	21.1
450	31	6,055	-34.8	-40.8	26	24.7
400	31	6,870	-39.4	-42.5	26	28.4
350	31	7,773	-44.5	-40.8	26	29.4
300	31	8,795	-49.1		27	31.4
250	31	9,984	-51.9		27	27.9
200	31	11,424	-53.4		27	25.7
175	31	12,283	-53.5		27	23.8
150	31	13,275	-53.7		27	22.0
125	31	14,445	-54.3		27	19.8
100	30	15,875	-55.6		27	16.4
80	29	17,285	-57.0		27	14.1
70	28	18,128	-58.2		28	12.1
60	27	19,096	-58.5		28	11.6
50	27	20,240	-59.4		28	9.8
40	26	21,633	-60.6		29	6.8
30	24	23,409	-61.2		29	6.0
25	23	24,537	-61.7		30	6.8
20	20	25,921	-61.7		29	7.5
15	17	27,711	-61.1		29	7.8
10	11	30,281	-57.7		28	13.8
7	5	32,601	-55.2			

RAPID CITY, S. DAK. — 901 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	966	-11.8	-16.6	03	1.4
1000	30	163				
950	30	561				
900	30	977			03	.9
850	30	1,417	-7.9	-11.9	28	3.4
800	30	1,892	-5.3	-11.2	27	7.1
750	30	2,396	-6.1	-12.5	28	10.4
700	30	2,937	-8.6	-15.2	29	12.6
650	30	3,503	-12.3	-18.7	28	14.4
600	30	4,115	-16.2	-22.3	28	16.1
550	30	4,761	-20.4	-26.9	28	18.5
500	30	5,465	-24.8	-31.4	29	20.4
450	30	6,216	-30.4	-36.0	28	22.4
400	30	7,051	-36.3	-39.5	28	25.0
350	30	7,965	-42.9	-42.0	28	27.0
300	30	8,969	-49.9		28	30.3
250	30	10,163	-56.4		28	30.8
200	30	11,570	-57.8		28	29.2
175	30	12,415	-56.3		28	27.3
150	30	13,396	-55.4		28	25.0
125	29	14,557	-56.2		28	21.7
100	29	15,969	-57.9		27	17.6
80	27	17,372	-59.3		27	16.8
70	27	18,206	-60.8		28	13.8
60	27	19,161	-62.1		28	10.1
50	27	20,288	-62.3		28	7.3
40	26	21,665	-62.7		29	6.9
30	23	23,435	-62.6		29	6.4
25	23	24,564	-62.0		29	7.5
20	19	25,946	-60.7		28	8.4
15	15	27,756	-58.7		27	11.7
10	7	30,326	-53.1			

ST CLOUD, MINN. — 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	316	-16.2	-19.9	29	1.1
1000	31	162				
950	31	552	-14.1	-16.8	32	1.3
900	31	982	-11.2	-14.0	29	2.9
850	31	1,402	-10.5	-15.0	29	4.7
800	31	1,869	-9.8	-15.4	29	5.7
750	31	2,366	-10.3	-17.8	29	8.7
700	31	2,897	-12.6	-20.5	29	11.4
650	31	3,455	-15.2	-23.7	29	14.0
600	31	4,062	-18.6	-27.8	29	16.1
550	31	4,699	-22.7	-31.7	29	17.1
500	31	5,399	-27.4	-35.6	29	18.9
450	31	6,145	-32.4	-39.3	29	[illegible]
400	31	6,971	-38.1	-42.6	29	23.7
350	31	7,877	-44.5		28	25.9
300	31	8,897	-50.2		28	[illegible]
250	31	10,073	-55.2		28	[illegible]
200	31	11,492	-55.8		28	27.9
175	31	12,345	-54.5		28	[illegible]
150	31	13,334	-53.9		28	23.6
125	31	14,504	-54.6		28	20.7
100	31	15,927	-56.2		28	17.9
80	31	17,337	-58.3		28	[illegible]
70	31	18,174	-59.6		28	11.9
60	31	19,135	-60.9		28	[illegible]
50	31	[illegible]	[illegible]		28	[illegible]
40	28	21,642	-62.0		29	[illegible]
30	26	23,423	-62.6		30	6.1
25	26	24,548	-61.8		30	[illegible]
20	[illegible]	25,935	[illegible]		29	[illegible]
15	[illegible]	27,736	-58.3		29	9.4

* ST PAUL IS., ALASKA — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	10	-.1	-2.1	20	4.5
1000	31	107			19	3.9
950	31	516	-2.9	-5.2	[illegible]	7.3
900	31	943	-4.8	-9.3	[illegible]	[illegible]
850	31	1,393	-6.0	-13.0	[illegible]	9.7
800	31	1,865	-8.1	-17.2	[illegible]	[illegible]
750	31	2,368	-10.6	-20.6	[illegible]	[illegible]
700	31	2,893	-13.6	-24.5	[illegible]	10.4
650	31	3,453	-16.0	-26.2	[illegible]	11.2
600	31	4,051	-20.4	-29.7	[illegible]	10.9
550	31	4,687	-24.4	-33.7	[illegible]	12.1
500	31	5,379	-29.2	-38.1	[illegible]	13.4
450	31	6,129	-34.0	-41.0	[illegible]	13.6
400	30	6,950	-39.8	-43.4	[illegible]	12.6
350	30	[illegible]	-45.9		[illegible]	14.2
300	30	8,862	-52.2		[illegible]	14.0
250	30	[illegible]	-57.7		23	12.5
200	30	11,429	-58.0		[illegible]	13.0
175	29	12,282	-55.3		23	[illegible]
150	29	13,268	-54.0		23	10.0
125	29	14,439	-53.9		23	[illegible]
100	29	15,872	-54.3		22	[illegible]
80	29	17,301	-55.0		[illegible]	[illegible]
70	29	[illegible]	-55.2		[illegible]	[illegible]
60	[illegible]	19,132	-55.6		[illegible]	[illegible]
50	28	[illegible]	-56.2		[illegible]	[illegible]
40	28	21,708	-56.8		[illegible]	[illegible]
30	[illegible]	23,528	-57.4		[illegible]	2.1
25	29	24,679	-57.6		[illegible]	1.6
20	28	26,087	-57.4		07	.9
15	26	27,909	[illegible]		[illegible]	3.6
10	[illegible]	30,475	-56.8		[illegible]	5.7
7	17	[illegible]	[illegible]		[illegible]	[illegible]

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALEM, OREG. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	61	-.1	-1.1	20	2.5
1000	31	97			21	4.3
950	31	507	-.1	-1.4	21	6.2
900	31	940	-1.9	-3.6	24	7.8
850	31	1,393	-4.2	-5.9	24	10.6
800	31	1,869	-7.0	-9.4	25	12.1
750	31	2,386	-9.4	-14.5	25	12.9
700	31	2,921	-11.9	-20.0	25	16.1
650	31	3,445	-14.8	-23.1	25	19.3
600	31	4,066	-18.2	-25.7	26	21.7
550	31	4,725	-22.3	-29.8	26	23.9
500	31	5,425	-26.5	-34.7	26	26.5
450	31	6,153	-31.4	-37.2	26	29.5
400	31	6,944	-36.7	-41.3	26	33.2
350	31	7,897	-42.4	-47.2	26	35.9
300	31	8,925	-48.5		27	36.4
250	31	10,129	-53.7		27	33.5
200	31	11,538	-54.9		27	27.9
175	31	12,390	-55.4		27	26.3
150	31	13,371	-56.2		27	22.7
125	31	14,520	-57.1		27	21.7
100	31	15,937	-57.6		27	20.0
80	31	17,343	-58.5		27	14.6
70	31	18,180	-59.3		27	12.5
60	30	19,139	-60.1		27	11.5
50	29	20,271	-61.0		27	9.2
40	29	21,647	-61.6		28	5.6
30	29	23,441	-62.0		28	5.4
25	26	24,569	-61.8		29	6.0
20	24	25,957	-61.7		28	7.2
15	17	27,756	-59.0		28	8.9
10						
7						
5						

SALT LAKE CITY, UTAH 870 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,288	-1.2	-6.1	17	2.4
1000	31	147				
950	31	583				
900	31	1,002				
850	31	1,487	.6	-6.2	17	4.7
800	31	1,944	-.2	-8.0	19	7.6
750	31	2,457	-3.3	-10.4	22	7.6
700	31	3,000	-6.6	-13.7	26	9.5
650	31	3,572	-10.4	-16.3	27	12.8
600	31	4,188	-14.0	-19.4	27	14.9
550	31	4,841	-18.2	-23.0	27	17.3
500	31	5,546	-22.8	-28.0	27	21.4
450	31	6,308	-27.8	-32.8	27	24.1
400	31	7,150	-33.5	-38.7	27	27.4
350	31	8,074	-40.3	-43.0	27	31.8
300	31	9,109	-47.7		29	34.9
250	31	10,292	-55.0		28	38.1
200	31	11,704	-56.2		28	37.8
175	31	12,544	-58.7		28	35.1
150	31	13,514	-58.1		28	29.0
125	31	14,640	-59.1		28	27.6
100	31	16,083	-60.9		29	23.5
80	30	17,431	-62.1		27	18.3
70	30	18,257	-62.4		27	14.6
60	29	19,206	-63.0		27	10.5
50	29	20,326	-63.1		28	7.6
40	28	21,700	-63.9		28	6.4
30	27	23,468	-62.4		29	6.5
25	26	24,594	-61.4		29	6.9
20	24	25,980	-59.9		29	8.7
15	19	27,771	-57.9		27	14.6
10	8	30,465	-50.3			
7						
5						

SAN DIEGO, CALIF. 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	124	10.6	8.0	09	.6
1000	31	131			06	.7
950	31	562	12.2	5.3	18	1.9
900	31	1,015	10.6	.8	22	2.8
850	31	1,490	9.0	-2.5	25	4.2
800	31	1,990	6.7	-5.5	27	5.9
750	31	2,517	3.9	-9.6	27	8.0
700	31	3,077	1.1	-13.6	27	10.1
650	31	3,648	-2.1	-16.5	27	12.9
600	31	4,302	-5.6	-19.5	27	14.2
550	31	4,975	-9.9	-23.5	27	16.9
500	31	5,710	-15.1	-27.5	27	18.6
450	31	6,495	-20.4	-32.4	27	20.8
400	31	7,362	-26.7	-38.4	27	23.1
350	31	8,311	-34.0	-43.0	27	26.3
300	31	9,373	-42.0	-48.4	27	27.7
250	31	10,584	-50.6		27	32.2
200	30	12,017	-58.7		28	37.0
175	30	12,850	-61.1		28	35.1
150	30	13,806	-61.7		28	32.6
125	30	14,928	-64.4		27	29.3
100	30	16,283	-67.6		27	24.0
80	29	17,620	-68.6		27	17.7
70	29	18,421	-67.8		28	14.4
60	29	19,349	-67.5		28	11.6
50	28	20,452	-66.0		29	9.3
40	26	21,810	-63.9		29	8.2
30	25	23,590	-60.5		28	8.2
25	22	24,732	-58.2		27	10.4
20	21	26,149	-55.6		26	14.1
15	18	28,007	-51.5		27	18.1
10	13	30,661	-45.6			
7						
5						

SAN JUAN, P. R. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	6	21.7	18.2	07	1.8
1000	27	129	22.3	17.8	08	4.1
950	27	573	19.4	15.2	07	6.1
900	27	1,038	16.1	12.0	08	5.8
850	27	1,522	13.3	7.6	08	4.8
800	27	2,030	10.7	3.0	07	4.4
750	27	2,569	8.6	-4.1	05	3.2
700	27	3,135	6.8	-10.0	07	1.4
650	27	3,739	4.2	-15.5	32	2.1
600	27	4,387	1.0	-19.7	29	3.1
550	27	5,074	-3.3	-23.1	28	4.7
500	27	5,827	-8.5	-27.6	28	6.3
450	27	6,630	-13.9	-33.0	27	9.2
400	27	7,522	-19.4	-37.7	26	11.9
350	27	8,500	-26.5	-42.8	26	15.7
300	27	9,595	-34.6	-49.1	25	20.5
250	27	10,842	-44.2		25	24.6
200	27	12,302	-54.7		25	29.8
175	27	13,146	-59.8		25	29.6
150	26	14,096	-65.0		25	24.8
125	25	15,197	-70.5		27	20.6
100	25	16,504	-75.7		27	15.2
80	24	17,762	-77.9		27	7.6
70	24	18,547	-76.4		29	3.4
60	24	19,445	-70.8		36	1.1
50	24	20,543	-64.5		04	.5
40	24	21,922	-60.3		07	1.7
30	23	23,730	-56.4		06	4.9
25	23	24,897	-52.9		06	6.0
20	23	26,351	-48.7		08	3.3
15	20	28,257	-45.5		07	.2
10	16	30,962	-43.2			
7	6	33,284	-39.6			
5						

SAN NICOLAS, CALIF. 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	174	11.8	7.4	28	1.8
1000	29	130				
950	29	562	12.6	3.2	27	2.8
900	29	1,014	11.1	-1.5	27	3.9
850	29	1,490	9.1	-4.5	27	5.1
800	29	1,990	6.4	-6.4	28	6.5
750	29	2,516	3.5	-11.6	28	7.7
700	29	3,073	.7	-14.7	28	9.2
650	29	3,664	-2.5	-18.1	27	11.3
600	29	4,295	-6.4	-20.7	27	13.3
550	29	4,970	-11.0	-25.5	27	15.9
500	29	5,695	-16.1	-29.5	27	17.9
450	29	6,480	-21.6	-31.8	27	20.0
400	29	7,338	-27.7	-38.2	27	23.1
350	29	8,283	-35.1	-45.5	27	25.3
300	29	9,340	-43.3	-53.7	27	28.3
250	29	10,542	-52.3	-62.5	27	32.7
200	29	11,959	-59.9	-69.8	28	32.2
175	29	12,790	-61.5		28	30.5
150	29	13,745	-62.0		28	25.7
125	29	14,867	-64.2		28	23.3
100	29	16,222	-67.2		28	19.9
80	27	17,573	-68.4		28	17.5
70	27	18,374	-68.0		28	11.0
60	27	19,302	-67.4		29	9.2
50	26	20,405	-66.3		29	9.2
40	25	21,763	-64.1		29	6.3
30	24	23,540	-60.0		28	8.2
25	24	24,682	-58.5		28	8.8
20	23	26,096	-55.1		27	12.9
15	23	27,948	-51.5		27	21.0
10	19	30,635	-44.5		27	23.5
7	14	33,049	-39.3		26	34.3
5	7	35,392	-35.4			

• SAULT STE MARIE, MICH. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	221	-9.7	-12.4	07	1.3
1000	31	136				
950	31	535	-9.2	-11.2	26	.6
900	31	980	-9.8	-11.9	26	3.5
850	31	1,391	-10.3	-14.7	26	5.2
800	31	[illegible]	-11.2	-16.2	27	6.7
750	31	2,354	-12.9	-17.9	27	7.4
700	31	2,677	-14.8	-19.8	28	8.8
650	31	3,436	-17.0	-23.1	28	10.0
600	31	4,033	-20.4	-26.2	28	10.7
550	31	4,668	-24.3	-31.1	28	11.7
500	31	5,361	-28.6	-35.7	28	13.3
450	31	6,104	-33.5	-40.6	28	15.0
400	31	6,927	-38.9	-43.6	28	17.5
350	31	7,832	-44.4		28	19.7
300	31	8,851	-50.0		28	22.7
250	31	10,031	-54.0		28	24.3
200	31	11,457	-55.1		27	21.3
175	31	12,312	-53.9		27	20.5
150	31	13,304	-53.4		27	18.7
125	31	14,477	-53.9		27	16.7
100	31	15,904	-56.0		28	15.5
80	31	17,315	-58.4		28	13.0
70	31	18,152	-59.7		28	11.0
60	31	19,114	-60.5		29	10.0
50	31	20,247	-61.3		29	8.8
40	31	21,630	-61.9		29	7.8
30	30	23,401	-62.2		29	8.4
25	30	24,529	-61.6		29	8.9
20	30	25,915	-60.3		28	10.2
15	29	27,723	-58.2		28	12.7
10	27	30,307	-53.6		27	20.6
7	23	32,647	-46.7		27	31.2
5						

• SHEMYA, ALASKA 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	36	.1	-3.3	22	6.7
1000	29	17				
950	29	422	-2.7	-7.0	23	7.8
900	29	852	-5.6	-9.3	23	8.8
850	29	1,298	-8.2	-13.6	22	9.8
800	28	1,767	-11.2	-18.3	22	10.2
750	28	2,253	-14.3	-22.0	21	10.6
700	27	2,776	-18.1	-26.3	21	12.1
650	27	3,321	-21.8	-29.9	21	14.0
600	26	3,904	-26.1	-34.8	21	15.9
550	26	4,525	-30.5	-36.4	20	16.1
500	26	5,201	-34.8	-39.1	20	17.2
450	26	5,927	-39.4	-39.2	20	16.1
400	26	6,729	-44.1	-44.0	21	16.3
350	26	7,615	-48.4		21	15.1
300	26	8,622	-51.1		20	17.1
250	26	9,802	-52.8		21	18.4
200	25	11,222	-52.5		21	16.1
175	25	12,086	-51.9		21	16.5
150	25	13,085	-51.2		21	15.0
125	25	14,269	-51.4		21	13.8
100	25	15,717	-51.5		20	12.2
80	25	17,163	-52.2		21	9.7
70	25	18,026	-52.6		20	8.4
60	25	19,020	-53.4		20	7.7
50	25	20,194	-53.4		21	5.8
40	25	21,627	-54.4		22	3.2
30	25	23,464	-55.6		22	3.1
25	25	24,625	-56.0		24	1.6
20	25	26,044	-55.8		34	1.3
15	23	27,894	-54.6		03	3.4
10	22	30,501	-52.9		03	5.8
7	18	32,827	-51.3		03	11.4
5	11	35,149	-46.8			

• SHREVEPORT, LA. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	79	6.8	2.9	12	1.8
1000	31	153	6.2	1.1	17	2.5
950	31	580	7.4	.3	19	5.4
900	31	1,022	7.6	-1.1	23	6.4
850	31	1,494	6.7	-2.1	24	7.3
800	31	1,991	5.3	-5.5	26	8.3
750	31	2,518	3.2	-8.5	26	9.4
700	31	3,074	.1	-12.7	26	10.8
650	31	3,665	-2.9	-16.2	27	12.8
600	31	4,296	-6.6	-20.9	27	14.0
550	31	4,968	-10.6	-23.3	27	16.7
500	31	5,700	-15.3	-27.5	27	18.5
450	31	6,486	-20.9	-32.7	27	21.7
400	31	7,349	-27.4	-37.8	28	23.1
350	31	8,297	-34.5	-43.5	28	25.4
300	31	9,356	-42.6	-47.7	28	28.8
250	31	10,563	-51.6		27	31.2
200	31	11,985	-59.3		27	33.2
175	30	12,817	-61.6		27	36.0
150	30	13,771	-61.4		28	34.6
125	30	14,899	-63.1		27	28.3
100	30	16,261	-66.6		27	24.3
80	29	17,603	-68.5		27	18.1
70	27	18,401	-68.4		27	14.5
60	25	19,331	-66.5		26	14.0
50	22	20,435	-65.1		27	12.8
40	20	21,806	-62.0		27	9.6
30	20	23,597	-59.1		27	14.2
25	20	24,746	-56.9		27	16.1
20	20	26,170	-53.9		27	21.3
15	19	28,039	-50.0		27	22.9
10	16	30,718	-43.2		27	26.9
7	13	33,180	-37.2		26	27.1
5						

SPOKANE, WASH. 925 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	720	-8.8	-11.5	17	.6
1000	31	110				
950	31	508				
900	31	931	-7.5	-9.0	20	2.8
850	31	1,377	-7.3	-9.1	22	6.7
800	31	1,848	-8.9	-12.1	24	9.5
750	31	2,345	-11.5	-15.2	24	11.5
700	31	2,873	-14.3	-18.6	25	13.8
650	31	3,426	-17.5	-22.4	25	16.2
600	31	4,027	-21.5	-27.0	25	18.5
550	31	4,659	-25.3	-31.6	25	21.3
500	31	5,349	-29.7	-35.9	26	24.2
450	31	6,091	-34.3	-38.3	26	29.5
400	31	6,910	-39.1	-40.6	26	32.1
350	31	7,815	-44.8	-41.0	26	34.5
300	31	8,832	-50.2		26	36.7
250	31	10,012	-54.0		27	37.5
200	31	11,443	-54.1		27	31.6
175	29	12,290	-52.9		27	28.0
150	29	13,285	-53.2		27	23.6
125	29	14,455	-54.5		27	21.6
100	28	15,873	-55.0		27	18.2
80	26	17,288	-56.7		26	15.6
70	26	18,129	-57.5		26	13.7
60	26	19,100	-58.5		26	13.2
50	26	20,243	-59.7		27	11.0
40	24	21,629	-61.1		27	8.4
30	21	23,404	-61.4		28	7.0
25	21	24,534	-61.9		28	7.4
20	19	25,906	-62.0		29	7.2
15	17	27,696	-61.0		28	8.8
10	8	30,230	-58.6			
7						
5						

• SWAN ISLAND, W. I. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	10	24.8	20.8	07	3.0
1000	31	114	24.0	20.2	07	4.3
950	31	557	20.6	17.9	08	5.8
900	31	1,027	17.3	14.3	09	5.1
850	31	1,514	14.7	10.0	09	4.2
800	31	2,026	12.3	5.4	09	3.2
750	31	2,541	9.8	.8	11	2.4
700	31	3,136	6.8	-3.6	12	1.4
650	31	3,739	4.3	-11.0	14	.9
600	31	4,390	.6	-16.4	31	1.1
550	31	5,075	-3.6	-21.2	29	2.4
500	31	5,829	-8.7	-24.1	28	4.4
450	31	6,635	-14.4	-28.9	28	6.3
400	31	7,520	-20.8	-34.4	27	7.8
350	31	8,494	-27.7	-41.0	25	10.9
300	31	9,582	-36.1	-48.7	25	13.0
250	31	10,821	-45.9		25	15.9
200	31	12,268	-56.5		25	18.4
175	31	13,106	-61.2		25	19.6
150	31	14,053	-65.3		26	19.0
125	31	15,149	-70.2		26	16.1
100	31	16,458	-75.2		25	12.5
80	31	17,741	-78.1		26	5.9
70	31	18,504	-77.0		27	1.9
60	31	19,403	-71.0		09	.8
50	31	20,500	-64.7		10	2.1
40	30	21,878	-60.1		08	3.5
30	30	23,694	-55.6		08	5.4
25	29	24,861	-52.9		08	5.7
20	29	26,310	-49.5		05	2.9
15	28	28,213	-46.1		29	2.5
10	25	30,922	-43.8		27	4.4
7	22	33,334	-41.0		26	5.9
5	7	35,648	-35.2			

TAMPA, FLA. 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	11.3	9.2	07	2.3
1000	31	161	13.0	9.6	08	4.3
950	31	597	13.4	8.1	11	3.4
900	31	1,049	11.6	3.8	17	1.0
850	31	1,525	9.4	-.2	24	1.8
800	31	2,027	7.7	-4.5	27	3.2
750	31	2,557	5.3	-6.3	26	4.2
700	31	3,119	2.4	-10.1	27	6.1
650	31	3,712	-.9	-14.0	27	7.8
600	31	4,350	-4.1	-18.9	27	10.6
550	31	5,025	-8.3	-21.7	26	13.2
500	31	5,766	-13.2	-25.6	26	15.7
450	31	6,556	-18.8	-31.2	27	18.1
400	31	7,429	-24.9	-35.6	26	19.8
350	31	8,386	-32.1	-41.6	26	22.4
300	31	9,455	-40.4	-48.0	27	25.1
250	31	10,673	-49.4		27	28.6
200	31	12,105	-58.6		27	32.2
175	31	12,935	-61.8		27	33.5
150	31	13,888	-62.6		27	30.4
125	31	15,005	-65.4		27	28.5
100	31	16,349	-69.7		27	23.9
80	31	17,671	-71.2		26	18.5
70	31	18,442	-70.5		26	16.4
60	29	19,381	-68.7		27	13.4
50	29	20,482	-65.0		27	11.4
40	27	21,856	-60.4		28	13.0
30	26	23,670	-55.5		27	16.4
25	26	24,837	-53.8		28	16.0
20	24	26,277	-51.0		28	15.8
15	19	28,175	-47.0		27	12.9
10	17	30,891	-42.9		28	13.2
7	6	33,234	-36.4			
5						

TOPEKA, KANS. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	268	-5.7	-9.3	02	1.2
1000	31	161				
950	31	542	-5.8	-10.0	14	.2
900	31	989	-3.1	-8.8	24	2.6
850	31	1,444	-1.0	-9.1	26	5.2
800	31	1,928	-1.6	-10.9	27	7.6
750	31	2,440	-3.0	-13.2	27	10.7
700	31	2,986	-5.5	-16.5	27	11.6
650	31	3,559	-8.7	-19.5	27	14.5
600	31	4,181	-12.4	-24.1	27	16.8
550	31	4,836	-16.3	-28.5	27	19.6
500	31	5,553	-20.9	-32.5	27	21.9
450	31	6,321	-26.4	-36.3	28	22.7
400	31	7,166	-32.1	-42.7	28	25.6
350	31	8,096	-38.7	-47.2	27	28.9
300	31	9,137	-46.6		27	30.6
250	31	10,324	-54.9		28	31.9
200	30	11,726	-59.6		28	32.0
175	30	12,561	-59.5		29	32.1
150	29	13,527	-58.6		28	27.1
125	29	14,670	-59.2		29	22.2
100	28	16,086	-61.4		28	18.6
80	27	17,434	-63.9		28	15.7
70	27	18,252	-64.0		29	12.1
60	27	19,195	-64.2		28	9.9
50	23	20,311	-64.1		28	8.3
40	20	21,681	-62.8		29	7.0
30	19	23,472	-61.0		28	7.6
25	16	24,619	-60.1		28	9.5
20	13	26,010	-58.7		28	13.2
15	10	27,825	-55.0			
10	5	30,531	-43.2			
7						
5						

• TRUK, CAROLINE IS. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	2	28.2	23.2	04	5.2
1000	31	84	27.2	21.3	05	6.6
950	31	532	23.1	17.5	06	9.2
900	31	1,008	20.0	13.3	06	9.1
850	31	1,500	17.1	9.6	06	7.5
800	31	2,017	15.1	4.8	07	5.3
750	31	2,565	13.5	-2.8	07	4.5
700	31	3,141	11.3	-8.6	07	5.5
650	31	3,757	8.1	-13.6	08	6.9
600	31	4,412	4.0	-16.4	08	8.9
550	31	5,109	-.1	-20.4	08	10.4
500	31	5,872	-4.7	-24.9	07	11.1
450	31	6,690	-9.3	-28.8	08	11.3
400	31	7,597	-14.9	-34.2	08	9.1
350	31	8,594	-21.4	-39.8	07	7.1
300	31	9,713	-29.7	-46.3	08	4.3
250	31	10,986	-40.0	-54.2	12	4.4
200	31	12,470	-52.3		13	6.7
175	31	13,370	-59.4		14	8.6
150	31	14,268	-67.1		12	8.5
125	31	15,346	-75.2		10	9.4
100	31	16,616	-82.4		09	9.7
80	31	17,857	-81.9		09	9.1
70	31	18,617	-76.2		09	8.2
60	31	19,519	-71.0		09	9.4
50	31	20,611	-66.3		09	16.4
40	31	21,983	-60.3		09	22.8
30	28	23,812	-52.5		10	9.8
25	27	24,999	-49.2		25	4.1
20	23	26,467	-47.3		27	12.6
15	19	28,388	-44.3		27	15.2
10	15	31,112	-42.3		27	15.2
7	11	33,534	-37.2			
5						

• TUCSON, ARIZ. 925 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	789	8.5	1.1	14	2.8
1000	31	137				
950	31	564				
900	31	1,016	12.2	.1	17	3.0
850	31	1,494	10.4	-2.9	21	3.0
800	31	1,996	7.4	-5.9	23	4.3
750	31	2,521	4.3	-11.2	25	5.6
700	31	3,083	1.5	-14.3	26	7.3
650	31	3,673	-1.8	-18.0	27	9.6
600	31	4,310	-5.3	-20.9	27	12.8
550	31	4,979	-9.3	-23.8	28	15.5
500	31	5,720	-14.4	-28.6	28	17.1
450	31	6,505	-19.7	-33.1	28	20.1
400	31	7,375	-26.4	-37.9	28	22.2
350	31	8,327	-33.6	-44.0	28	24.8
300	31	9,391	-41.5	-48.7	28	28.5
250	31	10,605	-50.4		28	34.7
200	30	12,034	-58.6		28	35.6
175	30	12,869	-60.6		28	34.2
150	30	13,824	-62.0		28	32.2
125	30	14,946	-64.5		28	29.8
100	30	16,301	-67.0		28	24.1
80	30	17,637	-70.0		27	18.0
70	28	18,430	-69.5		28	15.2
60	26	19,352	-68.9		28	12.9
50	25	20,444	-66.0		28	10.4
40	24	21,802	-64.4		28	9.5
30	22	23,580	-60.0		28	11.4
25	22	24,725	-57.7		28	13.3
20	21	26,141	-54.8		27	15.9
15	16	28,005	-51.3		27	20.9
10	13	30,690	-45.3		27	24.2
7	5	33,072	-38.3			
5						

• VANDENBERG AFB, CALIF. 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	100	9.0	7.3	16	2.6
1000	30	127			11	1.0
950	30	556	12.1	4.3	19	2.3
900	30	1,009	10.5	-.6	24	3.4
850	30	1,483	8.5	-4.3	26	5.3
800	30	1,982	5.7	-7.0	26	6.8
750	30	2,503	3.0	-12.3	26	8.8
700	30	3,063	-.3	-14.4	26	10.5
650	30	3,649	-3.7	-18.0	26	12.3
600	30	4,280	-7.5	-22.4	27	14.3
550	30	4,948	-12.0	-27.2	27	15.9
500	30	5,675	-16.9	-31.4	27	17.4
450	30	6,452	-22.4	-34.8	27	19.4
400	30	7,313	-28.8	-40.4	27	22.5
350	30	8,254	-36.0	-44.9	27	26.7
300	29	9,296	-44.2	-50.2	27	28.5
250	29	10,496	-52.2		27	32.7
200	29	11,914	-59.5		28	31.8
175	28	12,746	-61.6		28	30.2
150	27	13,704	-60.8		28	27.0
125	25	14,842	-63.5		28	23.9
100	25	16,206	-65.2		27	20.7
80	25	17,559	-67.0		28	16.3
70	25	18,363	-67.6		28	13.2
60	25	19,290	-67.7		28	11.1
50	23	20,394	-66.0		28	10.2
40	22	21,750	-65.2		29	7.7
30	22	23,516	-62.4		27	9.1
25	21	24,650	-60.6		27	10.6
20	21	26,048	-57.8		27	14.1
15	19	27,877	-54.6		27	16.0
10	17	30,513	-49.1		26	25.4
7	12	32,868	-43.3			
5	6	35,167	-38.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

VICTORIA, TEXAS — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	33	10.5	7.6	04	1.3
1000	31	143	11.3	7.5	09	1.7
950	31	572	11.6	6.1	17	3.8
900	31	1,026	10.9	3.9	21	5.0
850	31	1,502	9.3	.3	22	4.9
800	31	2,004	7.7	-4.3	24	5.0
750	31	2,531	5.7	-9.6	25	6.3
700	31	3,097	3.2	-13.6	27	7.5
650	31	3,690	-.3	-17.0	27	9.5
600	31	4,330	-4.4	-20.5	27	10.8
550	31	5,006	-9.0	-23.1	28	12.2
500	31	5,742	-13.8	-27.6	28	14.7
450	31	6,529	-19.5	-32.6	28	16.5
400	31	7,401	-25.8	-38.8	28	18.7
350	31	8,355	-32.9	-44.1	28	21.1
300	31	9,472	-41.2	-48.6	28	24.1
250	31	10,638	-49.9		29	28.2
200	31	12,068	-58.5		28	30.0
175	31	12,901	-61.6		28	30.2
150	31	13,853	-63.3		27	28.3
125	31	14,968	-65.9		28	27.2
100	29	16,314	-69.2		27	21.1
80	29	17,637	-71.8		28	15.3
70	29	18,427	-71.3		27	12.8
60	28	19,340	-70.2		27	11.0
50	28	20,433	-66.9		27	11.5
40	28	21,796	-62.4		27	13.3
30	28	23,593	-58.0		27	15.2
25	28	24,768	-56.2		27	18.0
20	28	26,172	-53.8		27	18.5
15	25	28,033	-50.7		27	19.0
10	18	30,707	-45.3		27	19.5
7	7	33,104	-41.2			
5						

* WAKE IS., PACIFIC AREA — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	24.3	19.7	07	5.5
1000	31	129	23.3	17.7	07	6.6
950	31	570	19.2	15.5	07	7.8
900	31	1,025	15.5	12.6	08	7.8
850	31	1,521	12.9	6.6	07	7.0
800	31	2,079	11.6	-1.4	07	5.9
750	31	2,569	10.7	-6.1	05	4.2
700	31	3,141	8.6	-12.8	02	3.8
650	31	3,747	5.7	-16.1	34	4.1
600	31	4,401	2.3	-19.6	33	6.6
550	31	5,095	-1.8	-23.5	33	8.2
500	31	5,851	-6.5	-27.4	31	10.7
450	31	6,663	-11.8	-31.7	31	13.0
400	31	7,558	-17.8	-35.9	31	15.5
350	31	8,544	-24.1	-41.1	30	17.4
300	31	9,651	-31.8	-47.6	29	18.6
250	31	10,914	-41.5	-54.2	29	20.3
200	31	12,390	-52.7		28	21.8
175	31	13,239	-59.3		28	21.8
150	31	14,188	-66.3		28	20.8
125	30	15,274	-73.2		28	17.9
100	30	16,585	-80.6		28	12.3
80	28	17,811	-80.5		29	5.4
70	27	18,569	-77.7		33	1.4
60	27	19,464	-71.5		08	7.5
50	26	20,589	-64.9		08	3.0
40	24	21,934	-60.9		07	3.0
30	24	23,735	-58.3		05	2.4
25	24	24,888	-56.3		02	2.1
20	24	26,317	-52.5		30	3.7
15	24	28,196	-48.4		28	9.7
10	23	30,892	-44.2		27	17.2
7	16	33,297	-35.2		27	20.3
5	9	35,650	-36.3			

* WALLOPS IS., VA. NASA — 1020 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	-.7	-4.8	34	2.9
1000	31	163	.3	-5.4	33	4.0
950	31	575	-.3	-7.7	31	5.7
900	31	1,007	-1.1	-9.8	29	6.8
850	31	1,462	-2.0	-10.7	29	8.2
800	31	1,944	-3.4	-13.0	28	10.5
750	31	2,452	-5.4	-15.7	28	12.2
700	31	2,993	-7.7	-18.6	28	14.2
650	31	3,564	-10.6	-20.6	27	16.2
600	31	4,179	-14.0	-24.5	27	17.6
550	31	4,831	-17.8	-28.4	27	20.4
500	31	5,543	-22.1	-32.1	27	23.8
450	31	6,306	-27.3	-36.6	27	25.3
400	31	7,149	-32.8	-40.0	27	26.3
350	31	8,077	-39.1	-44.7	27	27.8
300	31	9,119	-45.9		27	31.4
250	31	10,316	-52.2		28	27.8
200	31	11,740	-57.5		28	31.6
175	31	12,583	-57.4		29	30.5
150	31	13,557	-57.8		27	27.3
125	31	14,703	-59.1		28	24.7
100	30	16,096	-61.4		28	20.7
80	30	17,472	-63.2		27	17.0
70	30	18,291	-63.6		28	14.8
60	30	19,237	-63.5		28	12.4
50	30	20,356	-62.9		28	11.3
40	30	21,772	-61.8		27	10.1
30	30	23,521	-59.7		28	10.7
25	30	24,684	-58.1		28	12.8
20	29	26,078	-55.3		28	17.0
15	28	27,936	-51.5		28	21.4
10	21	30,602	-44.7		27	29.6
7	10	33,046	-37.0			
5						

WASHINGTON-DULLES INT. AP — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	65	-3.9	-8.3	31	2.4
1000	31	177	-3.3	-9.3	31	3.3
950	31	587	-4.0	-10.4	30	5.7
900	31	1,010	-3.9	-11.2	28	7.4
850	31	1,461	-4.5	-13.4	29	9.7
800	31	1,938	-5.1	-15.2	28	11.3
750	31	2,448	-6.7	-17.4	28	11.9
700	31	2,982	-8.9	-19.8	28	13.9
650	31	3,556	-11.8	-22.0	28	15.3
600	31	4,162	-15.3	-26.0	28	17.7
550	31	4,815	-19.1	-29.3	27	18.8
500	31	5,519	-23.4	-33.5	27	20.9
450	31	6,284	-28.3	-37.5	27	24.2
400	31	7,119	-33.7	-40.2	27	28.3
350	31	8,043	-40.1	-44.4	27	30.6
300	31	9,081	-46.7		27	33.3
250	31	10,273	-53.0		27	34.5
200	30	11,703	-57.1		27	34.0
175	30	12,547	-57.5		27	31.7
150	30	13,521	-56.9		27	27.5
125	29	14,676	-58.3		27	23.9
100	29	16,072	-60.9		27	20.1
80	29	17,453	-62.3		27	16.0
70	29	18,275	-63.5		27	14.5
60	28	19,222	-63.2		27	12.7
50	28	20,345	-62.6		27	9.3
40	27	21,722	-62.3		27	9.8
30	24	23,505	-60.4		28	9.7
25	22	24,642	-58.7		27	11.8
20	17	26,052	-56.2		28	15.5
15	15	27,891	-52.0		27	18.0
10	10	30,538	-45.0			
7						
5						

WINNEMUCCA, NEV. — 864 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,312	-1.2	[illegible]	[illegible]	2.1
1000	31	132				
950	31	549				
900	31	987				
850	31	1,445	.7	-6.5	[illegible]	4.0
800	31	1,932	-.6	-9.1	19	8.[illegible]
750	31	2,446	-3.9	-10.6	24	10.[illegible]
700	31	2,988	-6.9	-15.2	[illegible]	13.9
650	31	3,562	-10.1	[illegible]	26	17.3
600	31	4,176	-13.7	-22.1	26	19.6
550	31	4,830	-17.6	-26.5	27	22.4
500	31	5,541	-22.[illegible]	-30.2	27	25.0
450	31	6,300	-27.1	-34.6	27	28.6
400	31	7,146	-33.4	-40.2	27	28.0
350	31	8,071	-40.1	-42.4	27	31.9
300	31	9,106	-47.5	-50.5	27	33.8
250	31	10,290	-54.8		27	33.3
200	31	11,700	-58.5		28	34.0
175	31	12,539	-58.5		28	32.4
150	31	13,508	-58.2		28	29.6
125	31	14,654	-59.3		28	24.4
100	31	16,045	-61.9		28	22.3
80	31	17,434	-62.3		28	16.4
70	29	18,256	-63.0		27	12.2
60	29	19,204	-63.4		27	12.2
50	28	20,324	-63.3		27	7.7
40	27	21,696	-63.3		27	7.9
30	23	23,471	-62.3		28	7.5
25	21	24,596	-61.5		28	7.0
20	21	25,983	-60.2			
15	15	27,794	-57.3			
10	7	30,445	-50.9			
7						
5						

WINSLOW, ARIZ. — 880 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,497	.1	-4.0	20	2.3
1000	31	169				
950	31	585				
900	31	1,025				
850	31	1,499			16	1.2
800	31	1,980	3.6	-5.0	23	5.3
750	31	2,502	1.5	-8.2	25	9.6
700	31	3,056	-1.1	-11.6	26	10.9
650	31	3,640	-4.1	-15.2	27	12.4
600	31	4,271	-7.9	-20.4	27	15.4
550	31	4,937	-12.1	-24.3	28	17.5
500	31	5,665	-17.0	-27.5	27	19.7
450	31	6,442	-22.6	-32.7	28	22.0
400	31	7,302	-28.9	-38.4	28	24.8
350	31	8,244	-35.9	-43.6	28	28.2
300	31	9,298	-43.7	-47.8	28	30.5
250	31	10,501	-52.3		28	36.7
200	31	11,917	-59.8		28	35.5
175	31	12,748	-61.3		28	34.6
150	30	13,708	-61.6		28	30.3
125	30	14,835	-63.4		28	24.8
100	30	16,197	-66.2		28	22.0
80	29	17,542	-68.1		28	17.5
70	29	18,343	-68.5		28	15.7
60	28	19,270	-67.6		29	11.9
50	28	20,371	-66.6		29	9.6
40	25	21,734	-64.8		28	8.6
30	23	23,515	-61.4		28	8.0
25	22	24,651	-59.5		27	9.3
20	22	26,056	-56.8		27	12.3
15	19	27,904	-52.6		27	18.6
10	6	30,562	-47.3			
7						
5						

YAKUTAT, ALASKA — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	12	-15.2	-19.7	09	2.5
1000	31	92	-7.3	-13.7	09	3.1
950	31	492	-7.2	-14.2	09	4.0
900	31	912	-9.4	-16.1	09	1.7
850	31	1,352	-11.9	-18.3	09	1.5
800	31	1,814	-14.2	-21.1	15	.9
750	31	2,305	-16.0	-24.3	28	.4
700	31	2,870	-18.5	-26.7	32	1.4
650	31	3,368	-21.9	-30.2	31	3.5
600	31	3,954	-25.7	-33.9	33	4.6
550	31	4,579	-29.7	-37.5	32	5.3
500	31	5,254	-34.3	-40.6	32	6.7
450	31	5,984	-39.3	-43.0	32	8.8
400	31	6,783	-44.2	-45.5	31	10.7
350	31	7,670	-48.2		33	13.9
300	31	8,679	-50.9		33	16.9
250	31	9,840	-52.6		33	18.9
200	31	11,299	-52.2		33	15.5
175	30	12,143	-51.2		33	14.1
150	30	13,166	-51.0		33	12.3
125	30	14,351	-51.0		32	11.6
100	30	15,802	-51.5		32	10.6
80	30	17,244	-52.7		32	7.8
70	30	18,105	-53.4		32	7.9
60	30	19,094	-54.5		32	6.7
50	29	20,257	-55.6		33	6.4
40	29	21,675	-56.7		33	6.4
30	29	23,490	-58.2		33	4.7
25	28	24,633	-59.2		34	5.1
20	27	26,027	-60.2		36	5.1
15	22	27,827	-60.5		01	5.3
10	16	30,347	-61.5		36	9.5
7						
5						

+ YAP, CAROLINE IS. — 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	14	27.3	22.8	06	5.0
1000	31	93	26.3	20.8	06	6.7
950	31	542	22.5	17.0	06	11.8
900	31	1,013	19.4	13.0	07	11.8
850	31	1,503	16.8	8.8	07	10.7
800	31	2,019	15.3	.4	08	9.2
750	31	2,561	13.8	-5.4	07	8.7
700	31	3,142	10.9	-9.1	08	7.6
650	31	3,753	7.6	-13.4	08	8.8
600	31	4,411	3.7	-17.5	09	9.0
550	31	5,110	-.5	-20.8	09	9.8
500	31	5,868	-4.9	-25.4	09	11.1
450	31	6,686	-9.9	-29.3	09	10.9
400	31	7,590	-15.4	-33.7	10	10.1
350	31	8,585	-22.1	-39.4	09	9.1
300	31	9,700	-30.5	-46.3	09	6.7
250	31	10,969	-40.6	-54.7	11	5.4
200	31	12,448	-53.0		12	5.9
175	31	13,295	-60.1		13	7.1
150	31	14,240	-67.6		13	8.1
125	31	15,316	-75.1		11	9.3
100	31	16,587	-81.6		10	10.1
80	31	17,832	-82.2		10	7.5
70	31	18,587	-77.3		09	7.7
60	31	19,485	-71.4		09	8.6
50	31	20,577	-66.2		09	14.6
40	31	21,946	-61.4		09	22.1
30	27	23,761	-55.5		10	13.9
25	27	24,935	-51.5		17	1.5
20	24	26,399	-47.5		26	9.4
15	23	28,307	-45.3		27	15.9
10	23	31,035	-41.8		26	18.5
7	19	33,474	-38.1		26	14.4
5	10	35,769	-36.5			

YUCCA FLAT, NEV. — 879 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,198	-.1	-4.7	22	1.5
1000	31	150				
950	31	563				
900	31	1,009				
850	31	1,469	4.3	-4.8	23	2.1
800	31	1,962	2.5	-7.0	21	4.7
750	31	2,480	.3	-9.7	23	5.9
700	31	3,033	-2.1	-14.6	26	7.4
650	31	3,610	-5.2	-18.8	27	9.6
600	31	4,243	-9.2	-22.5	27	13.9
550	31	4,903	-13.2	-25.7	27	17.8
500	31	5,630	-18.0	-30.6	27	21.0
450	31	6,403	-23.6	-35.4	28	22.7
400	31	7,260	-29.8	-40.6	28	24.5
350	31	8,198	-36.9	-44.0	28	26.4
300	31	9,247	-44.5	-48.4	28	31.3
250	31	10,446	-52.7		28	33.3
200	31	11,863	-59.1		28	35.8
175	31	12,697	-60.2		28	34.0
150	31	13,659	-60.0		28	31.4
125	31	14,793	-62.0		28	29.0
100	31	16,169	-63.3		28	26.2
80	31	17,535	-64.9		27	19.3
70	29	18,343	-65.7		27	14.8
60	27	19,277	-65.5		28	13.7
50	28	20,387	-64.9		28	11.1
40	22	21,755	-63.0		29	8.0
30	18	23,533	-61.5		28	7.9
25	16	24,672	-60.1		28	7.7
20	9	26,089	-58.1			
15						
10						
7						
5						

YUMA, ARIZ. — 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	21	131	10.4	3.0	33	.5
1000	21	118				
950	21	542	13.5	1.2	30	1.4
900	21	1,002	11.6	-.6	27	2.8
850	21	1,479	9.8	-4.2	27	4.8
800	21	1,980	7.3	-8.1	27	6.0
750	21	2,502	4.6	-13.7	27	8.0
700	21	3,067	1.4	-17.2	28	9.4
650	21	3,652	-1.9	-19.2	27	11.6
600	21	4,293	-5.8	-18.5	27	14.2
550	21	4,962	-10.2	-22.3	27	16.9
500	21	5,697	-15.4	-27.3	27	18.0
450	21	6,474	-21.5	-32.6	28	19.4
400	20	7,353	-27.6	-37.9	28	22.7
350	20	8,300	-34.9	-43.2	28	26.5
300	20	9,357	-43.3		28	29.7
250	20	10,562	-51.6		28	32.9
200	15	12,012	-58.8		28	37.9
175	12	12,836	-58.2			
150	5	13,836	-61.8			

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

JANUARY 1969

Sun's zenith distance: A.M. 78.7°, 75.7°, 70.7°, 60.0°; * ; P.M. 60.0°, 70.7°, 75.7°, 78.7°

ALBUQUERQUE, NEW MEX.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Jan.									
1-----	----	----	----	1.43	1.45	1.42	1.17	1.05	0.93
2-----	1.06	1.18	1.28	----	----	----	----	----	----
3-----	----	----	----	----	----	----	1.24	1.09	1.00
4-----	----	----	----	1.39	1.41	1.38	----	1.09	1.01
7-----	----	----	----	----	----	----	----	1.17	1.08
17----	.98	1.07	1.21	1.35	----	----	----	----	----
18----	1.03	1.15	1.26	1.41	1.46	1.37	----	1.01	.94
21----	.96	1.08	1.19	1.37	----	----	----	----	----
27----	.90	1.01	1.12	----	1.40	1.35	1.20	1.07	.96
29----	.96	1.06	1.19	1.38	1.41	1.33	1.19	1.07	.95
30----	1.06	1.20	1.27	1.41	1.49	1.47	1.36	1.22	1.01
31----	1.01	1.11	1.24	1.36	1.46	1.37	1.16	.99	.84
Averages	1.00	1.11	1.22	1.39	1.44	1.38	1.22	1.08	0.97

OMAHA, NEBR.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Jan.									
4-----	HS0.95	HS1.07	HS1.30	----	HS1.25	----	----	----	----
9-----	HS .93	HS1.07	HS1.17	----	1.25	----	HS1.15	HS1.03	HS0.95
24----	HM .90	HM .99	HM1.13	----	HM1.27	----	HS1.06	HS .80	HS .66
25----	HM .84	HM .95	HM1.19	----	HM1.24	----	HS .98	HS .70	HS .58
Averages	0.91	1.02	1.20	----	1.25	----	1.06	0.84	0.73

BLUE HILL OBS., MASS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Jan.									
27----	----	0.84	0.98	----	1.21	----	1.01	0.84	0.75
28----	0.79	.89	1.08	----	1.23	----	1.06	.88	.62
Averages	0.79	0.87	1.03	----	1.22	----	1.04	0.86	0.69

Instrument out of service January 1 to January 22

HS Slight haze
HM Moderate haze
* Values corresponding to true solar noon

TUCSON, ARIZ.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Jan.									
1-----	1.04	1.15	1.27	1.42	1.47	1.43	1.29	1.16	1.04
2-----	1.01	1.11	1.24	1.41	1.41	1.40	1.23	1.13	1.03
3-----	.94	1.03	1.12	1.25	1.33	1.29	1.18	1.02	.90
4-----	----	----	----	1.37	----	1.37	1.20	1.08	.95
5-----	1.01	----	----	----	----	----	----	1.08	.97
6-----	.93	1.05	1.23	1.39	1.42	1.34	1.19	1.06	1.00
7-----	1.03	1.12	1.25	1.40	1.43	1.38	1.21	1.08	.95
8-----	1.05	1.16	1.24	1.38	1.43	1.36	1.25	1.13	----
11----	----	----	1.10	1.30	1.39	1.31	1.12	----	----
12----	----	----	1.22	----	----	1.36	----	----	----
15----	----	----	----	----	----	----	1.21	1.08	.98
16----	----	----	----	----	----	1.32	1.15	1.02	.91
18----	----	----	----	1.27	1.39	----	----	----	----
19----	----	----	----	----	1.35	----	1.14	1.08	----
20----	----	----	1.18	----	----	1.32	1.19	1.08	.97
22----	.90	1.01	1.15	1.29	----	1.36	1.22	1.12	1.01
23----	----	----	----	----	----	----	----	1.03	.92
24----	----	----	----	----	----	----	----	1.04	.95
26----	----	----	----	1.40	----	----	----	1.10	1.00
27----	.95	1.01	1.16	1.29	1.41	----	----	----	----
29----	.89	.99	1.12	1.29	----	1.36	1.20	1.05	.93
30----	1.00	1.13	1.22	1.37	1.48	1.37	1.18	1.08	.97
31----	.94	1.05	1.20	1.33	1.42	1.27	1.04	.93	.80
Averages	0.97	1.07	1.19	1.34	1.41	1.35	1.19	1.07	0.96

MADISON, WIS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69

No observations for January 1969

GUAM, M. I.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

Recorder inoperative November 23, 1968 to present
No observations due to cloudiness

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue Vol 8, No 2, page 63, of this publication

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. JANUARY 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	302	289	253	295	274	285	261	177	150	271	257	301	260	194	169	270	282	327	151	191	310	306	356	177	132	246	345	170	371	386	378	262
AMES IOWA	199	105	214	217	69	163	112	76	223	210	177	138	169	113	19	153	42*	93	101	49	59	24	46	225	259	126	40	86	42	199	225	128*
ANNETTE ALASKA	54	18	9	68	16	28	30	13	34	77	44	74	86	89	49	94	56	101	102	108	109	42	40	116	123	125	127	78	134	42	49	69
APALACHICOLA FLORIDA	362	224	87	201	152	376	313	304	187	365	138	369	387	370	358	329	305	205	91	117	226	174	134	264	223	267	328	321	346	347	383	266
ARGONNE NAT. LAB.	239	160	242	269	113	118	215	53	218	263	262	207	165	153	67	46	40	110	128	207	71	41	45	165	194	148	274	31	33	42	324	150
ASTORIA OREGON	66	95	10	16	21	---	83	48	55	36	110	76	66	44	71	41	96	192	72	110	224	222	99	131	75	49	116	220	60	86	112	90
ATLANTA GEORGIA	301	113	95	246	259	164	293	230	46	226	255	285	239	280	187	215	94	87	26	45	66	55	40	279	289	283	41	27	67	289	97	168
BETHEL ALASKA	15	31	21	19	37	2	5	19	10	30	23	17	26	27	8	13	15	15	13	---	12	18	28	24	19	45	20	36	39	26	27	21
BISMARCK N.DAK.	160	180	191	95	78	140	79	---	196	167	137	96	121	71	104	198	103	220	82	152	163	141	168	236	249	147	244	263	129	269	270	162
BLUE HILL MASS.	87	210	127	210	211	174	67	189	43	209	213	217	160	163	166	208	79	39	164	222	231	224	159	35	173	168	248	251	58	25	223	160
BOISE IDAHO	46	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	153	31	77	23	231	23[illegible]	235	---	---	---	147	238	176	82	---
BROWNSVILLE TEXAS	119	66	124	121	391	387	391	301	77	260	152	172	149	161	347	393	167	348	316	164	383	410	239	132	110	130	235	212	264	233	130	228
BURLINGTON VERMONT	101	184	178	148	121	88	58	157	53	111	107	133	74	89	184	211	28	30	71	225	218	215	194	86	86	198	234	258	82	25	72	130
CAPE HATTERAS N.C.	313	303	157	37	133	253	260	251	284	319	302	318	324	321	323	334	275	167	199	27	141	77	106	233	37	358	301	324	250	305	200	233
CARIBOU MAINE	59	116	185	183	147	170	52	116	117	135	207	113	84	114	165	227	74	58	116	232	197	137	243*	134	63	94	235	251	236	105	87	144*
CHARLESTON S.C.	338	261	179	39	166	237	319	308	274	341	246	341	331	338	330	337	271	162	114	55	329	121	296	246	260	377	54	171	159	202	284	242
CLEVELAND OHIO	184	142	96	187	165	42	52	112	188	163	148	184	98	79	127	102	39	18	79	182	162	178	196	51	145	193	285	45	49	25	63	122
COLUMBIA MISSOURI	254	242	274	276	118	65	132	90	282	246	263	94	215	161	45	52	35	54	193	134	43	56	46	321	325	80	98	54	42	84	206	148
DAVIS CALIFORNIA	138	106	98	54	65	49	55	270	148	148	61	49	25	284	278	212	286	29	74	52	186	176	120	61	108	250	182	282	265	179	324	149
DODGE CITY KANSAS	267	255	153	253	215	267	78	197	270	164	259	235	251	216	176	256	49	236	56	139	69	225	180	336	241	308	86	89	151	259	337	202
E. LANSING MICHIGAN	145	161	176	171	172	83	161	70	139	195	219	159	69	142	194	61	60	32	187	298	66	57	80	74	176	155	278	38	37	29	225	132
EL CENTRO CALIF. NPF	316	314	304	308	288	307	312	239	146	274	272	242	65	199	199	199	199	272	272	299	294	325	291	158	158	366	366	279	383	387	378	271
EL PASO TEXAS	204	353	252	356	360	352	356	362	300	86	345	359	230	245	212	283	301	372	208	359	356	372	368	355	329	386	372	283	354	268	423	315
ELY NEVADA	227	197	274	239	268	288	259	302	256	279	136	137	102	167	334	167	327	248	88	173	98	273	305	123	101	82	337	200	315	239	320	221
EPPLEY NEWPORT R.I.	160	189	---	205	207	183	94	192	23	207	206	216	180	149	214	167	70	27	110	212	194	165	61	33	155	198	---	---	45	35	252	148
FAIRBANKS ALASKA	5	3	3	6	6	4	5	8	10	10	9	9	10	10	16	21	20	33	20	9	6	7	8	54	14	36	11	51	---	---	---	14
FORT WORTH TEXAS	228	137*	147	330	337	307	310	338	331	---	---	296	148	123	26	155	276	125	86	163	340	318	323	340	361	166	292	204	65	170	74	225*
FRESNO CALIFORNIA	48	43	58	74	49	54	62	33	67	87	84	124	26	80	187	63	215	39	19	76	122	165	118	60	123	203	225	131	295	123	115	102
GAINESVILLE FLORIDA	360	233	113	51	102	300	326	347	255	256	132	352	360	346	300	380	183	267	93	210	209	177	244	197	85	359	280	285	268	346	352	251
GLASGOW MONTANA	119	148	173	119	48	92	84	146	159	142	144	173	130	133	103	156	166	189	123	127	129	163	155	253	230	168	198	206	185	194	250	155
GRAND JUNCTION COLO.	287	182	309	193	211	270	270	228	283	308	117	200	164	56	138	200	276	297	63	93	71	147	347	174	107	171	192	259	183	353	357	210
GREAT FALLS MONTANA	148	113	83	37	33	17	---	163	128	143	81	156	104	124	167	187	138	145	137	126	136	125	246	223	154	123	248	174	263	237	172	144
GREENSBORO N.C.	285	230	176	166	270	132	281	208	75	292	300	307	293	298	286	247	159	121	56	27	69	72	81	69	245	280	131	59	53	163	233	183
INDIANAPOLIS INDIANA	251	180	237	251	111	64	240	43	269	288	259	194	---	---	163	53	15	40	82	---	55	124	50	---	---	---	---	---	---	---	118	---
ITHACA NEW YORK	148	87	82	162	217	47	107	165	30	175	88	50	72	103	100	232	30	17	76	218	248	214	94	34	222	159	172	281	12	17	45	120
LAKELAND FLORIDA	329	348	---	---	95	---	---	340	---	---	191	---	373	375	370	370	---	---	---	---	---	---	361	351	79	390	348	---	---	---	---	---
LANDER WYOMING	223	201	263	207	205	168	234	235	230	232	168	195	181	188	227	197	243	232	199	248	183	137	227	246	178	167	249	153	251	273	291	214
LARAMIE WYOMING	174	73	219	106	135	151	138	190	232	223	143	156	191	161	204	162	179	231	214	243	145	175	224	158	131	237	194	216	285	261	283	188
LAS VEGAS NEVADA	159	242	293	292	292	306	295	211	229	286	168	191	84	---	---	266	307	191	192	335	214	270	337	39	69	303	369	352	383	372	376	256
LEXINGTON KENTUCKY	---	230	117	240	219	28	234	62	246	266	252	174	228	278	217	170	37	20	88	52	56	150	81	95	305	206	84	14	48	35	85	144
LITTLE ROCK ARKANSAS	347	171	182	355	343	251	307	318	295	194	364	192	344	292	284	58	57	76	378	216	49	---	193	---	247	63	46	135	75	123	52	207
LOS ANGELES CALIF.	311	272	276	296	295	280	189	117	142	223	226	200	56	104	259	169	257	124	60	69	260	299	230	46	46	155	367	210	378	360	372	214
LOS ANGELES CALIF. U	302	266	279	338	227	264	242	80	207	206	236	276	168	95	193	191	187	124	34	55	158	288	199	37	71	61	380	186	379	360	388	209
MADISON WISCONSIN	229	107	240	246	122	120	216	49	242	257	264	186	229	138	68	79	149	186	190	168	113	30	28	149	288	198	244	46	44	92	281	161
MANHATTAN KANSAS	224	56	248	232	56	38	80	86	247	172	185	161	184	24	22	25	26	55	56	10	31	23	86	281	254	66	24	91	81	266	165	114
MATANUSKA ALASKA	24	28	13	39	34	25	13	18	29	33	32	32	35	49	40	50	49	33	47	37	28	34	31	60	90	50	73	58	28	36	62	39
MEDFORD OREGON	22	55	92	34	153	147	12	184	162	103	48	34	208	106	103	106	230	77	57	36	32	139	207	167	134	94	191	164	90	233	78	113
MIAMI FLORIDA	280	345	301	162	74	277	451	421	379	69	296	260	189	371	353	389	225	426	311	266	459	309	397	456	303	422	311	410	312	386	340	321
MIDLAND TEXAS	181	323	84	318	314	280	327	301	302	109	284	303	290	238	176	292	312	267	67	340	349	329	322	248	335	349	273	126	107	222	263	259
NASHVILLE TENNESSEE	264	216	33	276	213	72	276	113	245	267	288	277	200	256	249	164	46	41	32	34	55	47	117	210	276	147	70	41	37	25	99	151
NEW YORK N.Y. U	203	128	102	212	205	139	86	220	38	178	205	224	219	236	235	216	66	27	96	203	168	155	38	26	265	223	272	231	6	4	274	156
NORTH OMAHA NEBRASKA	230	158	252	249	67	109	76	125	254	179	180	186	145	48	36	95	86	88	142	60	55	30	115	298	292	137	51	185	106	197	180	142
OAK RIDGE TENNESSEE	292	259	62	310	265	50	300	54	247	285	306	272	294	303	249	217	77	43	54	74	75	148	68	264	301	243	62	60	62	130	176	181
OKLAHOMA CITY OKLA.	306	291	159	307	277	283	208	246	240	77	314	261	273	97	122	134	61	55	73	151	59	265	315	317	305	316	241	81	49	270	222	266
PAGE ARIZONA	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	73	344	378	357	357	350	360	---

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PALMER AAFS ALASKA	22	25	12	30	36	22	12	15	27	31	30	31	32	36	51	43	53	30	58	34	24	31	34	69	87	47	69	51	22	30	22	36
PHOENIX ARIZONA	317	316	300	317	294	314	314	270	109	255	248	281	143	51	144	293	233	315	202	292	154	342	341	119	98	345	338	164	367	394	373	259
PORTLAND MAINE	74	208	190	213	220	151	42	124	87	182	217	197	108	142	181	243	48	35	165	240	219	224	234	51	170	66	250	267	86	24	194	157
PROSSER WASHINGTON	113	120	73	83	91	98	67	176	47	30	---	57	189	226	149	92	133	---	---	113	115	156	191	176	127	---	159	208	146	257	235	134
RAPID CITY S.DAK.	185	89	152	88	94	81	103	212	232	---	92	189	157	129	80	141	213	231	163	183	169	121	164	264	248	223	134	188	171	290	280	169
RENO NEVADA	182	122	187	192	203	231	188	143	149	181	94	137	86	224	257	213	266	86	36	120	103	278	158	181	58	260	271	166	265	296	296	181
RICHLAND 25 NW WASH.	91	121	67	60	83	61	70	101	81	43	90	59	92	197	136	115	188	114	115	113	115	170	155	172	98	173	151	218	142	256	277	127
RIVERSIDE CALIFORNIA	330	311	311	296	309	321	302	69	122	228	275	219	69	134	257	264	186	189	104	156	216	136	270	80	35	149	372	184	400	383	408	229
RUSTON LOUISIANA	274	55	27	302	285	256	249	233	166	181	300	133	274	286	254	80	71	71	77	142	66	144	237	318	304	80	83	81	133	57	35	170
SAINT CLOUD MINN.	177	199	208	219	80	159	122	100	221	215	219	99	151	89	26	158	95	128	131	50	134	42	84	178	309	217	77	141	94	248	160	146
SALT LAKE CITY	151	182	218	149	144	233	208	264	258	245	58	116	33	---	268	93	253	295	45	79	65	146	156	155	41	163	231	233	222	217	329	175
SAN ANTONIO TEXAS	72	51	70	304	370	340	347	352	363	305	341	340	110	48	52	304	66	145	91	54	352	322	339	353	338	87	74	70	112	---	46	207
SANTA MARIA CALIF.	263	245	278	285	288	297	247	261	132	282	148	130	40	100	302	145	266	28	57	222	95	132	108	61	168	226	252	167	362	243	362	200
SAULT STE MARIE MICH	127	94	108	84	100	66	155	89	106	125	98	179	119	182	95	17	89	89	144	80	45	51	41	21	181	186	204	61	110	54	105	103
SEATTLE TACOMA WASH.	64	92	21	19	10	14	89	25	31	20	36*	98	45	97	93	48	73	114	72	112	154	143	120	142	71	116	91	160	90	144	155	83*
SPOKANE WASHINGTON	95	96	69	57	66	65	72	142	80	74	59	83	68	149	99	104	194	117	108	105	107	194	158	177	111	131	141	148	159	184	128	114
STATE COLLEGE PENN.	142	240	104	167	224	94	151	239	80	151	189	165	152	152	262	220	35	33	118	210	89	200	61	26	218	176	303	226	27	43	93	148
STERLING VIRGINIA	230	246	76	249	246	91	230	226	189	261	134	256	232	256	261	256	137	50	78	59	36	109	63	42	249	270	260	128	43	55	169	167
SWAN ISLAND W.I.	385	355	413	384	435	343	194	291	446	463	354	367	258	391	330	415	277	280	382	344	254	467	458	395	410	481	487	463	480	384	400	380
TAMPA FLORIDA	304	311	280	63	85	237	311	327	282	79	144	349	350	348	336	333	271	313	74	217	303	275	361	261	73	350	302	351	356	364	366	270
TUCSON ARIZONA	346	342	331	338	323	338	342	347	208	215	328	330	183	49	200	271	223	347	310	318	188	357	324	232	136	339	355	116	326	416	414	287
WAKE ISLAND PACIFIC	424	448	363	439	410	428	435	444	459	444	388	401	379	415	456	269	394	442	447	439	366	441	443	340	463	486	449	491	388	272	493	418
BARROW ALASKA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	---	---	---	---	---

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

JANUARY 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Langleys. . .	-76	-61	-51	-59	-92	-37	-34	-88	-113	-108	-116	-108	-76	-62	-61	-58

Date.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-37	-68	-39	-36	-23	-23	-33	-52	-53	-46	-45	-49	-22	-27	-32	-58

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 A) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Langleys. . .	9.47	6.71	9.57	9.87	1.63	8.48	6.90	4.73	9.77	9.67	4.63	7.50	7.69	6.21	1.48	7.20

Date.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	3.35	6.11	6.51	3.75	3.84	1.48	2.96	9.47	10.46	7.50	2.76	5.43	2.76	10.65	10.85	6.52

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code [illegible] defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atm-cms

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean D.
															Data will be delayed																	

DESCRIPTION OF CHARTS

CHART I., A. NORMAL DAILY AVERAGE TEMPERATURE (°F. 1931-60) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN (°F. 1931-60) FOR MONTH. Chart I-A is reproduced from Environmental Data Service Publication "Climatic Maps of the United States". Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin", a publication of Environmental Data Service.

CHART II. TOTAL PRECIPITATION. -CHART II is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin".

CHART III. PRECENTAGE OF NORMAL PRECIPITATION. -Chart III is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin".

CHART IV. TOTAL SNOWFALL. CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND. -Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and selected cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and selected cooperative stations as of 7:00 a.m. Eastern Standard Time on the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

Isolines for Charts I, II, III, IV, and V, are drawn through points of approximately equal value. Caution should be used in interpolating on these charts, particularly in mountainous areas.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION.-Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm.-2) for all Weather Bureau and selected cooperative stations which record this element. The analyses include adjustments required to bring station records to approximately the same level of calibration. Adjusted numbers are in parentheses.

CHART VII-B shows the percentages of the mean based on at least 5 years of record during the period 1950-1960, and corrected to the International Pyrheliometer Scale of 1956.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semipermanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

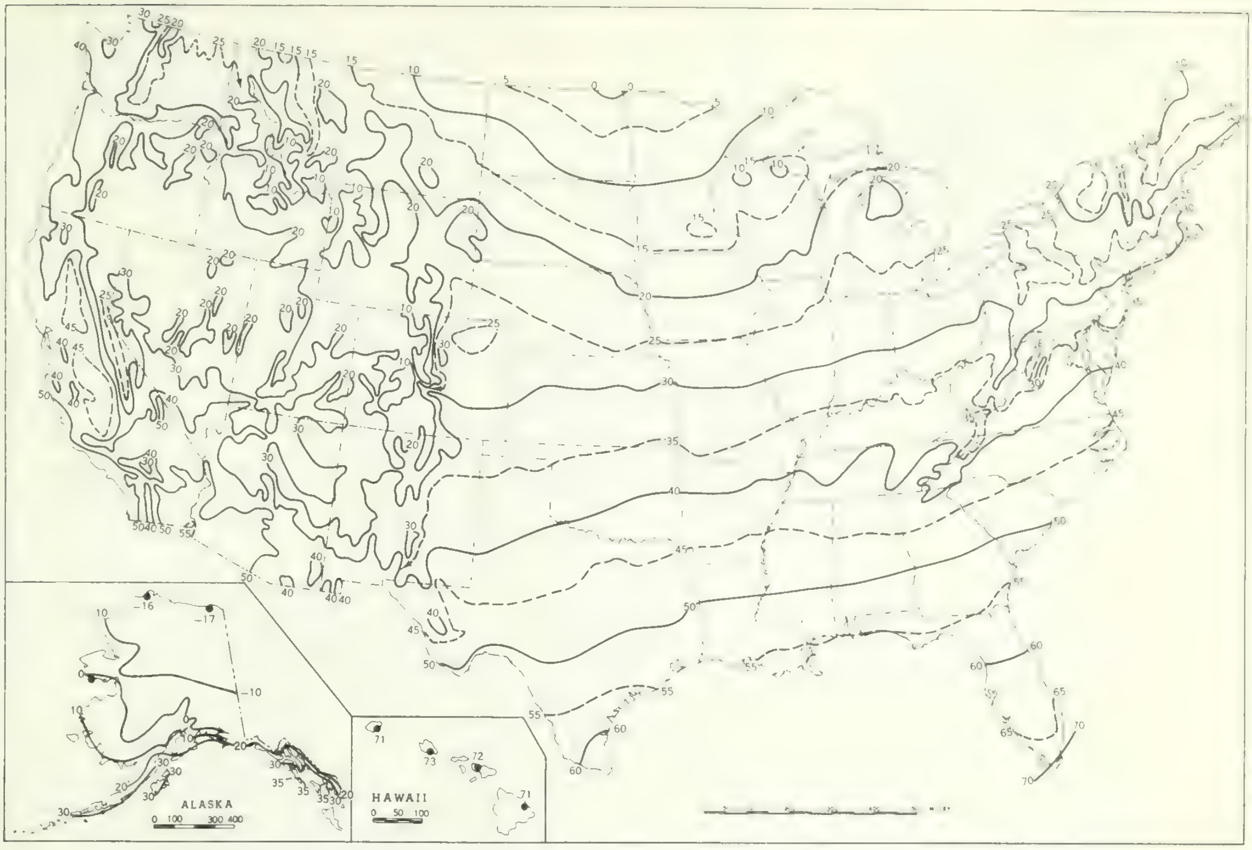
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND RESULTANT SURFACE WIND. -The average monthly sea level pressures are obtained from eight daily 3-hourly observations reported at Weather Bureau Stations. Resultant surface wind directions (to 36 points of the compass) for the month are shown by arrows. Resultant speeds are in miles per hour and are indicated by the length of arrow shafts. Constancy ratios (resultant surface wind divided by average surface wind for month) are shown to two decimal places. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record; and for each 10° intersection in a diamond grid over the oceans.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in meters per second; flag represents 25 m.p.s., full feather 5 m.p.s., and half feather 2 1/2 m.p.s. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages for surface elements are presented in the CDNS Annual Issue each year.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), January



B. Temperature Departure from 30 - Year Mean (°F 1931-60), January 1969.

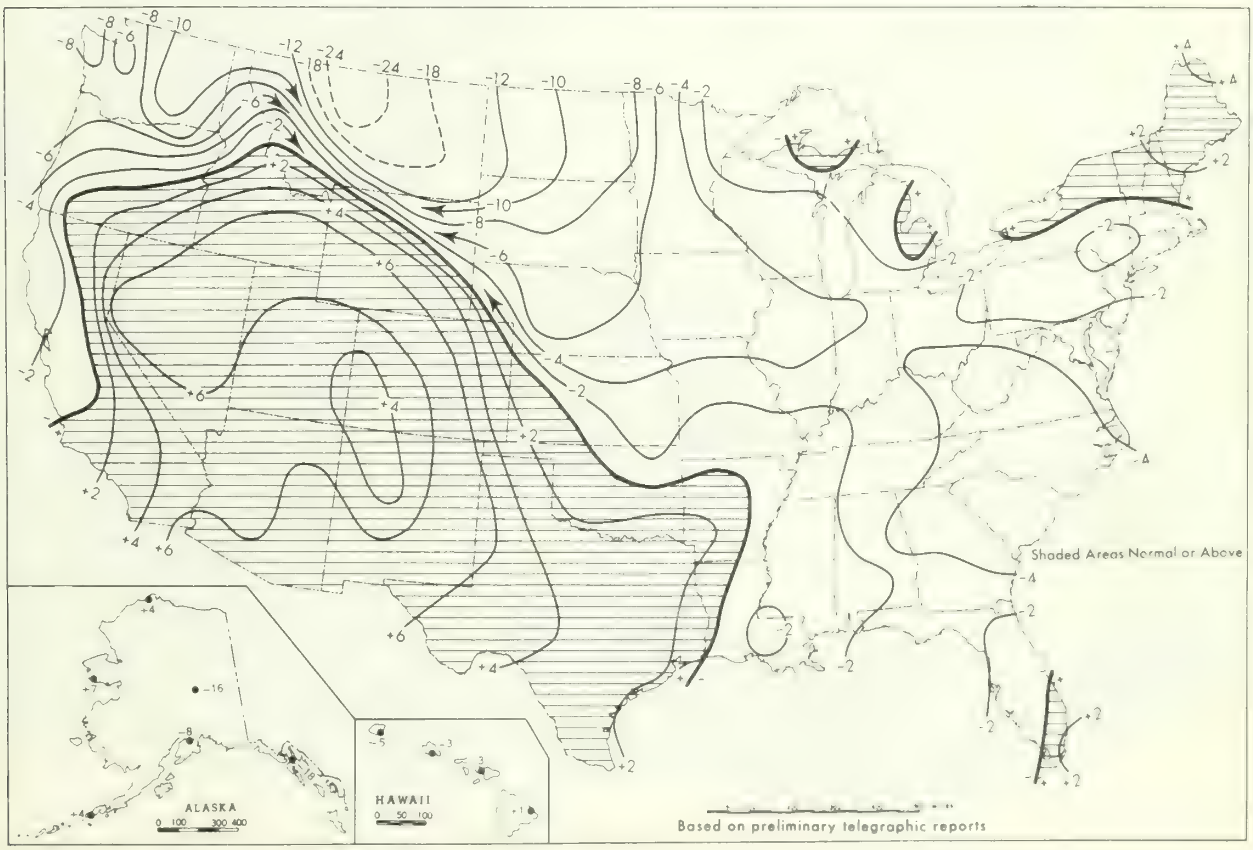


Chart II. Total Precipitation (Inches), January 1969.

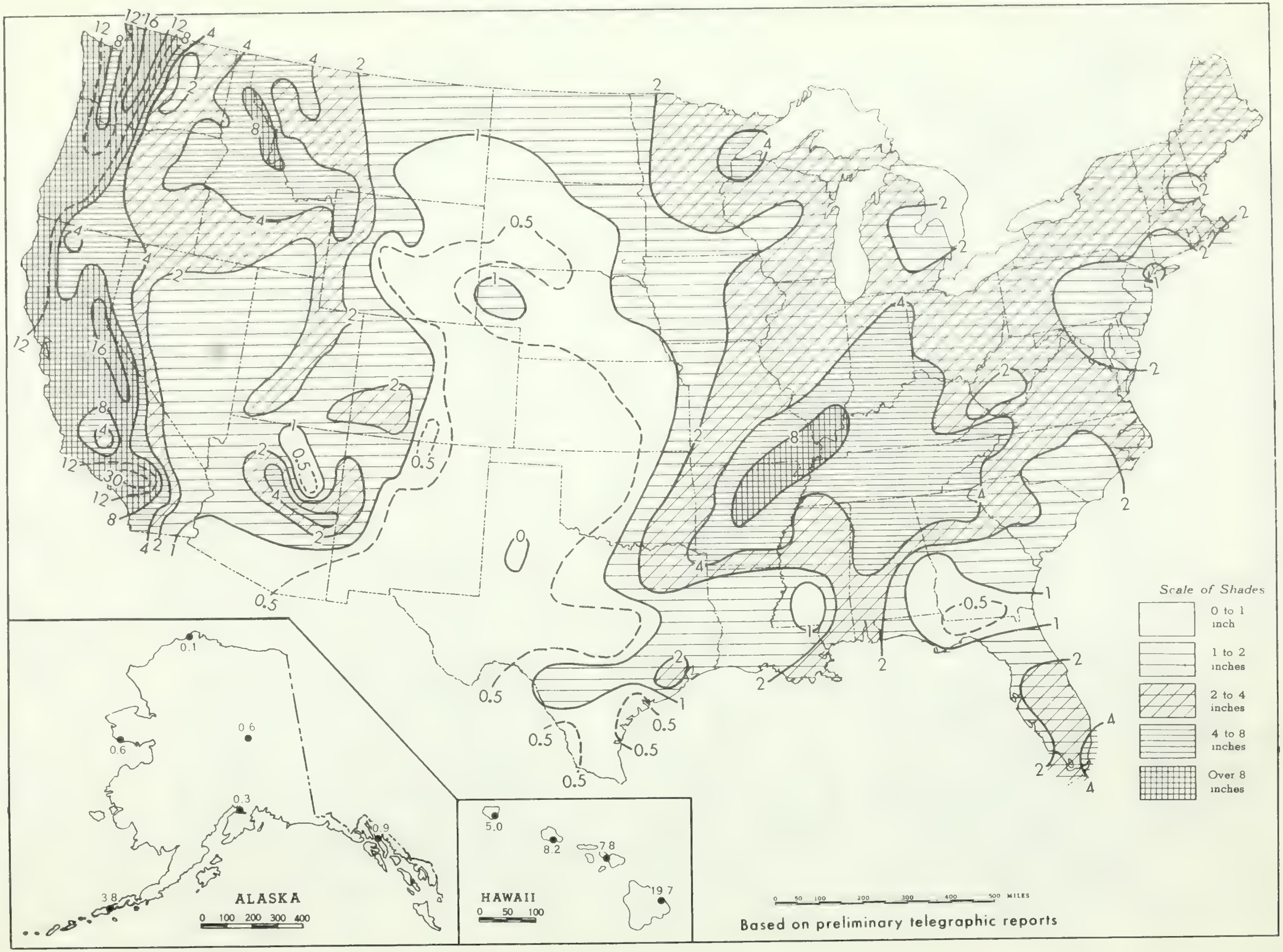


Chart III. Percentage of Normal Precipitation, January 1969.

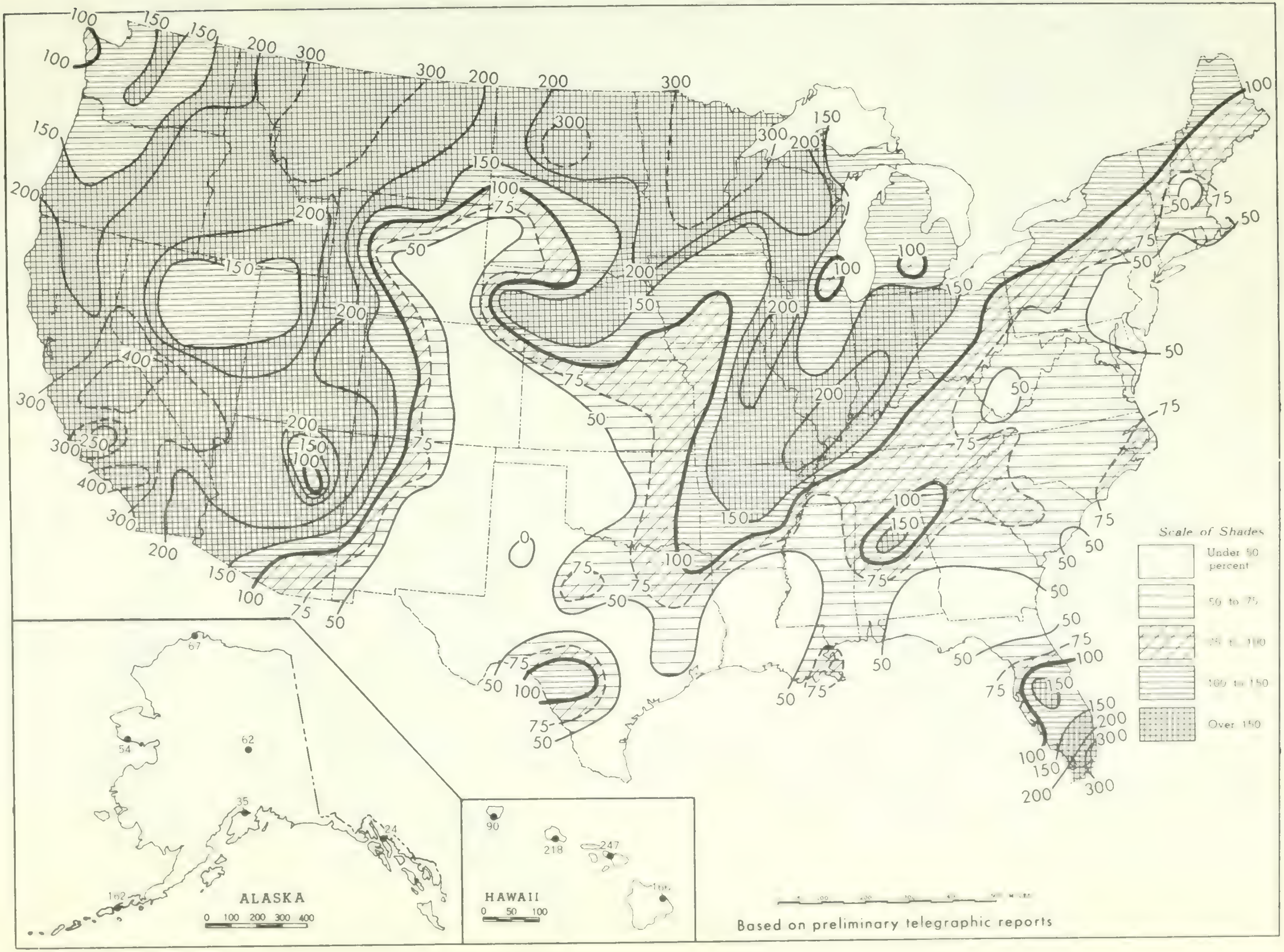
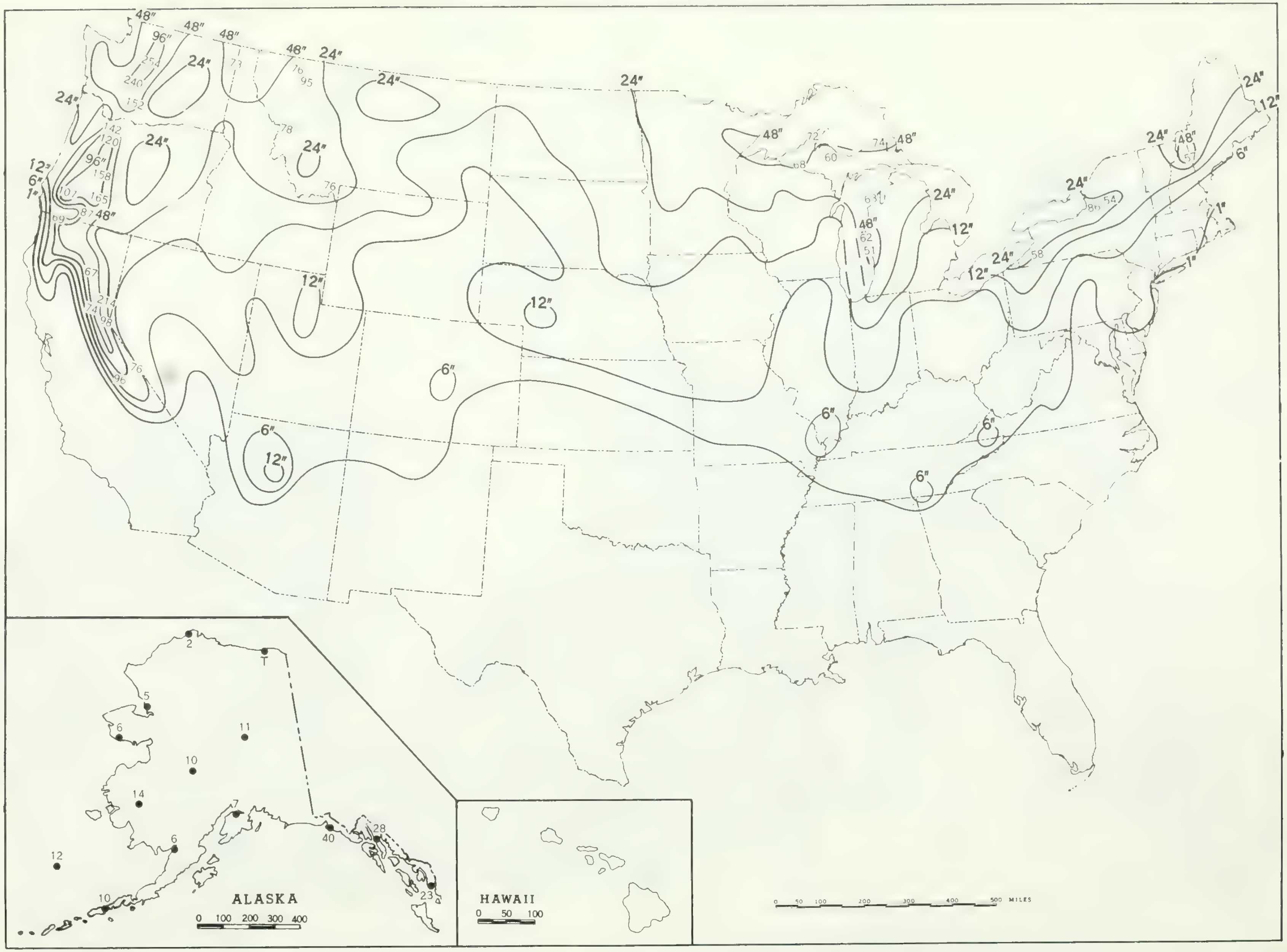
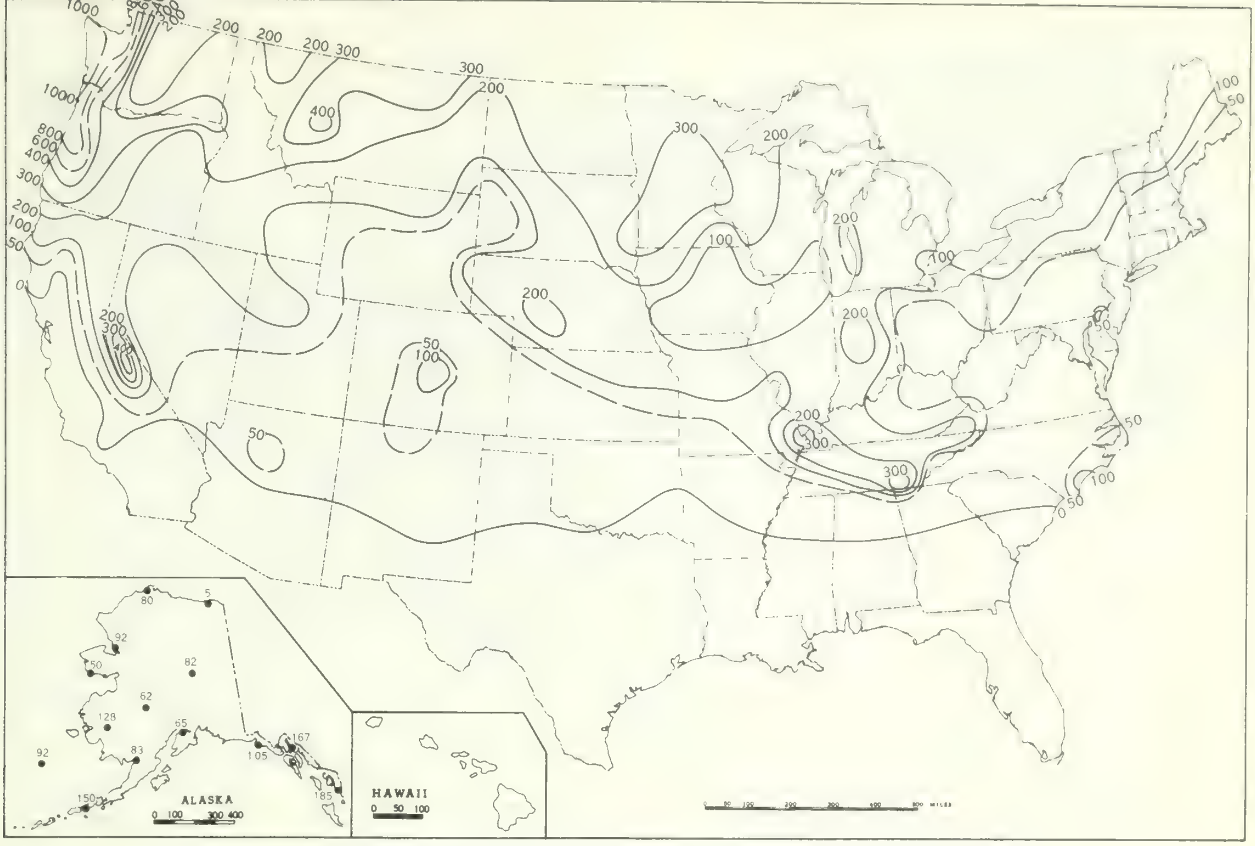


Chart IV. Total Snowfall (Inches), January 1969.

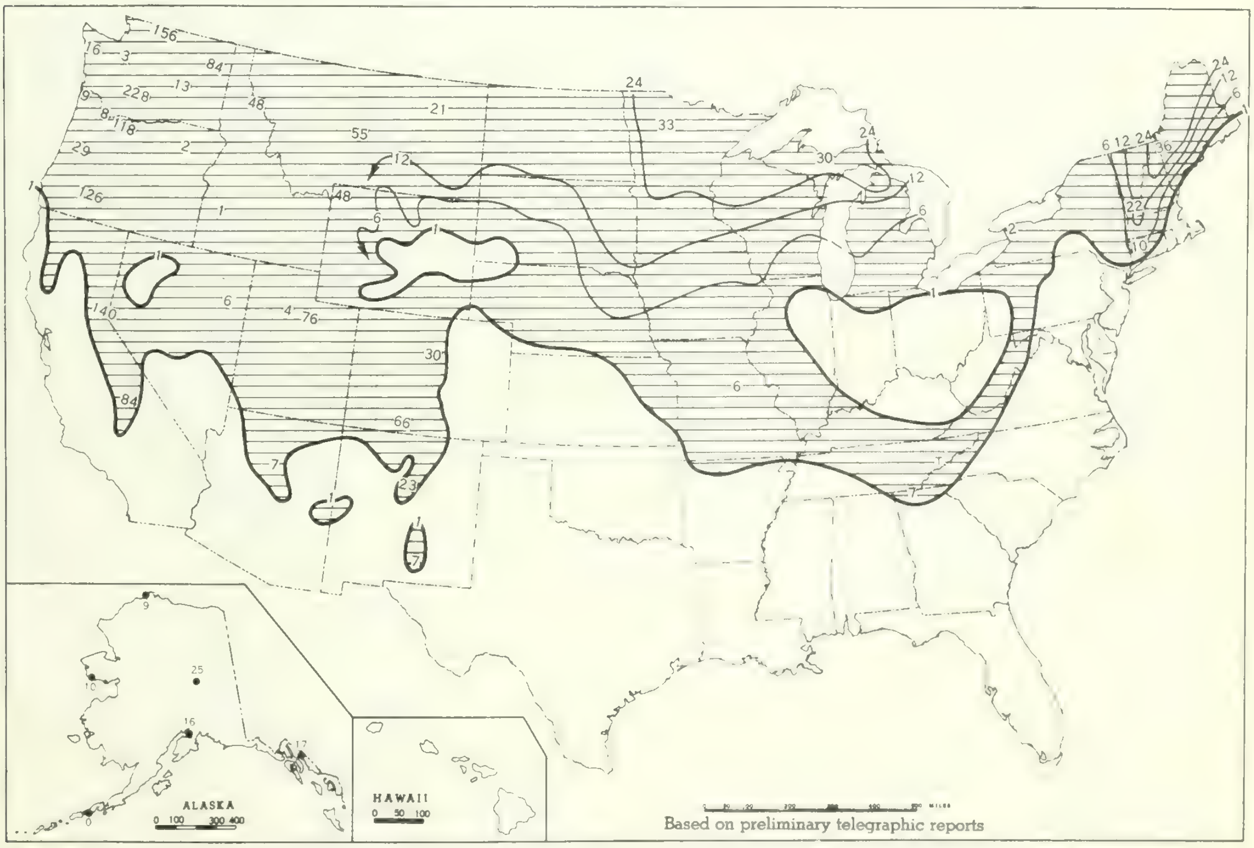


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, January 1969.

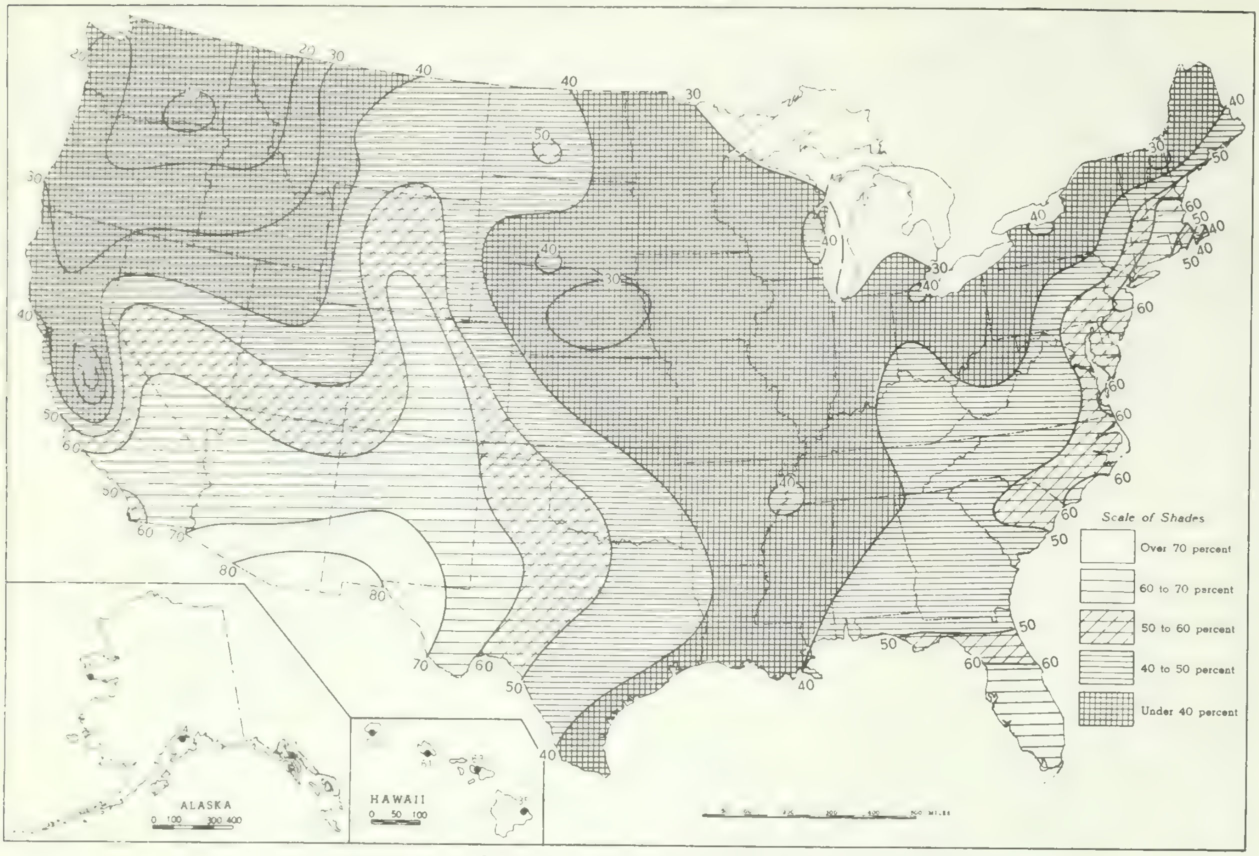


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., January 27, 1969.

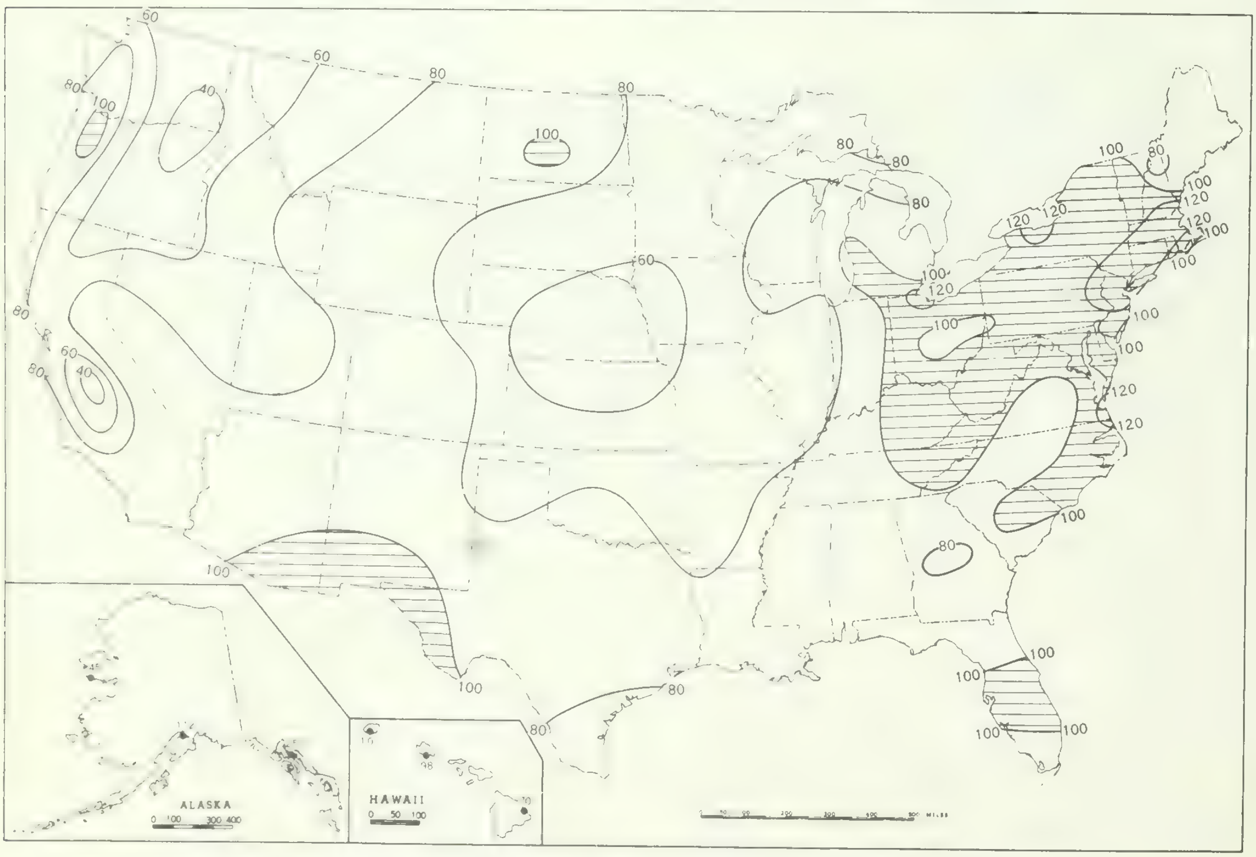


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, January 1969.

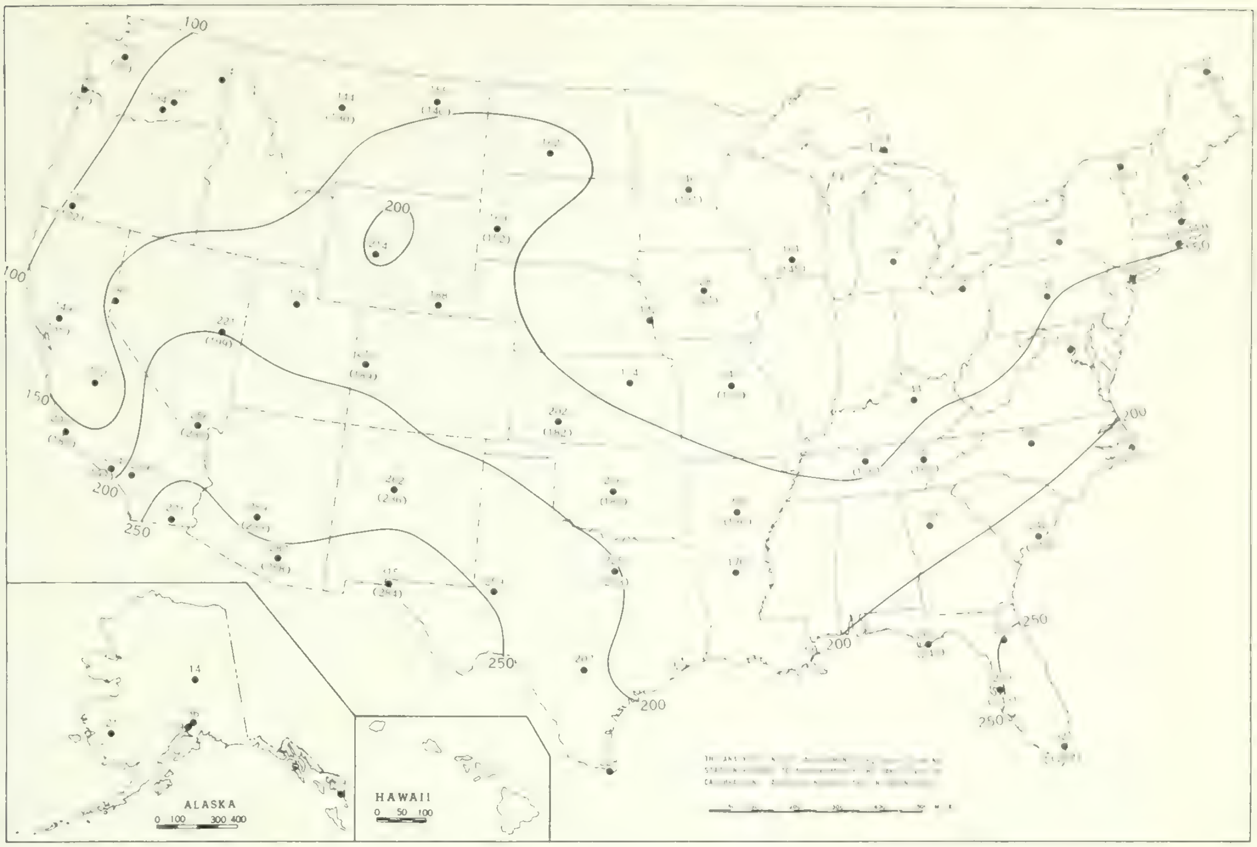


B. Percentage of Mean Monthly Sunshine, January 1969.

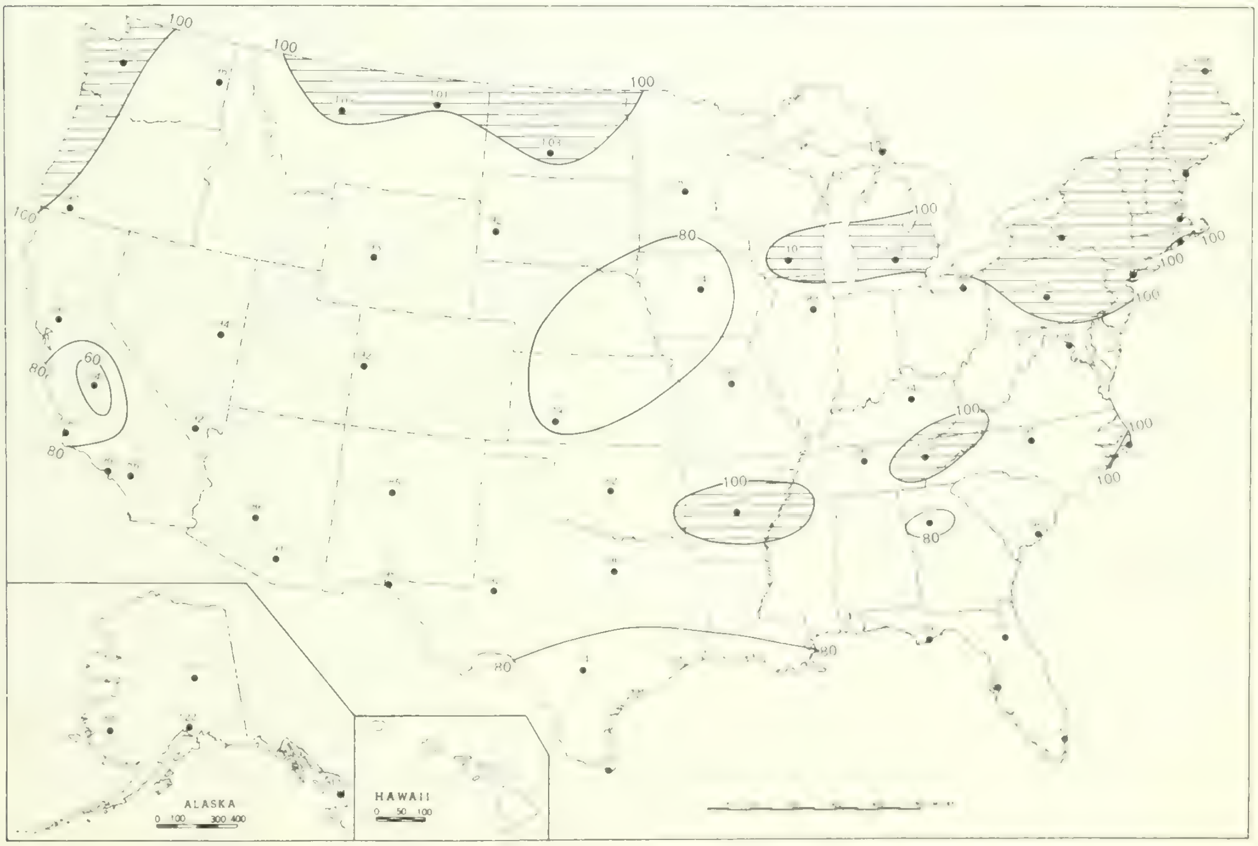


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, January 1969.



B. Percentage of Mean Daily Solar Radiation, January 1969.

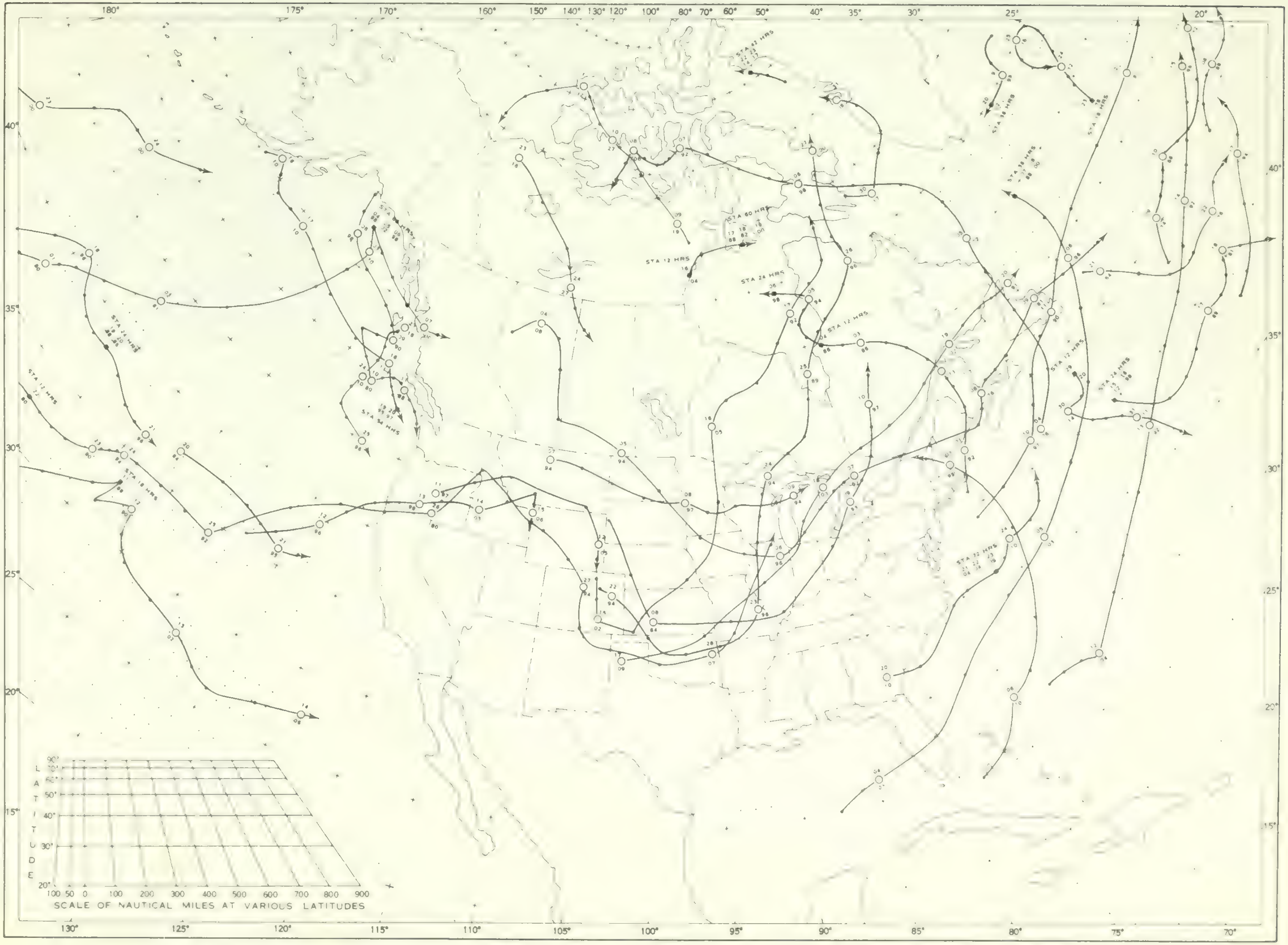


A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII Tracks of Centers of Anticyclones at Sea Level, January 1969.

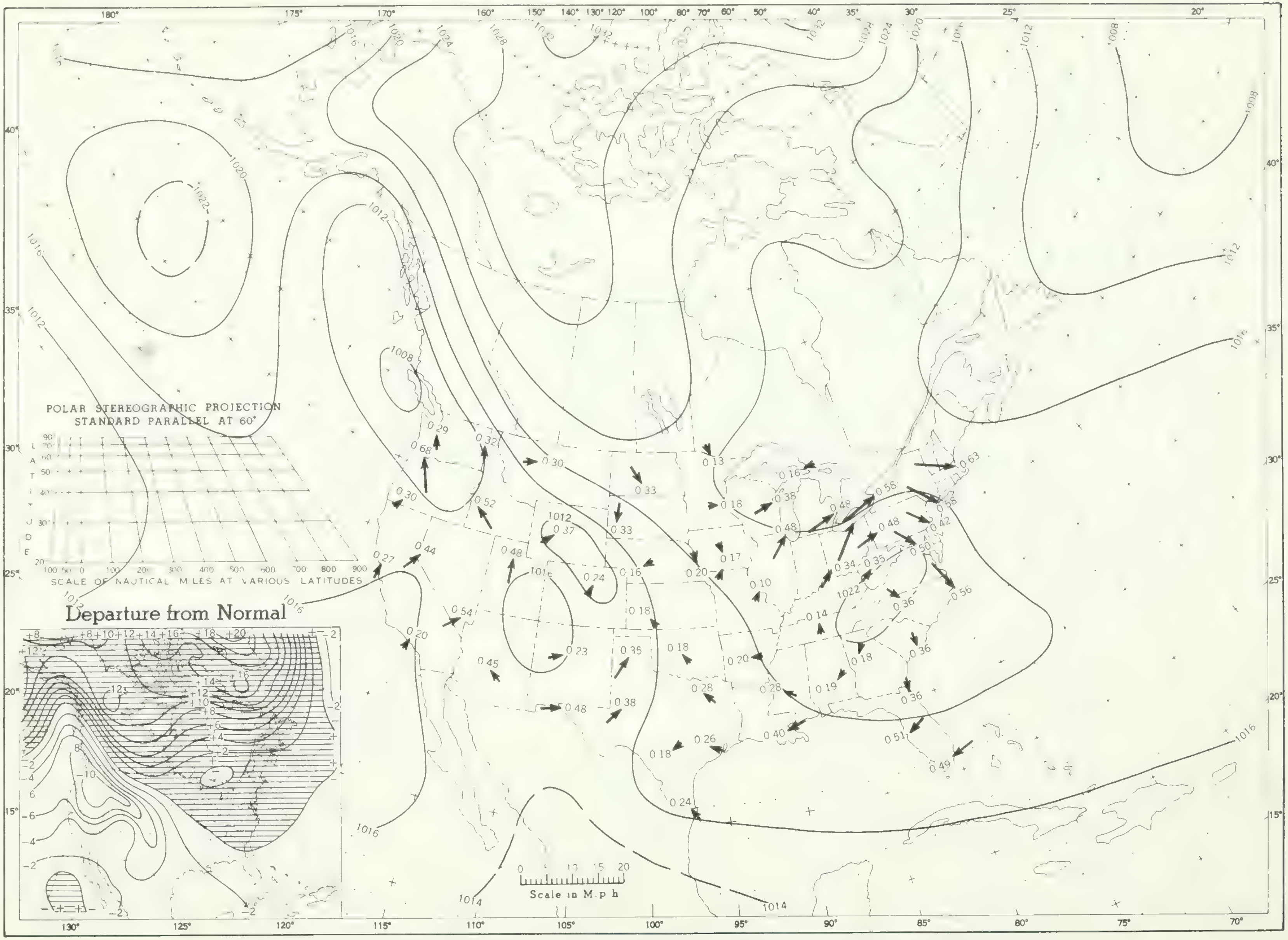
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, January 1969.



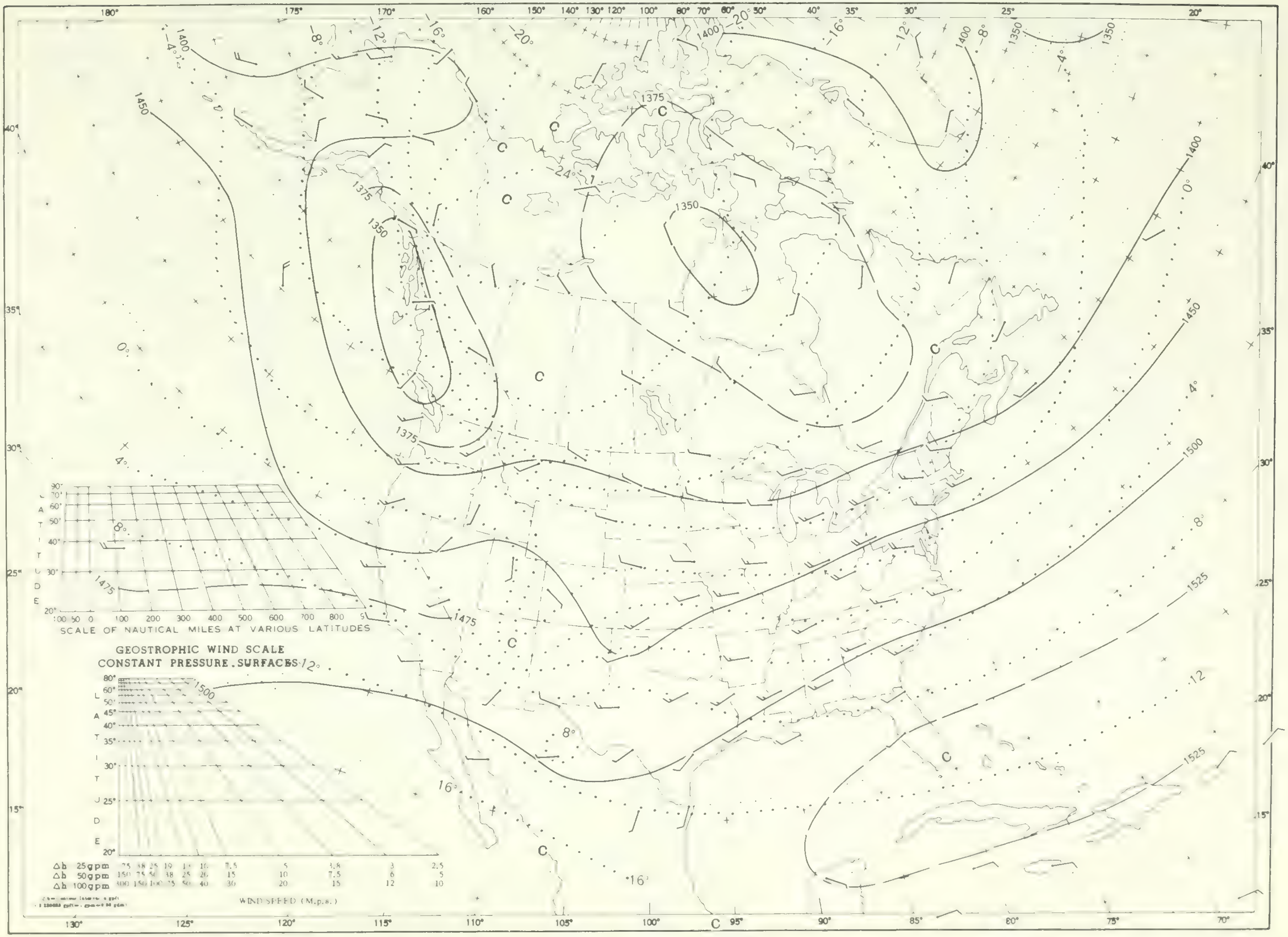
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included

Chart X Average Sea Level Pressure (mb) and Resultant Surface Wind, January 1969. Inset. Departure of Average Pressure (mb) from Normal, January 1969.



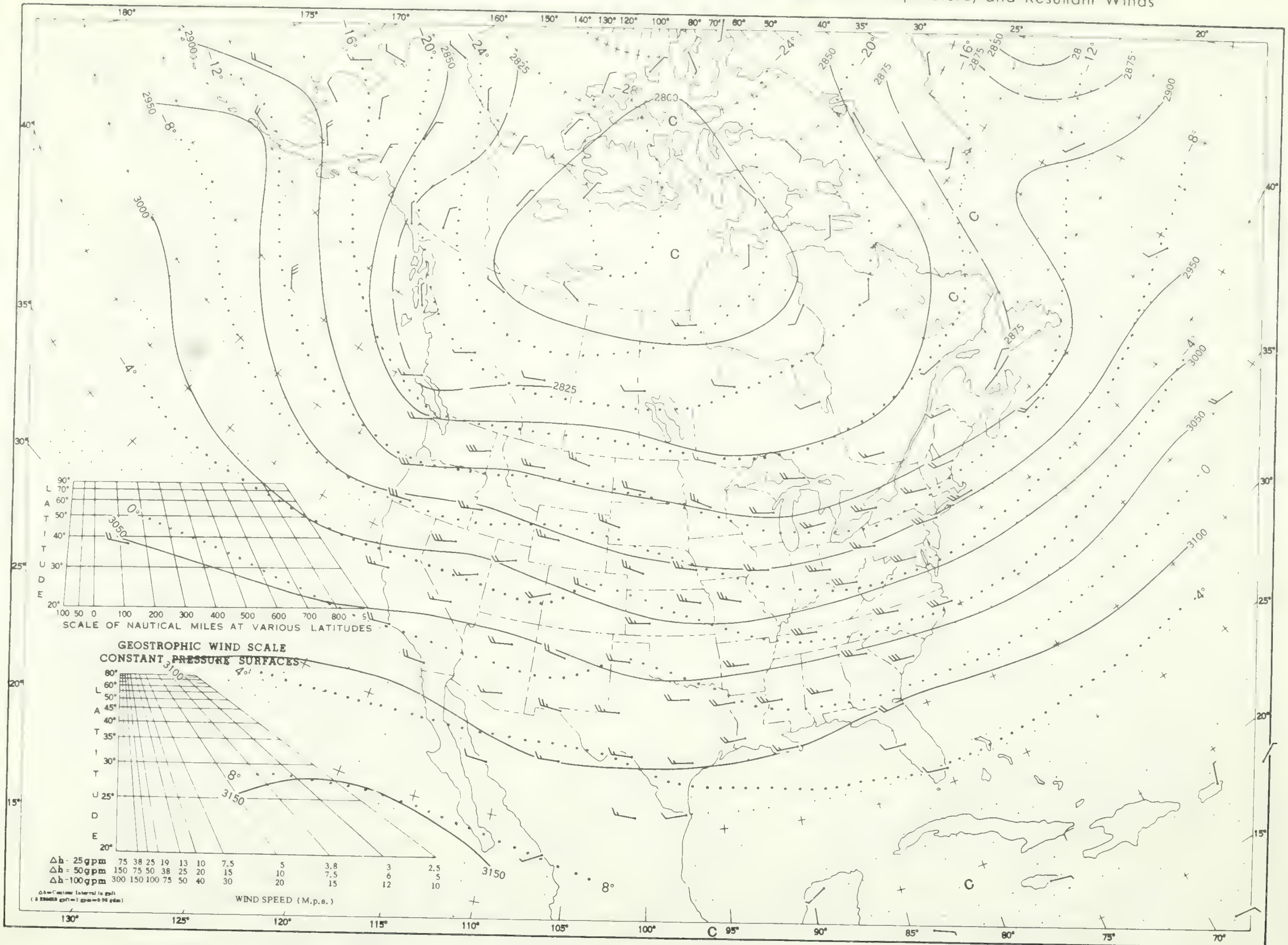
10 Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds



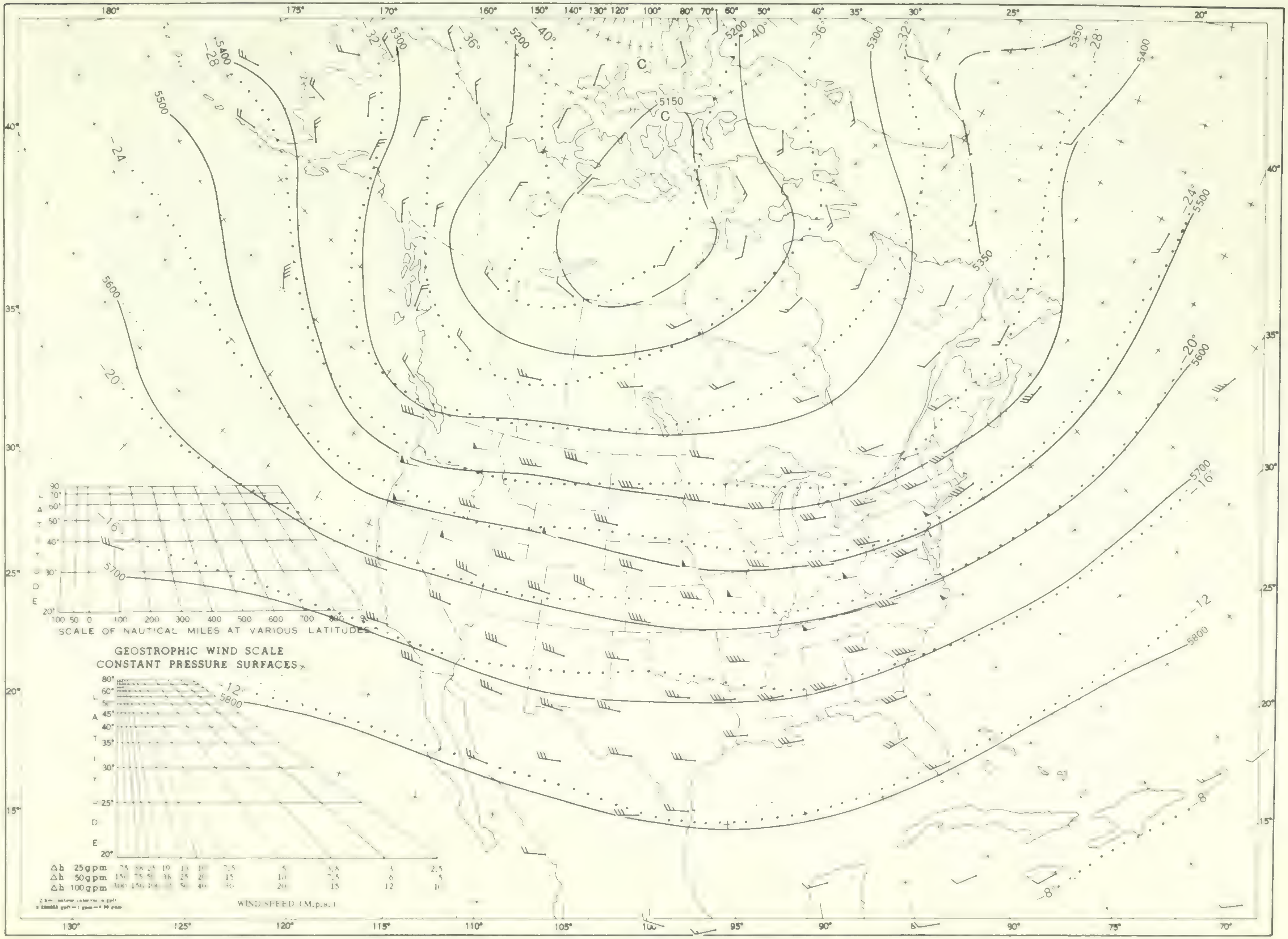
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds



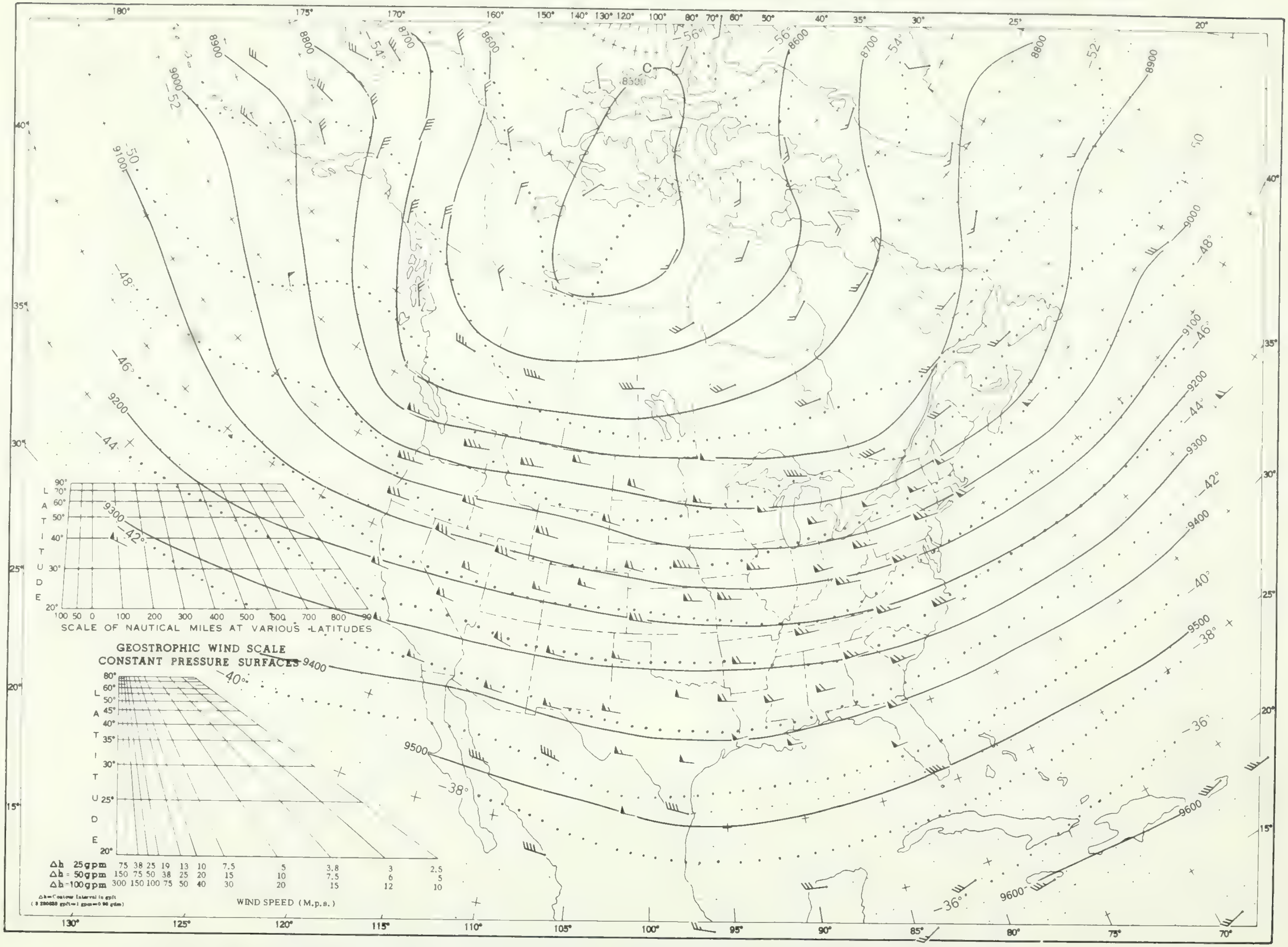
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



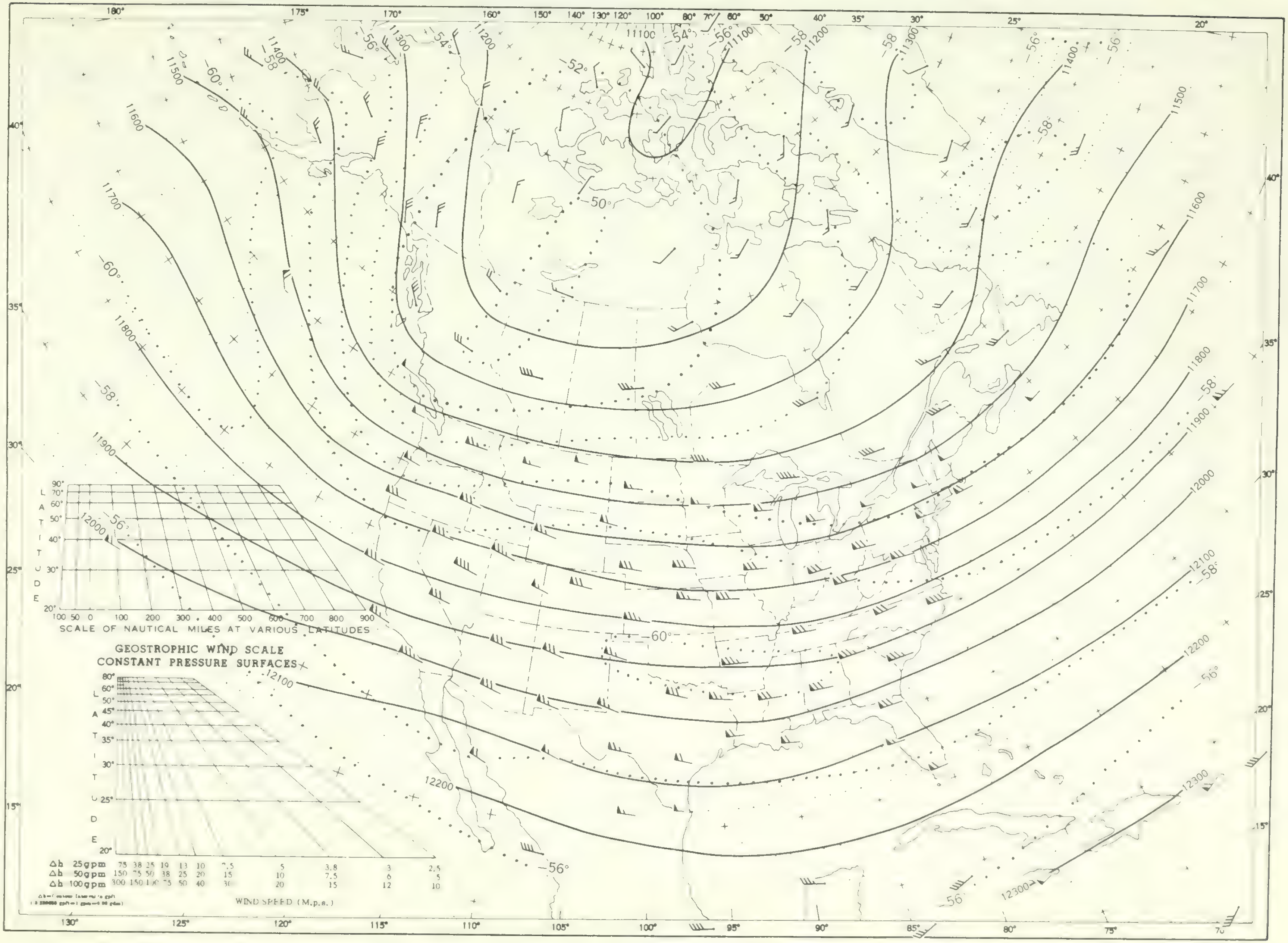
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV 300-mb Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds



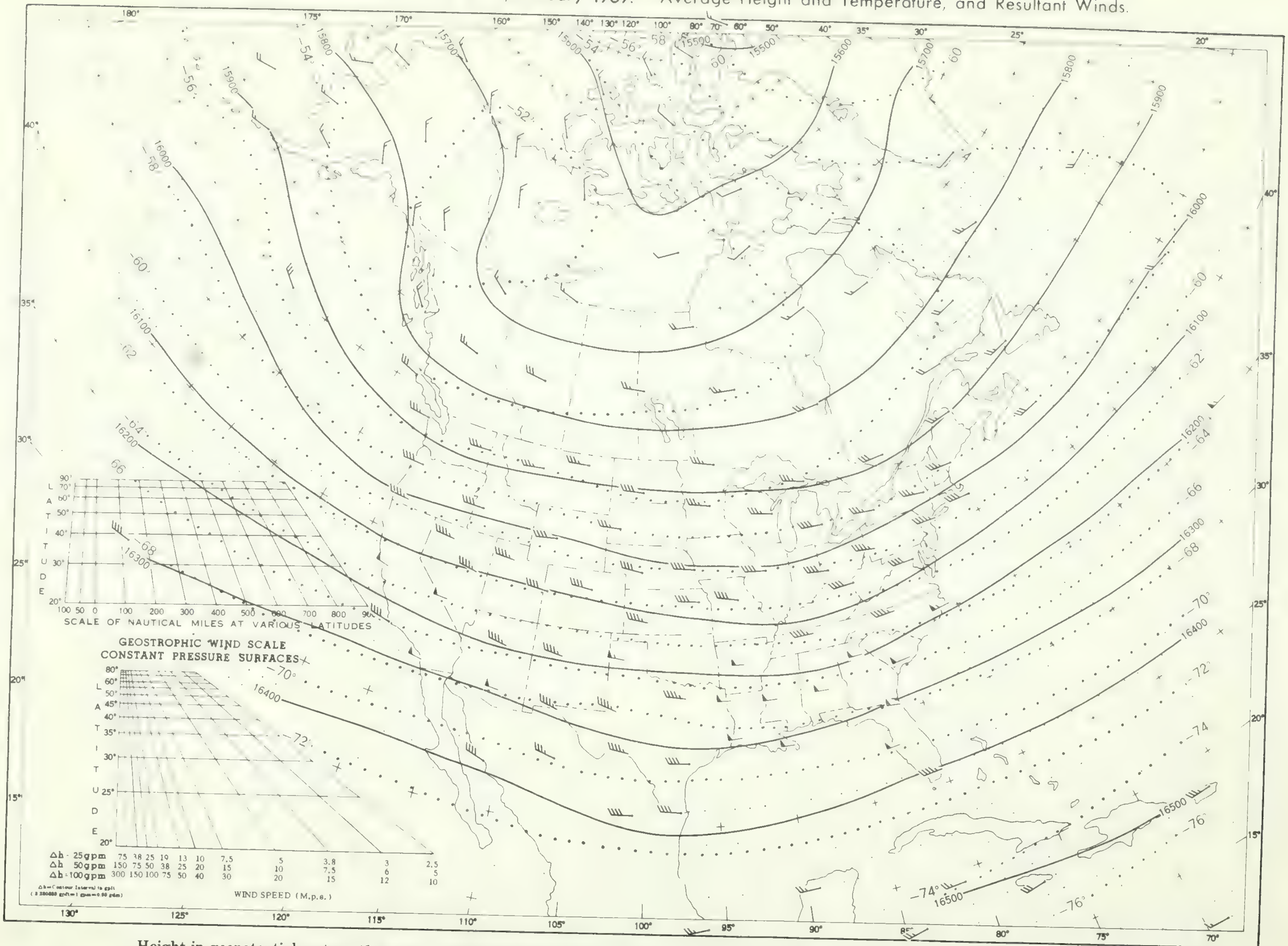
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25mps, full feather 5mps, and half feather 2.5mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



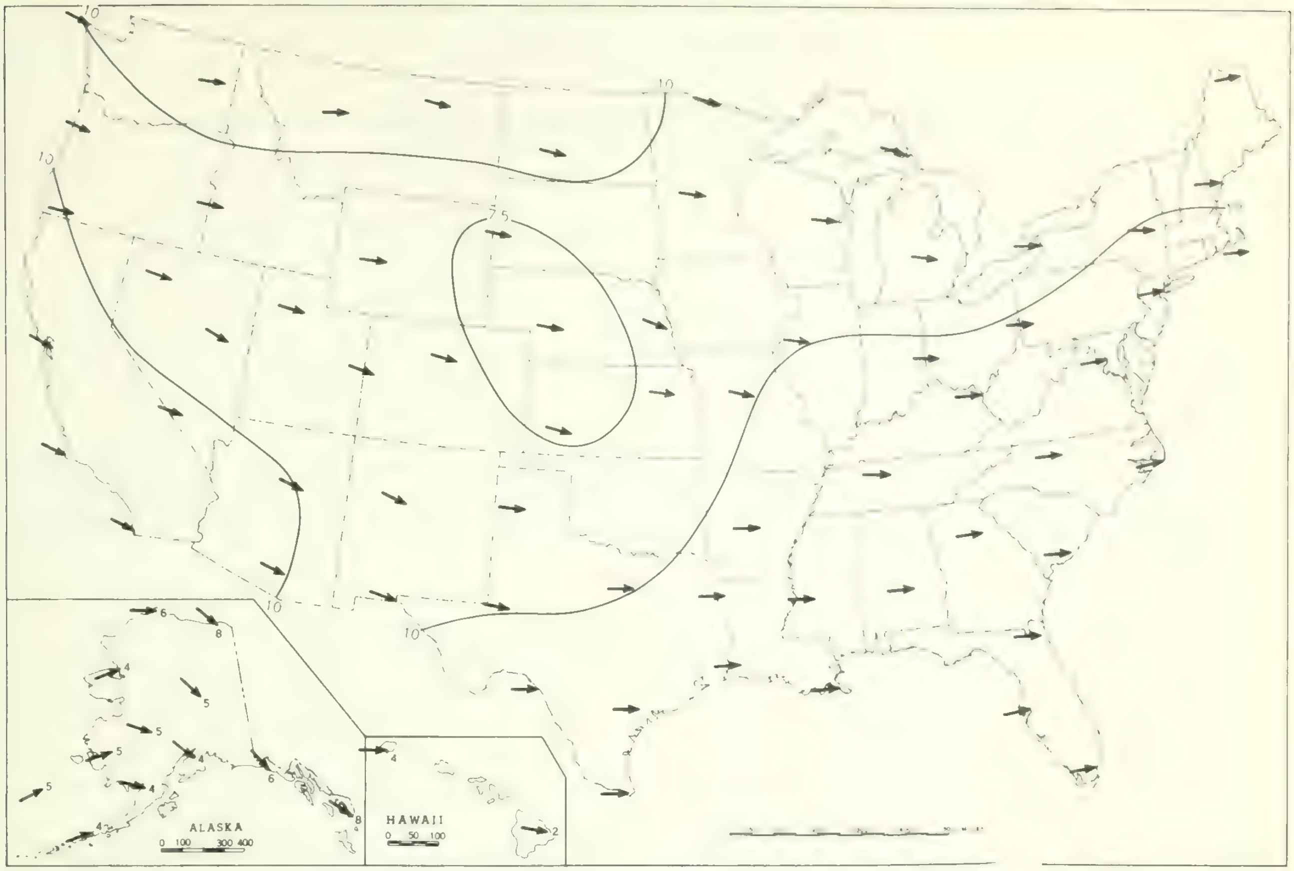
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.

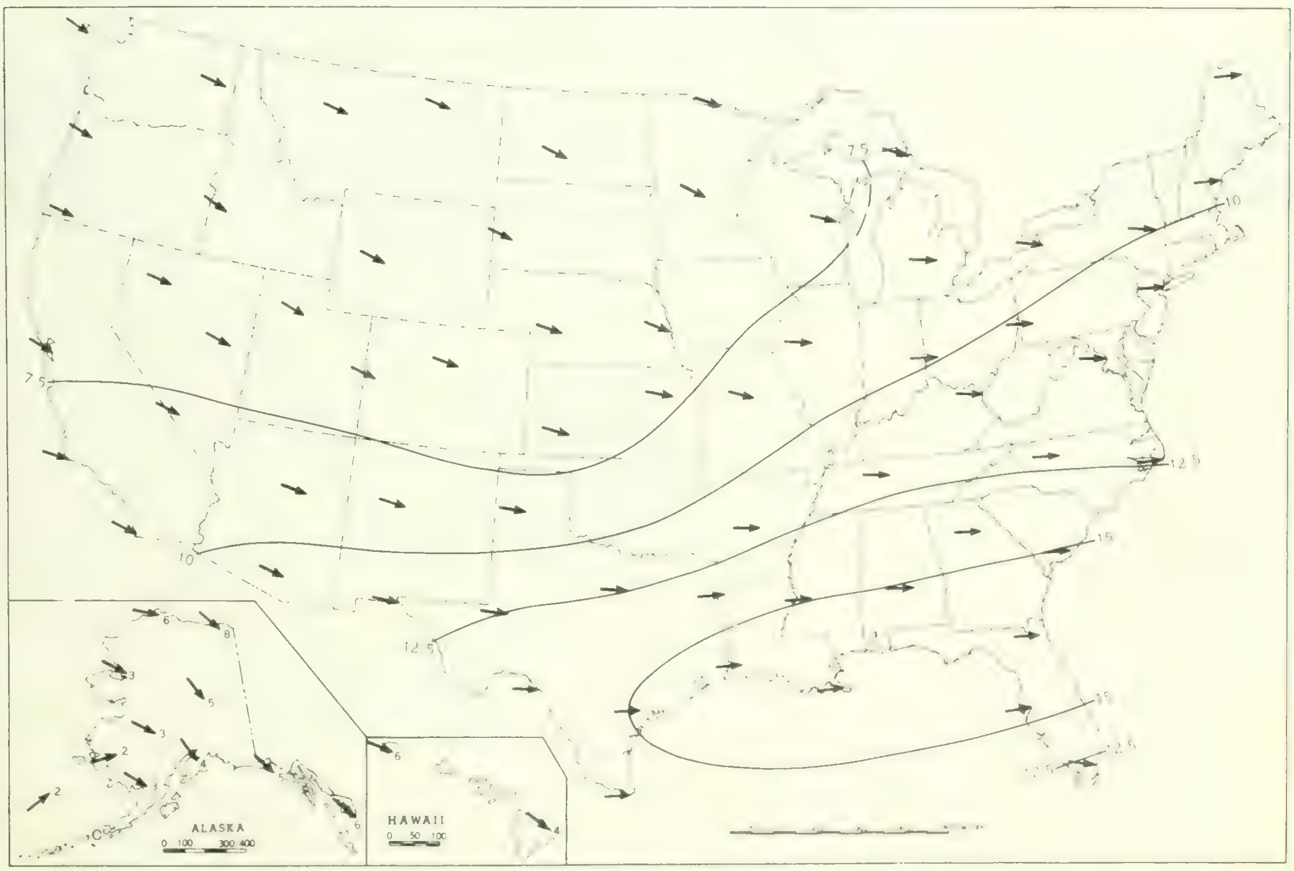


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, January 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, January 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations

USCOMM-ESSA-Asheville, N.C.

DEPARTMENT OF COMMERCE
MENTAL SCIENCE SVCS ADMIN
NAL WEATHER RECORDS CENTER
FEDERAL BUILDING
LLE, NORTH CAROLINA 28801

POSTAGE AND FEES PAID
UNITED STATES
DEPARTMENT OF COMMERCE
OFFICIAL BUSINESS

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

FEBRUARY 1969
Volume 20 No. 2

Asheville 1969

C O N T E N T S

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 2 FEBRUARY 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. Only light sprinkles or light snow fell in portions of the Great Lakes region in February.
2. Recordbreaking heavy snowfall fell in parts of the Dakotas and Nebraska.
3. The snowpack in the Cascades and Sierras reached record or near-record depths.
4. Several severe snowstorms battered New England.

TEMPERATURE.--February temperatures averaged below normal from the Far Northwest to the western edge of the Great Plains, in California, in the Great Basin, and from eastern Texas to southern New England and southward to the Gulf of Mexico and the Atlantic Ocean. Above-normal monthly average temperatures occurred from the central and southern Rocky Mountains to New England and from the middle and eastern Canadian border to the Ohio River.

Montana averaged 3° to more than 6° colder than normal because of the persistent bitter cold weather in the last 3 weeks of February. Similarly, persistent cold in the Southeast from about the 10th to 28th more than offset the mild weather of the first week of the month.

Temperatures in the cold areas ranged widely. The extremes at Havre, Mont., were -21° on the 1st and 38° on the 9th. At Gainesville, Fla., temperatures ranged from 80° on the 2d to 33° on the 19th. In the warmer areas, the temperatures ranged much less. At Chicago, the highest temperature for the month, 42°, and the lowest, 11°, both occurred on the 4th, the monthly range, 31°. Only twice in Chicago's long record has the temperature failed to go above 42°, and in about 90% of the Februarys, the weather gets colder than 11°, but in no prior February has the small monthly range of only 31° been approached.

Subfreezing temperatures occurred in northern Florida on 1 or 2 days in each week of February. On the 5th, the temperature plunged to the upper 20's in the colder sections of central Florida. Subzero temperatures were common over the northern Great Plains and the northern and central Rocky Mountains on several days scattered through the month.

PRECIPITATION. -- February precipitation ranged widely, from less than 1/30 inch at Yuma, Ariz., to more than 9 inches at Quillayute, Wash. These extremes, however, are not impressive for those locations. Yuma receives less than 0.03 inch in February in about 2 out of 10 years and 9 inches at Quillayute is less than 3/4 of the February normal. Outstanding among the February 1969 records are such meager amounts as 0.04 inch at Green Bay, Wis., and Rockford, Ill., and 0.05 inch at Milwaukee, Wis. In no previous February had any of those stations received less precipitation. The Milwaukee record began in 1872.

At the other extreme, heavy precipitation fell from the eastern Dakotas to central and southwestern Kansas and over the South. Grand Island, Nebr., received 21.5 inches of snow in February, the 2d greatest February snowfall in their 73-year record. Sioux Falls, S. Dak., received 28.5 inches of snow in February 1969, bringing their seasonal total to 91.8 inches.

Several February storms dumped heavy snow in New England. On February 3 and 4, rain fell in southern New England and heavy snow in parts of New York and northern New England. Greenville, Maine, received 22 inches in 24 hours ending at 7 a.m. February 4, increasing the snow cover to 56 inches. Boonville, N. Y., received 8 inches on the 5th. Another storm, after leaving moderate to heavy snow over the central Appalachians on the 8th, turned northeastward dumping 15 to 20 inches of new snow on the large cities in the Northeast, becoming the worst storm in 10 years. Winds in southern New England, gusting to over 70 m.p.h., drifted the snow to depths of 6 to 8 feet. The heavy snow and blowing snow stopped both surface and air traffic and halted business and industrial activities in the major cities of the Northeast on the 10th.

Another storm, after dumping 1 to 1 1/2 feet of snow over western North Carolina on the 15th and 16th, moved far out into the Atlantic. It stalled about 600 miles east of the Virginia coast, and continued to furnish rain, freezing rain, freezing drizzle, and snow to the Middle Atlantic States and Northeast. One to 3 inches of snow fell from Washington, D. C., to New York City on the 20th. By the 26th, 2 feet of snow had fallen at Boston, Mass., and 3 feet at St. Johnsbury, Vt. In some areas the snow fell continuously for more than 100 hours and many schools remained closed from the 24th to 28th. The storm set new records for a wide area including stations in Vermont, New Hampshire, Maine, and Massachusetts.

The snowpack in the Cascades in Washington and Oregon was above normal and that in the Sierras of California neared record depth. The heavy rains in southern California caused damaging mudslides and some flooding. The deep snow in the Cascades, Sierras, New England, and the northern Great Plains from northeastern Nebraska to southwestern Minnesota increased the flood potential in those areas.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

FEBRUARY 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Greenville	85	25	Valley Head	14	13	Madison	8.21	Sylacauga 4NE	0.88
Alaska	2 Stations	53	23	Tok	-59	4	Little Port Walter	12.00	Dot Lake	.00
Arizona	do	81	11	Hawley Lake	-18	22	Junipine	4.62	2 Stations	.00
Arkansas	Texarkana FAA AP	78	7	Huntsville	12	17	Stamps	8.33	Marianna 2S	.57
California	Borrego Desert Park	80	28	Bridgeport	-29	17	Lake Arrowhead	35.94	2 Stations	.00
Colorado	Lamar	75	26	Taylor Park	-41	3	Wolf Creek Pass 4W	7.02	do	.00
Connecticut	Norwalk Gas Plant	50	1	Coventry	-8	16	Norfolk 2SW	4.54	West Thompson Dam	1.49
Delaware	Georgetown 5SW	55	1	2 Stations	15	15	Selbyville	3.75	Wilmington Porter Resvr	1.41
Florida	La Belle	87	2	Fountain 3SSE	22	19+	Steinhatchee McCain Tr	6.61	Melbourne	.90
Georgia	Cairo 2NNW	82	2	2 Stations	15	14+	Blue Ridge	9.30	Louisville	1.45
Hawaii	Mauna Kea Beach 98	92	8	do	27	28+	Honomu Mauka 138	81.55	3 Stations	.00
Idaho	Riggins Ranger Station	56	28	Grouse	-28	2	Galena	D 5.89	Leadore No 2	D .20
Illinois	3 Stations	58	21+	2 Stations	0	3	Mount Sterling	2.99	2 Stations	T
Indiana	Jeffersonville	64	21	3 Stations	3	14+	2 Stations	1.63	Auburn 2SSE	.03
Iowa	2 Stations	48	25	2 Stations	-18	1	Lake Park	2.54	2 Stations	T
Kansas	Johnson 11ESE	77	26	do	-9	1	Coldwater	2.53	Bonner Springs	.12
Kentucky	Barbourville	65	3	Mammoth Cave Park	4	13	Middlesboro	6.41	Vanceburg	.58
Louisiana	Oberlin Fire Tower	83	7	Ashland 2S	21	18+	Melville	8.83	Buras	2.50
Maine	West Buxton 2NNW	55	21	Squa Pan Dam	-35	7+	Rumford 1SSE	7.91	Vanceboro No 2	1.38
Maryland	2 Stations	54	6+	Oakland 1SE	-11	15	Snow Hill 4N	4.05	Westernport UPRC	.69
Massachusetts	Edgartown	52	1	Birch Hill Dam	-11	16	Pembroke	9.64	Cummington Hill	1.90
Michigan	5 Stations	48	24+	4 Stations	-22	14+	Fife Lake 4SW	2.05	Manistique 2WNW	.00
Minnesota	Cambridge St Hospital	45	23	Thorhult	-37	3	Comfrey	4.15	3 Stations	T
Mississippi	3 Stations	81	9+	Tupelo 2WNW	18	13	Pontotoc Exp Sta	7.81	Bay Springs	2.20
Missouri	Joplin FAA AP	71	7	Maryville 2E	-11	1	Ellington	3.44	Polo	.13
Montana	Wyola	56	9	Saco 1NNW	-37	1	Monida	4.38	4 Stations	.00
Nebraska	Big Springs	65	9	Wakefield	-12	1	Bruning	3.70	Wallace 1ENE	.06
Nevada	3 Stations	68	18+	Rand Ranch Palisade	-20	3	Mt. Rose-Christmas Tree	12.92	Dufurrena	.45
New Hampshire	2 Stations	49	21+	Mount Washington	-25	5	Mount Washington	25.56	Walpole 2	1.85
New Jersey	Millville	52	1	Sussex 1SE	0	16	Tuckerton	3.92	Branchville	1.27
New Mexico	2 Stations	78	26+	Gavilan	-20	8	Bateman Ranch	3.50	5 Stations	.00
New York	Gowanda State Hospital	53	23	Hinckley	-19	16	Bridgehampton	6.15	Norfolk	.17
North Carolina	Elizabethtown Lock 2	78	1	Grandfather Mountain	-4	4	Nantahala	8.55	Shallotte 4WNW	1.68
North Dakota	Medora 22NNW	43	10	Keene 3W	-36	1	Forbes 9NNW	2.90	Hillsboro	T
Ohio	McConnelsville Lock 7	58	3	Dorset	-12	14	Kings Mills	1.92	Paulding 1NE	.05
Oklahoma	5 Stations	81	26+	Kenton	5	3	Cloudy Tower	5.99	Regnier	.20
Oregon	Elkton 3SW	63	20	Seneca	-14	24	Gold Beach Ranger Sta	12.60	Fremont	.19
Pennsylvania	East Brady	58	21	Eagles Mere	-14	15	Neshaminy Falls	2.56	West Grove 1SE	.26
Puerto Rico	12 Stations	90	21+	Guineo Reservoir	47	27+	Rio Grande El Verde	7.77	2 Stations	.00
Rhode Island	Kingston	44	1	Kingston	6	17	Woonsocket	9.84	Block Island WBAP	3.89
South Carolina	2 Stations	78	3+	2 Stations	12	21+	Caesars Head 1NE	8.47	McClellanville	1.33
South Dakota	Pactola Dam	60	5	Andover 8NNE	-24	1	Centerville 6SE	5.52	Porcupine 16NW	.08
Tennessee	Gatlinburg 2SW	70	3	Mountain City No 2	7	14	Parsons Water Plant	7.76	Newbern	2.21
Texas	Mission	90	7	3 Stations	8	4+	Cypress 1SW	8.64	Fort Davis	.00
Utah	Bullfrog Basin	67	27	Scofield	-29	27	Alta	12.16	Antimony	.11
Vermont	2 Stations	50	23+	Mount Mansfield	-22	6	Mount Mansfield	4.93	Burlington WBAP	.94
Virginia	John H. Kerr Dam	69	1	Blacksburg 2	-4	13	Stuart 1SSE	6.82	Riverton	.55
Washington	2 Stations	62	25+	Omak 2NW	-16	2	Clearwater	13.22	John Day Dam	.22
West Virginia	Williamson	63	22	Canaan Valley	-13	15	Pickens 1	3.79	New Cumberland	.31
Wisconsin	Minocqua Dam	48	28	Dodge	-28	4	Gurney	.78	2 Stations	.00
Wyoming	Wheatland 4N	63	25	Big Piney	-28	2	Moose	2.51	Emblem	.00

\+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%
ALABAMA															
BIRMINGHAM	620	994.9	1018.0	55	34	44.5	-4.2	70	8	23	19+	0	15	34	70
HUNTSVILLE	624	994.6	1018.3	50	33	41.6	-3.5	68	2	20	13	0	16	33	75
MOBILE	211	1009.5	1017.5	64	44	53.7	-1.5	80	8	33	19+	0	0	43	71
MONTGOMERY	183	1010.5	1018.0	59	38	48.9	-1.4	81	1	28	4	0	6	38	71
ALASKA												B			
ANCHORAGE	114	995.6	1000.7	26	10	17.9	-0.8	41	27	-15	3	0	27	11	71
ANNETTE	110	1000.3	1004.4	42	30	35.9	0.8	53	23	21	5+	0	18	28	75
BARROW	31	1018.0	1018.5	-15	-24	-19.3	-1.0	18	28	-35	9	0	28	-24	78
BARTER ISLAND	39	1015.2	1017.2	-18	-32	-24.8	-5.2	17	28	-49	6	0	28	-33	61
BETHEL	125	993.9	999.6	15	0	7.7	-0.5	38	19	-36	11	0	28	3	80
BETTLES	644	983.7	1010.8	-1	-19	-9.7		31	28	-46	8+	0	28	-18	69
BIG DELTA	1268	957.0	1007.6	11	-9	1.0		41	26	-46	5+	0	28	-4	76
COLD BAY	96	991.2	995.1	33	23	28.0	0.0	41	19	1	11+	0	22	22	76
FAIRBANKS	436	989.2	1007.4	6	-20	-7.3	-4.4	41	27	-49	4	0	28	-19	55
FAREWELL	1499			14	-8	3.0		39	15	-48	5	0	28		
GULKANA	1572	945.8	1008.2	10	-12	-1.4		36	28+	-44	5	0	28	-7	74
HOMER	67			30	15	22.3		41	14	-9	5	0	25		
ILIAMNA	186			20	7	13.8		36	25+	-32	5	0	28		
JUNEAU	12	1004.4	1005.0	30	12	21.2	-5.6	40	10	-11	5	0	28	18	86
KING SALMON	49	994.9	997.1	19	6	12.8	-4.6	36	27+	-35	11	0	27	5	69
KOTZEBUE	10	1006.8	1007.3	8	-6	0.7	4.7	30	28	-27	9	0	28	-8	65
MC GRATH	344	991.2	1004.6	9	-15	-3.2	-3.3	43	27	-53	5	0	28	-11	65
NENANA	356			5	-20	-8.0		45	27	-54	4	0	28		
NOME	13	1002.4	1003.3	14	-4	5.2	-0.3	32	27	-31	10+	0	28	0	78
ST. PAUL ISLAND	22	994.2	995.0	29	20	24.2	0.9	36	23+	9	10	0	28	21	86
SHEMYA	122	991.2	994.8	33	27	29.8	-1.0	40	4	21	19+	0	28	24	77
SUMMIT	2401	913.3	1005.4	14	0	7.1		32	27	-28	4	0	28	2	76
TALKEETNA	345	988.2	1001.8	26	3	14.5		40	28	-33	5	0	28	9	73
TANANA	232			1	-19	-8.9		35	28	-54	5	0	28		
UNALAKLEET	15	1002.7	1003.5	12	-2	5.5		38	27	-34	9	0	28	0	78
YAKUTAT	28	1001.0	1002.1	32	12	21.9	-6.7	40	17+	-20	5	0	28	16	74
ARIZONA															
FLAGSTAFF	7006	782.9	1015.8	35	15	25.4	-4.2	49	11+	-1	8	0	28	12	55
PHOENIX	1117	974.6	1014.1	66	40	53.0	-0.5	76	18	29	1	0	2	37	60
TUCSON	2584	924.8	1013.3	66	40	53.1	0.2	77	25	28	1	0	2	30	49
WINSLOW	4895	848.6	1015.4	52	25	38.6	1.1	62	25	10	1	0	24	23	60
YUMA	194	1006.8	1014.0	70	44	56.9	-0.4	76	25+	34	1	0	0	35	48
ARKANSAS															
FORT SMITH	447	1001.7	1018.8	53	32	42.8	-0.9	72	7	23	19+	0	13	31	69
LITTLE ROCK	257	1008.8	1018.7	52	34	43.0	-1.4	72	6	24	13+	0	12	33	71
CALIFORNIA															
BAKERSFIELD	475	997.0	1014.8	59	43	51.1	-0.9	69	10	33	1	0	0	40	67
BISHOP	4108	869.3		44	16	30.1	-11.1	49	17+	-2	8+	0	27		
BLUE CANYON	5280			35	25	30.1	-7.0	48	3	19	20	0	27		
EUREKA U	43			52	41	46.2	-2.0	63	10	34	22+	0	0		
FRESNO	328	1002.7	1014.6	56	39	47.5	-3.0	67	10	31	1	0	1	40	77
LONG BEACH	34	1013.9	1015.4	62	45	53.7	-0.7	74	3	37	1	0	0	44	72
LOS ANGELES	97	1011.2	1014.8	60	48	53.9	-1.3	73	3	42	1	0	0	45	73
LOS ANGELES U	270			62	48	54.9	-2.2	74	3	42	1	0	0		
MT SHASTA R	3544			39	26	32.5	-4.5	49	3	12	2	0	25		
OAKLAND	6	1013.2	1013.3	55	46	50.5	-0.2	62	10	41	13+	0	0	44	81
RED BLUFF	342	1000.0	1012.8	53	40	46.1	-3.6	60	12+	30	22+	0	3	40	81
SACRAMENTO	17	1012.5	1013.4	53	41	47.4	-1.8	63	10	33	3	0	0	41	80
SANDBERG R	4517	858.5		43	31	37.2	-4.2	53	17+	23	1	0	18		
SAN DIEGO	13	1014.6	1015.5	61	49	54.9	-1.3	70	3	41	1	0	0	46	72

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	In.	In.	In.			In	In.	M.p.h.		M.p.h.							%
ALABAMA																	
BIRMINGHAM	3.17	-2.11	0.77	10	2	T	0	2.0	1	28	NW	8	6	8	14	6.6	50
HUNTSVILLE	6.97	1.75	3.14	9	1	0.5	T	2.7	36	28	29	8	7	5	16	6.9	
MOBILE	3.40	-1.19	1.61	7	2	T	T	2.2	35	29	12	22	5	8	15	6.7	
MONTGOMERY	3.64	-0.72	1.69	8	1	T	T	2.3	32	28	NW	3	7	6	15	6.5	55
ALASKA																	
ANCHORAGE	0.73	0.02	0.24	11	0	10.6	21	1.1	6	28	18	26	3	8	17	7.5	37
ANNETTE	3.40	-5.14	1.01	15	0	29.5	41	5.2	10	26	11	10+	8	2	18	6.9	
BARROW	0.13	-0.04	0.06	5	0	2.0	11	7.5	6	30	6	11	10	5	13	5.7	
BARTER ISLAND	0.12	-0.23	0.08	3	0	1.8	4	1.7	17	40	9	11	13	6	9	5.1	
BETHEL	0.42	-0.70	0.16	10	0	10.7	16	5.9	5	47	3	5	7	3	18	7.0	
BETTLES	0.37		0.23	5	0	4.7	26	6.0	36	20	6	27+	12	5	11	5.1	
BIG DELTA	T		T	0	0	0.2	3	9.2	13	37	19	27+	9	8	11	5.4	
COLD BAY	2.33	-0.84	0.44	22	0	21.0	11	1.7	21	58	34	6	0	7	21	8.4	
FAIRBANKS	0.10	-0.42	0.06	3	0	1.4	22	2.2	2	14	10	27+	6	11	11	6.1	
FAREWELL	0.42			2		2.7							7	6	15	6.4	
GULKANA	0.08		0.04	5	0	1.6		.9	19	26	16	27	5	8	15	6.7	
HOMER	2.34		0.99	9	0	28.0	27						7	8	13	6.7	
ILIAMNA	1.36		0.72	7		13.5	38						8	8	12	6.6	
JUNEAU	0.68	-2.38	0.19	10	0	17.1	25	3.3	10	28	12	20	4	8	16	7.4	45
KING SALMON	1.94	0.99	1.29	12	0	13.9	12	5.3	9	53	14	27+	6	7	15	7.0	
KOTZEBUE	0.18	-0.12	0.11	7	0	3.1	11	7.3	8	38	17	28+	8	4	16	6.4	
MC GRATH	0.22	-0.92	0.15	5	0	8.0	18	0.8	5	26	20	28+	6	7	15	6.7	
NENANA	0.03		0.02	2	0	0.5				31	6	17	9	8	11	5.6	
NOME	0.32	-0.62	0.07	12	0	4.2	11	8.7	6	44	4	27	10	4	14	5.8	61
ST. PAUL ISLAND	1.68	0.45	0.65	19	0	16.4	9	7.8	5	50	9	5	0	6	22	8.2	
SHEMYA	1.55	-0.73	0.19	22	0	16.7	7	6.2	33	63	32	5	0	7	21	8.6	
SUMMIT	0.49		0.18	9	0	8.2	12	10.6	4	35	5	8+	5	3	20	7.3	
TALKEETNA	0.92		0.38	8	0	26.0	30	4.4	1	23	4	17	4	8	16	7.3	
TANANA	0.28		0.18	4		3.5	24			31	9	27	6	6	16	6.8	
UNALAKLEET	0.21		0.07	8	0	5.1	25	12.7	8	44	10	24+	6	2	20	6.9	
YAKUTAT	3.58	-4.62	1.21	13	0	33.9	44	4.3	9	32	13	26	3	7	19	7.5	
ARIZONA																	
FLAGSTAFF	3.91	2.13	0.94	13	0	42.1	17	4.8	21	25	23	6	9	3	16	6.4	
PHOENIX	0.78	-0.07	0.20	8	0	0.0	0	2.0	13	43Y	SSW	18	11	5	12	5.3	76
TUCSON	0.50	-0.34	0.19	5	0	0.0	0	3.6	16	42	W	22	14	3	11	5.1	72
WINSLOW	0.66	0.18	0.29	7	1	0.9	T	4.4	22	36	22	6	9	8	11	5.2	
YUMA	0.03	-0.33	0.03	1	0	0.0	0	0.7	19	26	W	22+	9	12	7	4.3	82
ARKANSAS																	
FORT SMITH	2.87	-0.56	1.82	8	1	3.7	1	3.0	6	30	W	8	10	6	12	6.0	56
LITTLE ROCK	2.41	-1.92	1.03	10	2	2.3	1	2.7	1	37	NW	8	10	6	12	5.9	59
CALIFORNIA																	
BAKERSFIELD	2.83	1.69	1.05	14	0	0.0	0	1.3	4	24	15	15	7	6	15	6.6	
BISHOP	6.01	5.03	3.64	10		31.9	13						8	8	12	5.8	
BLUE CANYON	17.79	7.60	2.71	22		128.6	124			54	18	27	2	3	23	8.9	
EUREKA U	7.82	2.29	1.40	21		T	T			35	N	19	1	1	26	9.2	35
FRESNO	5.60	3.41	1.99	17	1	0.0	0	4.2	13	22	SE	6+	1	9	18	8.0	42
LONG BEACH	6.07	3.76	1.72	13	1	0.0	0	3.0	22	24	19	23+	8	7	13	6.2	
LOS ANGELES	3.76	0.88	0.92	14	1	0.0	0	2.9	21	37Y	S	6	11	2	15	5.7	
LOS ANGELES U	8.03	4.70	2.13	13		0.0	0			20	S	6	11	1	16	6.0	75
MT SHASTA R	10.09	4.18	2.02	19		83.7	40										
OAKLAND	8.85	5.64	1.47	19	3	0.0	0	3.6	17	32	23	5	3	6	19	7.8	
RED BLUFF	8.63	5.32	1.64	17	2	0.0	0	6.5	17	42	S	24	3	2	23	8.7	29
SACRAMENTO	6.98	3.99	1.40	16	2	0.0	0	5.6	15	35	SE	24	1	7	20	8.4	40
SANDBERG R	5.36	2.78	2.05	12		21.7	7			56	18	24	7	4	17	6.9	
SAN DIEGO	4.34	2.19	0.97	12	0	0.0	0	2.3	21	35	S	25	7	7	14	6.4	65

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CALIFORNIA																																
SAN FRANCISCO	8	1012.9	1013.4	55	43	48.9	- 2.0	65	10	38	26+	0	0	42	79	8.62	5.14	1.64	17	2	0.0	0	3.7	21	47	S	24	3	5	20	8.0	
SAN FRANCISCO U	52			54	46	50.1	- 2.9	64	10	41	4	0	0			7.26	3.60	1.32	19		0.0	0			34	SE	24+					51
SANTA MARIA	236			60	42	51.0	- 0.8	68	3	33	1	0	0			7.57	5.07	2.34	16		0.0	0						7	11	10	5.6	
STOCKTON	22	1012.9	1014.0	53	40	46.4	- 2.6	63	10	29	3	0	2	42	86	5.43	2.97	1.54	18	0	0.0	0	6.2	15	32	14	5	2	3	23	8.6	
COLORADO																																
ALAMOSA	7536	767.0		42	5	23.5	0.0	53	25	-12	3	0	28			0.12	- 0.05	0.06	3		2.4	T						9	12	7	4.8	
COLORADO SPRINGS	6145	806.0	1014.2	47	21	33.8	2.3	64	25	7	3	0	28	12	48	0.12	- 0.21	0.09	2	0	2.0	1	2.2	6	31	36	7	5	9	14	6.4	
DENVER	5283	831.0	1011.7	50	21	35.4	3.9	68	25	12	3	0	28	16	54	0.43	- 0.26	0.23	3	0	4.2	2	0.8	25	32	NW	2	5	9	14	6.4	72
GRAND JUNCTION	4855	849.6	1016.0	43	24	33.6	1.0	61	25	7	2	0	26	22	67	0.40	- 0.29	0.24	7	0	3.8	1	3.4	13	34	SW	25	5	5	18	7.6	60
PUEBLO	4684	851.3	1012.7	53	22	37.8	3.9	67	26+	5	3	0	25	14	41	0.05	- 0.43	0.04	2	0	0.6	1	2.0	34	34	NW	1	8	12	8	5.4	77
CONNECTICUT																																
BRIDGEPORT	7	1012.9	1013.4	35	25	29.9	- 0.6	42	25	13	16+	0	27	21	71	3.68	0.72	2.31	10	0	21.7	18	9.9	35	65	34	10	4	8	16	7.3	
HARTFORD	169	1006.4	1013.1	34	20	26.8	- 0.3	41	21	7	16	0	28	18	69	3.32	0.38	1.84	11	0	32.2	17	7.4	34	34	N	10+	5	7	16	7.1	53
NEW HAVEN	6	1012.9		35	24	29.2	- 0.4	41	21	7	11	0	27			2.47	- 0.72	1.27	8		21.7	15			42	N	10	6	6	16	7.3	51
DELAWARE																																
WILMINGTON	74	1012.2	1015.1	40	27	33.6	- 0.2	47	24	17	15	0	22	20	59	1.76	- 1.19	0.68	9	0	5.5	5	8.9	32	36	30	9	4	6	18	7.7	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1013.9	1016.3	44	30	36.9	- 0.9	51	24	19	15	0	17	22	59	2.08	- 0.39	0.95	8	0	2.2	1	7.4	34	37	NW	4	5	3	20	7.7	40
FLORIDA																																
APALACHICOLA U	13			61	46	53.4	- 3.4	70	12+	34	19	0	0			6.02	2.11	2.85	8	2	0.0	0			42	F	15	8	4	16	6.3	54
DAYTONA BEACH	31	1015.9	1017.3	65	45	55.2	- 5.4	80	2	32	5	0	1	43	66	2.03	- 0.72	1.13	5	1	0.0	0	2.9	32	35	26	15	5	10	13	6.5	
FORT MYERS	15	1016.6	1017.1	71	51	60.9	- 4.3	81	2	42	20	0	0	50	72	2.87	0.66	2.60	3	1	0.0	0	2.3	1	29	35	15	6	12	10	5.9	
JACKSONVILLE	20	1016.3	1017.3	63	43	53.3	- 4.2	80	2	33	28	0	0	41	67	3.39	0.48	2.69	6	1	0.0	0	3.3	32	46	NE	15	8	6	14	6.1	51
KEY WEST	4	1015.6	1016.2	72	64	68.2	- 2.2	78	3+	56	20	0	0	58	70	1.34	- 0.64	1.30	3	1	0.0	0	5.6	4	28	N	4	5	11	12	6.5	74
LAKELAND U	214			68	48	58.1	- 5.0	80	2	37	19	0	0			1.62	- 0.89	0.94	5		0.0	0						7	13	8	5.6	70
MIAMI	7	1015.9	1016.1	74	56	65.2	- 2.7	84	3	44	19	0	0	53	66	2.02	0.15	2.02	1	1	0.0	0	2.3	34	28	35	4	6	13	9	5.8	
ORLANDO	108	1013.2	1017.4	69	47	57.8	- 4.1	80	7+	34	5	0	0	44	66	3.30	0.88	2.15	2	1	0.0	0	2.4	34	46	25	15	8	11	9	5.9	
PENSACOLA	112	1013.2	1017.2	62	44	53.0	- 3.1	75	2	30	19	0	1	42	70	4.98	0.73	2.23	9		T	T	2.3	36	41	E	15	6	5	17	6.9	58
TALLAHASSEE	55	1015.2	1017.7	64	39	51.9	- 3.7	79	2	24	5	0	5	41	73	5.17	0.99	3.16	7	2	0.0	0	2.7	1	40	9	15	9	6	13	6.2	
TAMPA	19	1016.6	1017.0	67	45	55.8	- 6.9	77	1	32	5	0	1	45	71	2.11	- 0.73	1.60	4	1	0.0	0	1.8	35	25	30	15	4	11	13	6.9	65
WEST PALM BEACH	15	1015.9	1016.5	72	51	61.7	- 5.9	83	3	43	27+	0	0	50	68	1.67	- 0.68	1.55	2	1	0.0	0	3.2	33	39	31	15	5	10	13	6.4	
GEORGIA																																
ATHENS	802	987.5	1017.1	53	34	43.5	- 2.6	67	2	22	13	0	16	30	64	3.38	- 1.32	0.71	9	2	2.1	2	2.3	30	23	30	3+	10	2	16	6.2	
ATLANTA	1010	979.7	1017.3	52	34	42.7	- 3.4	67	1	22	13	0	18	31	69	3.20	- 1.31	0.71	10	1	1.2	1	4.2	33	33	NW	3	7	5	16	6.7	54
AUGUSTA	136	1011.5	1016.9	57	33	45.0	- 4.3	73	2+	22	13	0	16	32	66	2.33	- 1.19	0.67	9	1	T	T	2.5	30	26	29	12	9	2	17	6.2	
COLUMBUS	385	1003.4		57	36	46.4	- 3.3	75	1	25	13	0	9	35	70	4.13	- 0.50	1.40	12	1	T	T	2.6	34	35	7	15	8	2	18	6.7	
MACON	354	1004.4	1017.6	56	34	45.2	- 5.9	74	2	24	13	0	15	34	70	3.39	- 0.87	1.12	11	1	T	0	2.9	32	32	E	15	7	4	17	6.5	49
ROME	637			52	32	42.0	- 2.4	69	2	21	13	0	15			6.09	0.79	2.31	9		0.4	T										
SAVANNAH	46	1015.2	1017.0	59	36	47.1	- 6.0	79	1	27	20+	0	14	34	66	1.59	- 2.09	1.04	7	0	T	0	3.3	31	33	NE	15	8	6	14	6.2	61
HAWAII																																
HILO	27	1015.6	1016.9	78	66	72.2	1.6	85	12+	62	24	0	0	66	84	43.66	30.72	15.70	25	0	0.0	0	1.1	13	23	F	21	1	6	21	8.5	20
HONOLULU	7	1015.6	1015.9	80	68	73.9	1.5	85	10	65	26+	0	0	63	74	0.48	- 2.82	0.16	10	0	0.0	0	13.2	6	40	NE	21	1	10	17	7.7	55
KAHULUI	48	1013.5	1015.8	80	65	72.5	0.8	84	11+	56	5	0	0	64	76	3.51	0.97	2.11	13	0	0.0	0	12.0	5	36	E	21	6	8	14	6.5	63
LIHUE	103	1012.5	1017.6	75	66	70.5	- 0.2	81	12	62	14	0	0	64	82	1.94	- 3.38	0.40	15	0	0.0	0	11.5	6	30	NE	21	1	4	23	8.8	22
IDAHO																																
BOISE	2838	911.6	1013.0	43	30	36.2	1.7	51	11	16	1	0	20	26	69	1.00	- 0.33	0.34	11	0	5.5	6	4.4	13	30	SE	24	1	9	18	8.3	38
LEWISTON	1413			41	28	34.7	- 1.2	50	28	15	2	0	24			0.76	- 0.21	0.31	9		3.7	9						0	2	26	9.5	
POCATELLO	4454	859.1	1015.7	35	16	25.7	- 1.5	45	11	2	4	0	28	20	77	0.94	0.02	0.34	11	0	15.2	5	3.7	21	38	W	1	1	2	25	8.9	50
ILLINOIS																																
CAIRO U	314			45	34	39.7	- 1.0	54	21+	26	12	0	12			1.75	- 1.92	0.57	9		3.5	2			26	W	8	6	3	19	7.4	33

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	No. of days sunrise to sunset: Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M p h		M p.h.							%
ILLINOIS																																
CHICAGO O HARE	658	995.6	1020.9	36	24	29.9	3.7	43	21	10	13+	0	25	20	67	0.12	- 1.39	0.05	5	0	2.3	1	3.5	1	29	20	10	6	6	16	6.8	
CHICAGO MIDWAY	607	997.3	1020.8	36	25	30.3	2.6	42	18+	11	4	0	25	20	67	0.25	- 1.35	0.14	5	0	3.2	1	3.5	2	26	S	10	6	7	15	6.9	43
MOLINE	582	998.6	1021.0	34	22	27.9	2.2	42	28+	4	3	0	27	21	77	0.21	- 1.14	0.15	3	0	0.9	T	2.3	3	26	NW	11	6	5	17	6.9	51
PEORIA	652	995.9	1020.7	37	24	30.4	2.0	45	16	8	3	0	28	22	74	0.56	- 1.15	0.32	6	0	2.2	1	3.2	4	30	NW	11	5	4	19	7.3	44
ROCKFORD	724	992.9	1020.8	35	22	28.3	3.9	41	25	7	13+	0	27	21	75	0.04	- 1.40	0.03	2	0	0.8	1	4.0	2	29	29	11	6	4	18	7.2	
SPRINGFIELD	588	997.0	1020.0	38	25	31.5	- 0.1	49	5	12	3	0	23	24	77	1.96	0.14	1.08	5	0	6.8	6	2.3	36	29	NW	11	6	4	18	7.3	44
INDIANA																																
EVANSVILLE	381	1005.1	1019.4	43	30	36.5	- 1.1	56	8	19	13	0	19	27	70	1.39	- 1.79	0.42	9	1	7.0	4	2.5	34	26	NW	12+	6	4	18	7.2	40
FORT WAYNE	791	988.8	1020.0	35	21	27.8	- 0.5	44	21	5	14	0	28	20	74	0.41	- 1.83	0.14	7	0	2.8	1	2.3	36	30	W	4	5	6	17	7.3	57
INDIANAPOLIS	792	989.5	1019.4	39	24	31.7	0.6	53	21	13	13	0	25	23	73	1.23	- 1.05	0.78	5	0	0.8	1	2.8	1	29	N	9	5	6	17	7.4	35
SOUTH BEND	773	990.9	1020.1	34	21	27.8	1.0	44	21	3	14	0	27	21	76	0.54	- 1.34	0.20	8	0	10.0	5	3.2	1	23	23	4	7	4	17	7.2	
IOWA																																
BURLINGTON	692			35	23	29.0	1.2	43	10+	5	3	0	28	23	77	0.96	- 0.43		4	0	5.9		3.0	4	23	22	12+	4	5	19	7.6	
DES MOINES	938	985.1	1021.3	32	20	25.9	2.5	42	25	- 1	1	0	24	21	81	0.97	- 0.13	0.37	8	0	12.3	5	3.1	9	27	NW	11	6	1	21	7.7	36
DUBUQUE	1056	980.4		30	18	24.1	2.1	38	27+	- 1	3	0	28			0.40	- 1.00	0.28	4		4.3	4						5	5	18	7.4	
SIOUX CITY	1095	979.0	1020.7	30	15	22.6	0.4	39	10	- 9	3+	0	26	19	82	1.32	0.43	0.53	7	0	13.0	14	2.7	10	36	NW	11	4	4	20	7.[illegible]	45
WATERLOO	868	988.5	1021.8	28	16	22.0	0.6	36	24	- 8	3	0	26	17	80	0.02	- 0.90	0.02	1	0	0.3	3	2.2	9	25	30	11	5	2	21	7.8	
KANSAS																																
CONCORDIA	1470	963.8	1018.6	37	22	29.4	- 2.2	52	5	1	1	0	26	25	84	1.75	0.84	0.71	10	0	14.5	10	2.5	9	32	NW	28	[illegible]	5	15	6.9	38
DODGE CITY	2582	923.5	1016.3	45	25	35.3	0.3	64	5	14	18	0	24	24	75	1.77	1.07	1.00	5	1	8.9	4	1.8	14	41	N	7	7	6	15	6.6	48
GOODLAND	3654	885.2	1014.8	44	22	33.2	2.3	65	4	11	3	0	27	20	69	0.41	- 0.10	0.23	8	1	4.9	3	3.4	17	28	34	27	8	4	16	6.5	
TOPEKA	876	986.5	1019.4	41	27	33.9	0.8	52	25+	3	1	0	18	25	73	0.42	- 0.63	0.22	6	0	3.4	3	2.4	5	28	N	8	5	6	17	7.3	41
WICHITA	1321	968.8	1017.8	45	27	36.1	- 0.2	68	26	12	18	0	19	26	72	1.35	0.43	0.79	5	0	8.3	7	1.6	8	35	N	8	7	7	14	6.[illegible]	50
KENTUCKY																																
COVINGTON	869	986.1	1018.8	41	26	33.7	0.6	53	21	16	14+	0	22	23	67	1.27	- 1.64	0.88	7	[illegible]	0.3	T	3.2	35	28	34	8	4	5	18	7.7	
LEXINGTON	966	982.4	1018.7	43	29	36.2	0.4	55	21+	15	14	0	19	25	68	1.60	- 1.82	0.55	11	1	6.1	3	1.6	33	23	19	8+	7	4	17	7.1	
LOUISVILLE	477	1000.7	1018.8	44	30	36.9	1.1	58	8	20	14+	0	19	26	68	1.65	- 1.64	0.56	9	1	6.3	2	2.8	35	28	N	8+	7	4	17	7.[illegible]	48
LOUISIANA																																
ALEXANDRIA	92	1013.9	1018.1	60	39	49.4	- 3.4	78	6	26	4	0	6			5.99	1.02	2.63	9	2	0.0	0	1.8	1	23	9	14+	5	6	17	7.2	
BATON ROUGE	64	1014.9	1017.7	64	43	53.5	- 1.9	80	6	31	18	0	3	41	68	5.44	1.02	2.11	11	4	0.0	0	1.6	3	24	12	21	4	6	18	7.5	
LAKE CHARLES	9	1016.3	1017.4	63	45	53.8	- 2.5	80	6	33	18	0	0	46	78	6.75	2.24	2.72	8	4	T		2.2	6	30	9	14	2	8	18	8.0	
NEW ORLEANS	3	1016.9	1017.8	64	46	54.6	- 2.5	81	2	35	18+	0	0	44	69	4.80	0.81	1.41	11	2	0.0	0	2.3	2	31	11	14	4	4	20	7.4	
SHREVEPORT	254	1008.5	1017.8	59	40	49.2	- 1.1	77	7	27	4	0	2	38	70	4.32	0.23	1.90	9	3	0.0	0	1.3	6	23	29	8+	4	4	20	7.4	[illegible]
MAINE																																
CARIBOU	624	990.5		27	9	17.8	5.3	43	20	-20	6	0	28			2.25	0.23	1.04	11		29.7	51						5	2	21	7.9	
PORTLAND	47	1010.2	1012.7	34	17	25.0	2.2	42	20	- 6	6	0	27	16	68	6.28	2.48	2.49	11	0	61.2	28	5.2	35	33	NE	9+	7	4	17	6.7	47
MARYLAND																																
BALTIMORE	148	1010.5	1016.1	41	28	34.9	- 0.8	48	11	17	15	0	19	20	56	1.75	- 1.14	0.80	8	0	6.4	2	7.1	32	42	W	4	4	5	19	7.5	42
MASSACHUSETTS																																
BLUE HILL OBS R	629			32	21	26.7	- 0.7	39	12	8	15	0	28			9.32	5.59	3.26	15		65.4	41			56	NE	9					37
BOSTON	15	1011.2	1012.2	34	25	29.5	- 0.8	40	12	12	6	0	26	20	70	7.08	3.76	2.68	12	0	41.3	20	9.0	34	43	N	9	6	5	17	6.9	40
NANTUCKET	43	1009.8	1010.0	40	29	34.4	3.0	48	9+	17	16	0	15	28	78	3.89	0.13	1.20	16	0	4.9	T	9.9	36	47	NW	10	3	6	19	7.8	33
WORCESTER	986	974.3	1012.4	31	20	25.1	0.2	40	12	5	15	0	28	18	76	3.04	0.12	1.08	9	0	39.5	31	7.0	34	43	28	4	5	6	17	7.[illegible]	
MICHIGAN																																
ALPENA	689	994.2	1020.5	31	11	20.6	2.0	38	28+	- 7	15	0	28	11	67	0.34	- 1.27	0.18	7	0	8.1	10	3.6	31	22	W	3	7	8	13	6.1	52
DETROIT	619			35	22	28.4	1.2	46	23	12	14	0	26			0.10	- 1.98	0.10	1	0	1.1		4.6	33	32	29	3					
DETROIT M WAYNE CO	633	994.2	1019.2	36	21	28.2	1.5	46	23	10	14+	0	26	18	67	0.15	- 1.80	0.14	3	0	2.3	2	4.3	34	35	NW	4	5	7	16	7.0	46
FLINT	771	990.5	1019.4	34	19	26.1	1.3	45	21	5	15	0	27	17	68	0.17	- 1.59	0.07	6	0	2.9	1	3.4	33	24	27	3	6	5	17	7.0	
GRAND RAPIDS	784	989.8	1020.3	31	17	24.4	0.1	40	21	1	14	0	28	16	71	0.33	- 1.42	0.20	5	0	6.3	2	3.7	35	31	W	4	6	3	19	7.4	46
HOUGHTON LAKE	1149	976.6	1020.6	30	9	19.4	0.6	39	28	-11	6	0	28	14	75	0.32	- 0.97	0.10	10	0	8.7	9	3.3	33	22	30	3	7	2	19	7.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	841	987.1	1020.1	35	16	25.4	1.2	48	21	4	5	0	28	15	65	0.22	- 1.73	0.11	6	0	3.1	2	3.6	34	36	W	4	5	7	16	6.9	52
MARQUETTE U	677			29	17	22.6	2.9	36	23	3	4	0	28			0.79	- 0.86	0.27	11		12.2	27			32	SW	10	4	5	19	7.6	50
MUSKEGON	627	996.6	1020.4	32	20	25.7	0.0	42	28	6	15	0	28	17	69	0.43	- 1.37	0.16	6	0	9.6	6	4.0	1	26	31	3	6	4	18	7.4	
SAULT STE MARIE	721	992.9	1020.8	28	9	18.3	2.6	38	26	- 5	13	0	28	11	73	0.66	- 0.84	0.18	10	0	12.0	20	3.8	33	31	W	3	7	6	15	6.6	62
MINNESOTA																																
DULUTH	1428	968.8	1023.1	23	5	14.4	3.6	36	24	-17	5	0	28	9	75	0.26	- 0.70	0.12	7	0	3.0	38	2.3	6	31	NW	11	6	2	20	7.6	58
INTERNATIONAL FALLS	1179	977.7	1023.3	22	- 1	10.4	3.3	36	28	-31	3	0	28	2	65	0.27	- 0.44	0.14	5	0	4.1	35	1.4	8	23	26	10	3	7	18	7.2	
MINNEAPOLIS	834	990.5	1022.6	27	11	19.3	3.6	38	24+	-20	1	0	27	11	70	0.31	- 0.47	0.13	7	0	5.3	23	2.3	11	28	NW	10	4	5	19	7.8	45
ROCHESTER	1297	971.9	1021.8	27	11	18.6	2.4	37	24	-15	1	0	28	12	75	0.14	- 0.66	0.07	3	0	2.6	14	1.4	9	35	30	10	5	3	20	7.8	
ST CLOUD	1034	982.4	1022.5	25	7	15.8	2.4	42	24	-21	1	0	28		72	0.69	- 0.11	0.34	8		6.8	30						7	3	18	7.1	
MISSISSIPPI																																
JACKSON	310	1005.8	1018.0	59	37	48.1	- 2.4	77	6	23	4	0	8	38	71	3.02	- 1.94	1.10	10	3	0.0	0	1.7	1	27	N	3	5	9	14	6.5	50
MERIDIAN	290	1006.8	1018.1	61	38	49.2	- 1.4	75	1	25	4	0	8	37	70	2.30	- 2.79	1.15	7	1	0.0	0	1.5	33	23	34	3	7	7	14	6.5	
MISSOURI																																
COLUMBIA	778	990.2	1019.2	41	27	34.4	0.6	53	10	15	3	0	18	27	77	1.52	- 0.29	0.71	9	0	3.7	2	2.2	6	29	NW	8	5	4	19	7.6	39
KANSAS CITY	742	991.5	1019.4	41	28	34.2	- 1.6	52	25	8	1	0	19	27	78	0.49	- 0.75	0.22	7	0	1.6	4	2.1	5	29	NW	8	6	6	16	7.2	42
ST JOSEPH	811			41	26	33.2	2.1	58	25	- 8	1	0	19	25	75	0.37	- 0.72		6	0	0.5		2.0	5	23	12	26+	6	5	17	7.1	
ST LOUIS	535	999.0	1020.0	42	28	35.3	0.6	57	5	17	13	0	19	27	74	2.04	0.00	0.75	9	1	5.8	3	1.6	1	28	W	2	4	6	18	7.4	41
SPRINGFIELD	1268	972.2	1018.7	46	27	36.6	- 0.5	61	7	13	18	0	20	26	71	1.32	- 0.80	0.54	9	0	8.8	8	1.7	14	31	SE	26	6	5	17	7.1	41
MONTANA																																
BILLINGS	3567	887.2	1014.9	32	17	24.3	- 1.4	44	9	4	7	0	28	14	68	0.17	- 0.43	0.09	4	0	2.0	6	3.3	27	32	NW	2	4	7	17	7.5	34
GLASGOW	2284	931.9	1018.4	17	0	8.2	- 5.4	38	9	-23	2	0	28	5	84	0.14	- 0.27	0.05	6	0	2.7	20	6.0	10	29	10	25	7	1	20	7.5	
GREAT FALLS	3662	883.5	1016.5	25	8	16.6	- 7.2	42	4	- 5	26+	0	28	10	74	0.40	- 0.34	0.17	6	0	5.2	12	5.0	21	47	SW	3	2	11	15	7.2	59
HAVRE	2584	920.8	1017.5	17	- 4	6.7	- 9.6	38	9	-21	1	0	28	- 2	64	0.23	- 0.20	0.11	5	0	5.1	23	3.1	23	35	SW	9	3	6	19	7.9	78
HELENA	3828	876.4	1017.4	25	4	14.5	- 8.7	39	9+	- 9	28+	0	28	8	72	0.22	- 0.21	0.15	5	0	3.6	15	3.0	25	45	S	9	1	8	19	8.0	48
KALISPELL	2965	906.9	1014.5	30	11	20.2	- 4.3	38	3	- 3	14+	0	28	15	77	0.50	- 0.50	0.21	10	0	7.2	28	0.9	23	23	20	3	0	8	20	8.5	
MILES CITY	2629	919.7	1016.8	25	8	16.5	- 3.8	39	25	- 5	8	0	28	11	79	0.24	- 0.13		4	0	2.4		0.6	36								
MISSOULA	3190	899.8	1015.4	30	11	20.7	- 4.3	40	9	- 6	21	0	28	18	88	0.52	- 0.35	0.14	9	0	9.2	16	1.1	13	27	SE	9	4	2	22	9.1	41
NEBRASKA																																
GRAND ISLAND	1841	950.6	1019.3	31	18	24.7	- 1.4	44	4	- 1	1	0	25	21	85	2.48	1.74	1.15	10	0	21.5	19	1.7	13	29	34	28	4	5	19	7.9	
LINCOLN U	1150			34	21	27.1	- 1.6	44	5	- 2	1	0	24			0.89	- 0.20	0.47	8		13.6	11			31	NE	7	5	6	17	7.4	39
NORFOLK	1544			30	16	23.1	0.2	39	10	- 7	1	0	27			1.86	1.08	0.76	8		19.1	19						4	6	18	7.8	
NORTH PLATTE	2775	916.4	1017.8	32	16	24.2	- 3.7	41	5	- 2	3	0	28	20	85	0.26	- 0.26	0.10	8	0	3.2	4	2.6	13	36	NW	27	5	5	18	7.4	36
OMAHA	977	983.4	1020.0	34	20	26.7	0.2	46	25	- 6	1	0	24	22	80	1.33	0.38	0.65	9	0	14.0	9	2.1	9	29	NW	11	4	7	17	7.5	35
SCOTTSBLUFF	3957	876.1	1014.9	43	21	32.4	3.4	56	9	8	21+	0	28	22	69	0.52	0.12	0.27	7	0	5.4	2	1.4	9	26	29	1	6	9	13	6.7	
VALENTINE	2587			32	13	22.4	- 0.6	41	23+	- 8	12	0	28			0.64	0.08	0.28	7		6.7	8			30	NW	27+	5	2	21	8.1	40
NEVADA																																
ELKO	5050	838.8	1013.3	36	15	25.4	- 2.6	45	10	- 7	3	0	28			1.76	0.87	0.50	15	0	17.4	4	0.7	8	26	24	1	4	5	19	7.9	
ELY	6253	802.6	1012.7	38	14	25.9	- 0.7	54	10	- 7	27	0	28	17	68	2.19	1.49	1.54	11	0	19.1	9	7.2	19	38	S	24	3	6	19	7.8	55
LAS VEGAS	2162	936.3	1013.8	56	37	46.3	- 1.5	63	16	26	1	0	6	30	58	0.96	0.52	0.31	7	0	0.0	0	4.7	22	33	SW	25	10	4	14	5.9	65
RENO	4404	859.5	1010.5	44	24	34.2	- 1.4	55	10	9	7	0	21	22	61	1.74	0.72	0.64	10	0	23.5	8	1.6	22	42	SW	5	4	8	16	7.4	50
WINNEMUCCA	4301	862.2	1011.9	41	22	31.3	- 1.0	54	10	4	2	0	25	21	66	1.48	0.54	0.34	11	0	13.8	6	1.9	12	27	NE	17	2	6	20	8.1	22
NEW HAMPSHIRE																																
CONCORD	342	1000.3	1013.4	33	14	23.2	0.5	44	20	-10	17	0	27	17	74	3.69	1.21	1.08	11	0	49.8	37	5.1	34	34	NW	10+	6	8	14	6.6	52
MT WASHINGTON OBS	6262			15	2	8.2	2.6	34	21	-25	5	0	28			25.56	20.35	8.40	16	0	172.8	34			129Y	W	5	4	6	18	7.5	41
NEW JERSEY																																
ATLANTIC CITY	64	1011.5	1013.9	39	24	31.8	- 2.9	47	25+	7	6	0	21	23	70	2.38	- 0.75	0.93	8	0	7.0	2	9.3	34	40	32	9	6	3	19	7.5	31
ATLANTIC CITY U	11			38	29	33.6	- 2.1	47	3	20	15	0	20			2.92	- 0.46	1.43	8						52	NW	10					
NEWARK	7	1013.2	1014.2	37	26	31.3	- 1.4	43	21	15	15+	0	23	21	68	2.68	- 0.12	1.37	10	0	16.5	14	7.5	32	32	30	9	3	9	16	7.5	
TRENTON U	56			38	28	32.7	- 0.7	43	25+	17	15	0	22			2.60	0.01	1.19	8		14.5	8			40	NW	10	4	7	17	7.3	43

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%
NEW MEXICO															
ALBUQUERQUE	5311	835.4	1014.8	52	25	38.5	- 1.4	65	26+	10	1	0	25	17	47
CLAYTON	4969			50	24	37.1	1.1	68	26	8	1	0	26		
ROSWELL	3617			61	28	44.6	2.5	77	26	14	4	0	20		
NEW YORK															
ALBANY	275	1004.4	1015.5	33	17	24.7	1.0	44	21	0	17	0	28	19	79
BINGHAMTON	1590	955.0	1015.9	29	17	23.0	- 0.8	43	22	7	14	0	28	17	77
BUFFALO	705	990.9	1017.6	31	18	24.6	0.5	49	22	2	15	0	28	19	80
J.F. KENNEDY	13	1013.2	1013.9	35	27	30.8	- 0.8	41	25+	15	16	0	25	22	70
NEW YORK U	132	1010.2	1013.3	37	28	32.6	- 0.8	44	25	17	14	0	21	20	62
NEW YORK LA GUARDIA	11	1012.2	1014.1	36	27	31.4	- 2.2	41	25+	18	14	0	23	18	60
ROCHESTER	547	996.3	1017.3	32	20	26.0	1.1	43	22	7	15	0	27	18	73
SYRACUSE	410	1001.4	1016.8	30	17	23.6	- 0.7	38	3	1	16	0	28	19	82
NORTH CAROLINA															
ASHEVILLE	2140	938.4	1016.1	46	30	37.8	- 1.1	59	7+	17	21	0	21	28	73
CAPE HATTERAS R	7	1013.9	1014.3	49	38	43.5	- 3.0	61	1	26	11	0	3	34	72
CHARLOTTE	736	988.5	1016.6	49	31	39.7	- 4.5	59	5+	19	13	0	19	26	61
GREENSBORO	897	984.1	1016.4	50	31	40.1	- 0.9	60	5	16	14	0	20	26	61
RALEIGH	434	999.7	1015.8	50	32	40.9	- 2.1	62	5	17	14	0	17	26	60
WILMINGTON	28	1014.6	1015.8	55	36	45.1	- 3.6	75	2	25	14	0	11	31	62
NORTH DAKOTA															
BISMARCK	1647	957.7	1020.4	24	6	14.7	1.2	35	26+	-29	2	0	28	10	77
FARGO	896	988.2	1022.8	21	5	12.8	2.1	35	25	-25	2+	0	28	8	77
WILLISTON	1899	947.2	1019.1	22	2	12.0	- 0.4	35	26+	-26	2	0	28	8	81
OHIO															
AKRON	1208	972.2	1018.1	39	22	30.4	1.7	52	22	9	15	0	25	20	67
CINCINNATI OBS	761			41	27	34.2	- 0.9	52	22+	16	14+	0	22		
CLEVELAND	777	989.2	1019.2	33	22	27.9	- 0.6	48	22	7	15	0	26	18	67
COLUMBUS	812	988.2	1019.0	39	24	31.4	0.3	49	22+	13	13	0	26	21	66
DAYTON	1002	981.7	1018.9	39	24	31.6	0.7	51	21	12	14	0	26	21	69
MANSFIELD	1295			37	22	29.8	2.0	50	22	10	14+	0	27	21	71
TOLEDO	669	993.9	1020.1	35	20	27.4	0.1	46	23	9	10	0	28	17	66
YOUNGSTOWN	1178	973.9	1018.2	34	19	26.8	- 0.8	48	22	4	15	0	28	19	74
OKLAHOMA															
OKLAHOMA CITY	1285	970.2	1017.5	52	32	42.3	1.0	75	7	19	9	0	15	31	70
TULSA	650	993.2	1018.2	52	31	41.4	0.8	75	7	21	18+	0	19	29	64
OREGON															
ASTORIA	8	1008.1	1008.9	48	33	40.3	- 2.5	55	17	28	19+	0	15	34	81
BURNS U	4151	866.2	1012.1	37	16	26.2	- 3.5	44	11	4	4	0	28	21	81
EUGENE	359	996.3	1009.9	48	33	40.7	- 1.9	57	16+	26	6	0	12	35	84
MEACHAM	4050	869.3	1012.0	32	22	27.2	- 1.9	40	18	18	24+	0	28		
MEDFORD	1298	962.4	1010.6	48	34	40.9	0.8	61	17	28	22+	0	15	32	75
PENDLETON	1482	957.7	1012.3	41	30	35.5	- 1.9	52	27	15	6	0	19	29	81
PORTLAND	21	1008.8	1010.2	47	32	39.7	- 2.3	57	18	23	25	0	11	33	78
SALEM	196	1002.4	1009.7	49	32	40.3	- 1.6	58	16	24	25	0	17	34	81
SEXTON SUMMIT R	3836	874.7	1009.5	35	27	31.1	- 5.0	49	18	21	5	0	26		
PACIFIC AREA															
JOHNSTON	7	1011.2	1011.9	82	73	77.2	0.2	85	6	69	28+	0	0	71	81
KOROR R	94	1007.1	1010.8	87	75	81.1	0.8	89	19+	72	17	0	0	73	80
KWAJALEIN	8	1007.8	1008.5	87	77	82.2	2.2	89	28+	73	19	0	0	72	74
MAJURO	10	1008.1	1008.4	85	78	81.1	0.7	86	26+	75	16	0	0	73	77
PAGO PAGO	12	1007.1	1007.2	87	75	81.1		89	19+	73	19+	0	0	76	87
PONAPE R	123	1003.1	1008.5	85	73	79.1	- 1.4	88	17	67	10	0	0	72	79

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																	
ALBUQUERQUE	0.34	- 0.04	0.18	4	0	1.8	1	1.1	34	42	NW	7	11	8	9	4.8	74
CLAYTON	0.65	0.28	0.50	2		3.8	2						11	8	9	5.0	
ROSWELL	0.47	0.05	0.31	4	1	0.0	0			33	W	7					71
NEW YORK																	
ALBANY	1.66	- 0.54	0.70	11	1	20.7	12	6.3	31	35	W	4	5	6	17	7.1	44
BINGHAMTON	0.97	- 1.21	0.31	15	0	12.4	5	6.5	31	36	W	5	3	5	20	8.1	47
BUFFALO	0.97	- 1.75	0.40	11	0	12.8	6	4.4	29	40	SW	3	3	4	21	8.2	46
J.F. KENNEDY	3.72	0.79	2.46	10	0	22.4	20	9.7	33	40	33	9	4	10	14	7.[illegible]	
NEW YORK U	3.05	0.21	1.78	8	0	16.6	15	7.0	34	38	NW	10					49
NEW YORK LA GUARDIA	2.59	- 0.50	1.84	12	0	18.5	16	9.1	35	45	NW	10	3	9	16	7.3	
ROCHESTER	0.91	- 1.62	0.23	10	0	17.8	5	4.9	28	36	W	3	2	8	18	7.6	49
SYRACUSE	1.49	- 1.64	0.48	16	0	21.3	7	5.2	28	38	W	4	5	6	17	7.4	34
NORTH CAROLINA																	
ASHEVILLE	5.08	1.05	1.49	11	0	25.5	15	7.3	35	49	35	9	9	6	13	6.0	53
CAPE HATTERAS R	3.50	- 0.43	1.10	9	2	T	0	9.7	34	36	WNW	3	8	5	15	6.6	45
CHARLOTTE	5.19	1.64	1.27	11	1	13.2	12	3.5	34	28	NW	3	10	5	13	5.8	61
GREENSBORO	3.01	- 0.29	1.01	9	0	0.7	1	4.6	34	35	NW	3	7	8	13	6.2	54
RALEIGH	3.60	0.37	1.34	9	0	0.8	1	5.7	34	29	30	9	8	8	12	6.1	63
WILMINGTON	2.53	- 0.89	0.99	7	0	T	T	5.9	32	35	NE	16	7	6	15	6.1	53
NORTH DAKOTA																	
BISMARCK	1.17	0.74	0.47	9	0	17.4	18	3.5	[illegible]	39	SE	25	3	5	20	8.[illegible]	38
FARGO	0.46	- 0.05	0.13	10	0	7.8	17	3.4	13	[illegible]	NW	[illegible]	6	3	19	7.5	[illegible]
WILLISTON	0.60	0.12	0.21	9	0	6.0	15	1.4	14	40	SE	25	4	4	20	7.6	58
OHIO																	
AKRON	0.88	- 1.42	0.35	14	0	5.8	2	4.1	33	29	29	4	2	6	20	7.9	
CINCINNATI OBS	1.25	- 1.55	0.69	6		0.2	T			23	SW	3					41
CLEVELAND	0.75	- 1.58	0.30	11	0	5.6	2	4.9	32	32	NW	4	3	6	19	7.8	45
COLUMBUS	1.17	- 1.14	0.79	9	0	2.5	1	3.9	34	29	W	3	2	9	17	7.3	[illegible]
DAYTON	0.73	- 1.59	0.54	6	0	0.9	T	3.[illegible]	34	32	N	9	4	5	19	7.8	49
MANSFIELD	0.74	- 1.86	0.40	10	0	7.4	3	4.6	34	23	[illegible]	4	[illegible]	8	18	[illegible]	
TOLEDO	0.27	- 1.61	0.13	6	0	2.5	1	4.[illegible]	35	27	W	11+	5	6	17	[illegible]	[illegible]
YOUNGSTOWN	0.83	- 1.67	0.39	13	0	11.8	4	4.3	34	[illegible]	29	4+	2	6	20	8.[illegible]	
OKLAHOMA																	
OKLAHOMA CITY	1.93	0.56	1.04	7	0	1.3	1	[illegible]	[illegible]	38	NW	7	8	9	11	[illegible]	[illegible]
TULSA	1.34	- 0.43	0.70	5	1	5.3	3	[illegible]	13	30	SE	26	[illegible]	5	[illegible]	[illegible]	[illegible]
OREGON																	
ASTORIA	5.67	- 4.22	1.30	20	1	1.0	5	4.2	12	22	7	24	[illegible]	5	[illegible]	[illegible]	
BURNS U	1.47	0.20	0.39	15		12.1	13	[illegible]	[illegible]				1	7	[illegible]	8.4	
EUGENE	3.21	- 1.76	1.53	13	0	T	16	3.7	17	23	18	8	[illegible]	1	17	[illegible]	
MEACHAM	1.77	- 2.23	0.39	15		13.8	28			[illegible]	12	8+	1	5	[illegible]	[illegible]	
MEDFORD	1.46	- 0.94	0.35	11	0	3.4	[illegible]	2.4	14	36	15	27	[illegible]	4	[illegible]	[illegible]	
PENDLETON	0.88	- 0.30	0.31	10	0	2.7	9	1.2	22	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	
PORTLAND	3.14	- 1.08	1.10	14	0	T	[illegible]	6.3	13	[illegible]	[illegible]	24	[illegible]	4	[illegible]	[illegible]	[illegible]
SALEM	3.24	- 2.07	1.50	17	0	[illegible]	4	[illegible]	19	[illegible]	[illegible]	9+	[illegible]	[illegible]	[illegible]	[illegible]	
SEXTON SUMMIT R	2.52	- 1.60	0.66	14		16.0	88	7.9	17	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	
PACIFIC AREA																	
JOHNSTON	4.53	3.00	1.78	[illegible]	0	0.0	[illegible]	15.5	8	31	E	23+	3	13	12	[illegible]	[illegible]
KOROR R	2.93	- 4.20	1.19	16	0	0.0		7.7	[illegible]	22	NE	[illegible]	0	7	21	[illegible]	[illegible]
KWAJALEIN	0.43	- 1.72	0.21	6	0	0.0		15.3	6	10	[illegible]	19	0	6	22	9.[illegible]	
MAJURO	2.35	- 6.20	0.86	9	0	0.0		[illegible]	6	28	NE	26	0	9	20	8.[illegible]	[illegible]
PAGO PAGO	11.71		1.75	18	1	0.0		2.4	5	16	[illegible]	11	2	5	21	[illegible]	[illegible]
PONAPE R	9.47	- 0.27	5.00	16	[illegible]	0.0		9.5	6	[illegible]	NE	[illegible]	0	[illegible]	23	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
TAGUAC GUAM R	361	999.0	1011.7	83	69	76.2	- 2.1	86	20	61	9	0	0	69	79	1.12	- 2.37	0.31	15	0	0.0	0	9.9	8	22	SE	18+	1	13	14	7.1	67
TRUK MOEN ISLAND	5	1008.5	1008.9	85	75	80.2	- 0.5	87	9	72	15+	0	0	72	74	1.44	- 4.85	0.38	10	0	0.0	0	13.0	4	23	NE	13+	0	3	25	9.2	76
WAKE	11	1012.9	1013.1	82	72	77.0	- 0.1	85	16	68	14	0	0	65	70	0.74	- 0.61	0.18	10	0	0.0	0	12.1	6	33	E	14+	6	17	5	5.0	71
YAP R	44	1008.5	1010.4	87	73	79.8	- 0.6	89	22	70	11	0	0	71	76	1.24	- 3.40	0.55	13	0	0.0	0	8.7	7	21	NE	27	1	12	15	7.5	61
PENNSYLVANIA																																
ALLENTOWN	387	1000.7	1015.2	37	23	30.2	1.0	43	24+	14	16+	0	28	19	65	1.61	- 1.03	0.48	8	0	11.8	5	7.1	32	38	32	9	4	8	16	7.6	
ERIE	731	990.9	1018.7	32	19	25.7	- 0.7	48	22	- 1	15	0	26	19	75	0.73	- 1.59	0.25	13	0	13.6	4	3.6	31	26	29	3	2	8	18	7.9	
HARRISBURG	338	1003.1	1016.1	40	27	33.3	0.7	46	21	16	6	0	23	21	63	1.70	- 0.61	0.52	10	0	16.8	7	5.7	29	35	NW	5	3	7	18	7.7	46
PHILADELPHIA	5	1013.5	1014.6	38	26	32.0	- 1.2	44	24	15	15	0	26	19	60	1.88	- 0.92	0.56	8	0	9.5	4	7.5	35	45	NW	9	6	3	19	7.4	37
PITTSBURGH	1137	972.2	1017.5	38	21	29.5	0.3	51	22	6	15	0	27	17	63	0.51	- 1.68	0.20	13	0	4.0	2	5.4	32	29	32	9+	1	9	18	7.9	46
READING U	266			39	27	33.3	- 0.1	46	21	18	15+	0	22			1.42	- 1.22	0.43	8		9.1	4			61	NW	10	6	8	14	6.7	44
SCRANTON	930	980.7	1016.2	33	21	26.6	- 1.7	42	22+	11	16+	0	28	17	68	0.96	- 1.03	0.30	11	1	14.8	5	4.4	32	31	W	3	3	6	19	7.8	49
WILLIAMSPORT	524	997.0	1016.8	37	19	28.2	- 1.0	47	21	4	6	0	28	20	73	0.72	- 1.79	0.30	9	0	6.7	3	5.8	30	23	30	10+	3	6	19	7.7	
RHODE ISLAND																																
BLOCK ISLAND	110			34	27	30.6	- 0.3	39	3+	15	15	0	24			3.89	0.60	1.66	6		8.3	5						5	5	18	7.5	
PROVIDENCE	51	1009.8	1012.1	34	23	28.7	- 1.0	38	23+	10	15	0	26	20	69	4.30	1.20	1.83	10	0	26.7	15	9.8	36	39	36	10	5	8	15	7.1	40
SOUTH CAROLINA																																
CHARLESTON	40	1014.9	1016.6	55	35	45.2	- 6.3	74	2	25	13	0	14	31	64	2.05	- 1.24	0.84	7	1	T	0	4.1	32	43Y	W	3	11	3	14	5.9	54
CHARLESTON U	9			56	41	48.3	- 4.0	70	1	34	15+	0	0			1.75	- 1.32	0.81	7		0.0	0			43	NE	15					
COLUMBIA	213	1008.8	1017.1	55	32	43.5	- 4.9	72	1	22	14+	0	17	31	67	3.03	- 0.71	0.93	8	1	0.8	1	3.0	31	25	32	9	10	2	16	5.9	49
GNVLE-SPARTANBURG	957	981.7	1017.1	50	32	40.9	- 4.2	62	5	18	13	0	20	28	64	5.24	1.17	1.48	10	1	6.9	6	3.0	35	29	NW	3	11	3	14	5.7	52
SOUTH DAKOTA																																
ABERDEEN	1296	971.6	1020.7	26	10	17.9	2.9	37	25	-19	3	0	27	14	84	1.54	0.89	0.91	11	0	25.1	25	4.0	11	31	14	14	4	4	20	7.8	
HURON	1282	971.6	1020.1	27	14	20.6	4.0	36	26+	-15	3	0	27	14	75	1.94	1.34	0.69	9	0	22.3	25	4.3	14	30	NW	10	5	2	21	8.2	38
RAPID CITY	3162	901.8	1016.5	35	16	25.4	1.3	56	4	- 1	8	0	28	16	72	0.73	0.25	0.26	5	0	7.9	4	1.7	5	35	N	27	2	8	18	7.9	36
SIOUX FALLS	1418	966.5	1020.5	27	11	19.0	- 0.1	37	22	-15	1	0	27	14	76	2.55	1.62	0.82	13	0	28.5	34	4.2	12	29	10	26	4	2	22	8.1	
TENNESSEE																																
BRISTOL	1507	962.4	1017.9	44	27	35.8	- 4.2	62	2	12	14	0	20	25	69	5.72	2.16	1.52	12	0	15.1	10	2.9	30	28	29	3	7	3	18	7.0	
CHATTANOOGA	665	992.6	1017.9	51	34	42.2	- 2.2	68	2	23	13+	0	10	31	68	5.82	0.45	2.73	9	2	0.8	1	2.8	35	26	NW	9	9	2	17	6.9	41
KNOXVILLE	980	981.4	1017.2	47	32	39.4	- 3.7	65	2	20	13	0	17	28	67	5.54	0.73	1.78	11	0	7.7	5	2.8	36	23	W	9	7	3	18	6.9	48
MEMPHIS	258	1008.1	1018.7	52	35	43.3	- 0.8	67	27+	25	13	0	11	31	65	3.20	- 1.49	1.11	12	2	T	T	2.2	1	27	NW	2	9	3	16	6.4	49
NASHVILLE	590	995.9	1018.3	48	32	39.8	- 2.2	66	2	18	13	0	15	31	75	4.48	- 0.03	1.13	9	1	6.9	6	3.1	33	30	NW	3	7	3	18	7.0	40
OAK RIDGE R	905			47	31	38.7	- 2.4	60	2	20	13	0	14			4.84	- 0.96	1.32	12		10.2	6			30Y		8+	7	4	17	6.7	
TEXAS																																
ABILENE	1762	953.9	1016.2	59	37	48.0	- 0.4	80	7	25	3	0	8	32	61	1.28	0.19	0.83	6	2	T	T	2.0	18	39	W	7	8	2	18	6.9	59
AMARILLO	3604	888.9	1014.0	53	28	40.4	- 0.9	76	26	12	3	0	23	21	58	0.50	- 0.12	0.25	5	4	2.9	2	4.6	21	43	SW	7	11	4	13	5.5	58
AUSTIN	597	994.9	1017.4	62	43	52.6	- 1.2	82	27	33	16+	0	0	41	71	4.18	1.60	2.74	8	3	0.0	0	3.5	4	28	NW	8	1	11	16	7.9	44
BROWNSVILLE	19	1014.9	1015.3	74	57	65.7	1.7	86	6	48	18	0	0	58	78	1.81	0.33	1.38	9	1	0.0	0	3.7	9	33	SE	21+	1	3	24	8.8	33
CORPUS CHRISTI	41	1014.9	1016.3	68	52	60.2	- 0.2	79	27+	40	18	0	0	53	80	2.92	1.22	2.04	8	1	0.0	0	5.6	9	33	SE	14	1	5	22	8.4	35
DALLAS	481	1000.0	1017.5	60	41	50.2	0.7	83	7	29	18	0	3	35	62	2.21	- 0.34	1.20	6	1	T	T	1.4	8	32	NW	8	6	8	14	6.9	50
DEL RIO	1026	979.3	1015.7	67	46	56.6	0.4	88	7	36	18	0	0	40	62	1.17	0.29	1.09	4	1	0.0	0	4.3	11	26	35	8	1	9	18	8.2	
EL PASO	3918	879.8	1012.8	63	34	48.4	- 0.7	71	25	23	1	0	13	21	37	0.08	- 0.33	0.04	4	1	0.0	0	2.4	29	40	W	7	13	7	8	4.6	88
FORT WORTH	537	997.0	1017.9	61	40	50.0	0.8	87	7	27	4	0	4	37	67	1.99	- 0.25	0.80	6	1	T	T	0.7	4	32	31	8	6	6	16	6.9	
GALVESTON U	7			61	52	56.5	- 0.3	77	6	41	18	0	0			3.54	0.66	1.11	7		0.0	0			54	SE	14					37
HOUSTON	50	1015.2	1017.2	65	49	56.9	1.1	81	6	36	18	0	0	47	76	5.31	1.87	2.74	7	3	0.0	0	2.4	7	43	13	13	1	5	22	8.7	33
LUBBOCK	3254	902.1	1015.0	56	31	43.3	0.2	76	26+	12	3	0	16	25	57	1.13	0.56	0.75	7	2	0.1	T	2.1	19	44	25	7	9	3	16	6.3	
MIDLAND	2851	915.3	1014.4	61	35	48.1	- 0.2	75	26+	20	3	0	11	28	54	1.79	1.19	0.95	5	4	0.0	0	2.9	17	33	25	7	6	8	14	6.3	
PORT ARTHUR	16	1016.9	1017.5	63	46	54.6	- 1.4	80	6	32	18	0	1	48	82	4.14	- 0.31	1.85	10	3	T	T	3.0	7	62	SE	14	1	8	19	8.2	36
SAN ANGELO	1903	948.5	1015.7	65	38	51.6	1.1	83	7	24	3	0	7	33	56	1.07	0.17	0.91	4	1	0.0	0	1.5	19	25	28	23+	4	8	16	7.4	
SAN ANTONIO	788	988.5	1016.9	64	44	53.6	- 1.8	82	27	33	18+	0	0	42	71	2.90	1.25	2.11	8	3	0.0	0	3.7	4	30	N	14	1	4	23	8.4	45
VICTORIA	104	1012.5	1016.7	67	48	57.7	- 0.3	81	27	36	18	0	0	49	77	5.42	3.08	2.63	4	3	0.0	0	3.9	8	45Y	W	14+	1	6	21	8.6	
WACO	501	999.3	1017.6	60	42	51.3	- 0.2	82	7	28	4	0	1	40	72	2.10	- 0.32	1.20	7	2	T	T	0.8	31	28	32	27+	3	6	19	7.8	
WICHITA FALLS	994	979.7	1017.0	57	34	45.4	- 1.4	83	7	24	3	0	12	33	70	2.82	1.44	1.48	5	2	1.7	1	1.3	11	43	25	7	7	5	16	6.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h							%
UTAH																																
MILFORD	5028	841.9		43	22	32.4	2.7	55	11	1	3	0	28			1.27	0.57	0.61	13		14.7	4						6	2	20	7.7	
SALT LAKE CITY	4220	868.3	1015.2	38	19	28.7	- 3.8	47	25	1	4	0	27	22	75	2.84	1.66	0.90	8	0	27.9	8	3.5	18	32	S	23	2	6	20	8.0	50
WENDOVER	4237	867.3	1014.9	38	23	30.3	- 2.5	46	16	11	3	0	28			0.56	0.26	0.15	10		4.3	2										
VERMONT																																
BURLINGTON	332	1002.7	1015.7	26	11	18.5	1.1	33	24+	- 5	17	0	28	13	78	0.94	+ 0.85	0.23	10	0	17.0	15	3.5	35	34	N	10+	3	5	20	7.9	50
VIRGINIA																																
LYNCHBURG	916			44	28	36.4	- 2.5	57	5	10	14	0	22			2.56	- 0.09	0.62	9		4.1	1			29	W	3	8	7	13	6.3	50
NORFOLK	22	1013.9	1014.9	45	35	39.8	- 1.8	56	6	26	14	0	10	26	63	2.16	- 1.05	0.85	10	0	0.8	T	7.4	33	35	NW	10	7	3	18	7.1	55
RICHMOND	164	1010.2	1016.2	44	30	36.8	- 3.1	58	5	18	14+	0	18	24	65	3.95	1.05	1.87	8	0	T	T	6.0	35	34	NW	3	5	4	19	7.5	43
ROANOKE	1149	973.6	1016.4	45	29	37.2	- 2.0	56	5	15	14	0	20	20	54	2.74	+ 0.12	0.65	8	0	11.4	4	5.8	31	35	32	9+	7	7	14	6.5	
WALLOPS ISLAND	9			41	30	35.6		49	24+	20	15	0	17			3.55		1.49	12		3.7	3			57Y	NW	10					
WASHINGTON																																
OLYMPIA	195	1002.4	1009.6	47	30	38.2	- 2.7	56	17	17	6	0	20	32	82	3.41	- 3.21	1.25	15	0	1.4	20	2.5	20	26	20	8	0	6	22	8.5	
QUILLAYUTE	179	1000.3	1007.8	47	31	38.7	- 1.7	57	28	23	5	0	20	35	88	9.11	- 3.17	2.62	18	0	6.2	12	3.5	11	28	SW	4	2	7	19	8.9	36
SEATTLE TACOMA	400	993.2	1009.6	48	36	42.3	1.5	57	17	31	6+	0	4	32	71	3.16	- 1.08	1.07	12	0	T	11	3.9	14	26	S	8	0	8	20	8.2	46
SPOKANE	2356	926.5	1012.1	34	18	26.1	- 3.9	40	8	3	2	0	27	23	85	1.21	- 0.65	0.62	11	0	5.4	42	2.9	14	35	SW	9	1	4	23	8.8	42
STAMPEDE PASS R	3958	870.6		28	21	24.6	- 2.0	36	20	11	6	0	28			8.23	- 1.92	2.06	20		34.6	200										
WALLA WALLA U	949			41	30	35.7	- 2.7	54	11	19	6	0	23			1.21	- 0.31	0.39	14		3.7	10			36	S	8	1	1	26	9.2	16
YAKIMA	1052	973.6	1013.0	36	21	28.5	- 5.5	42	17	- 2	1	0	27	22	78	0.91	0.04	0.30	9	0	5.5	15	3.8	27	17	31	9+	3	4	21	8.1	
WEST INDIES																																
SAN JUAN P.R.	13	1011.9	1014.5	81	69	75.0	0.6	89	17	63	26	0	0	66	74	3.97	1.07	2.73	9	1	0.0	0	3.1	5	32	NE	1	13	11	4	4.4	74
SWAN ISLAND	28			83	74	78.3	- 0.1	84	28+	71	20+	0	0			1.02	- 0.14	0.78	6		0.0	0						10	16	2	4.5	
WEST VIRGINIA																																
BECKLEY	2504	925.8	1017.6	38	24	30.7	- 3.6	54	2	10	14	0	24	22	72	1.61	- 2.45	0.39	18	0	10.9	3	3.8	29	31	28	5	6	2	20	7.8	
CHARLESTON	939	982.7	1017.6	44	27	35.2	- 2.3	59	3	12	14	0	21	23	64	1.27	- 2.26	0.46	9	1	1.3	1	2.8	28	23	28	3	4	5	19	7.9	
ELKINS	1970	943.8		39	22	30.4	- 2.6	53	22	1	15	0	25			2.13	- 1.14	0.73	14		13.6	3			26	27	4	4	1	23	8.5	
HUNTINGTON	827	987.5	1018.4	43	28	35.6	- 2.1	54	21	11	14	0	20	24	67	0.94	- 2.10	0.34	11	0	2.8	1	2.8	30	21	24	4	4	6	18	7.8	
PARKERSBURG U	615			42	27	34.9	- 0.6	54	22+	16	15	0	22			0.84	- 1.99	0.50	9		0.6	T			34	W	4					38
WISCONSIN																																
GREEN BAY	682	995.3	1021.9	28	13	20.7	2.6	36	24+	- 7	4	0	28	13	72	0.04	- 1.04	0.04	1	0	0.5	6	4.0	34	26	S	10	9	9	10	5.8	58
LA CROSSE	651	996.6	1022.4	30	11	20.7	1.3	40	23	-13	1	0	28	13	74	0.05	- 1.00		[illegible]	0	0.8		1.0	2								
MADISON	858	988.5	1021.3	31	17	23.6	4.1	38	23	1	14+	0	28	17	76	0.18	- 0.95	0.12	4	0	1.7	2	2.9	1	29	W	11	[illegible]	5	17	7.0	48
MILWAUKEE	672	994.9	1021.1	33	22	27.3	4.9	41	24	5	4+	0	27	20	72	0.05	- 1.35	0.04	3	0	0.7	1	3.8	36	29	SW	4	[illegible]	10	13	6.8	57
WYOMING																																
CASPER	5338	832.0	1013.2	40	18	29.0	2.7	53	25	3	22	0	27	16	61	0.55	- 0.04	0.18	7	0	6.9	2	4.3	22	44	22	25	[illegible]	8	14	[illegible]	
CHEYENNE	6126	806.6	1013.5	43	21	32.0	4.7	57	25	9	2	0	28	13	62	0.25	- 0.31	0.14	5	0	4.7	4	6.5	27	49	W	9+	7	8	13	[illegible]	58
LANDER	5563	823.2	1013.0	39	18	28.2	4.1	50	13	6	3	0	28	15	[illegible]	0.13	- 0.56	0.13	2	0	4.7	3	1.9	24	56	S	25	4	7	17	7.6	55
SHERIDAN	3964	874.4	1016.0	33	12	22.6	- 1.2	55	9	2	23	0	28	15	75	0.18	- 0.56	0.09	4	0	3.0	4	2.8	30	30	SW	1	4	7	17	7.3	58

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
ALABAMA																																
BIRMINGHAM	189	994.9	1018.0	12.8	1.1	6.9	- 2.3	21.1	8	- 5.0	19+	0	15	1.1	70	81	- 54	20	10	2	T	0	0.9	1	12.5	NW	8	6	8	14	6.6	50
HUNTSVILLE	190	994.6	1018.3	10.0	0.6	5.3	- 1.9	20.0	2	- 6.7	13	0	16	0.6	75	177	44	80	9	1	13	T	1.2	36	12.5	29	8	7	5	16	6.9	
MOBILE	64	1009.5	1017.5	17.8	6.7	12.1	- 0.8	26.7	8	0.6	19+	0	0	6.1	71	86	- 30	41	7	2	T	T	1.0	35	13.0	12	22	5	8	15	6.7	
MONTGOMERY	56	1010.5	1018.0	15.0	3.3	9.4	- 0.8	27.2	1	- 2.2	4	0	6	3.3	71	92	- 18	43	8	1	T	T	1.0	32	12.5	NW	3	7	6	15	6.5	55
ALASKA												B																				
ANCHORAGE	35	995.6	1000.7	- 3.3	-12.2	- 7.8	- 0.4	5.0	27	-26.1	3	0	27	-11.7	71	19	1	6	11	0	269	533	0.5	6	12.5	18	26	3	8	17	7.5	37
ANNETTE	34	1000.3	1004.4	5.6	- 1.1	2.2	0.4	11.7	23	- 6.1	5+	0	18	- 2.2	75	86	-131	26	15	0	749	1041	2.3	10	11.6	11	10+	8	2	18	6.9	
BARROW	9	1018.0	1018.5	-26.1	-31.1	-28.5	- 0.6	- 7.8	28	-37.2	9	0	28	-31.1	78	3	- 1	2	5	0	51	279	3.4	6	13.4	6	11	10	5	13	5.7	
BARTER ISLAND	12	1015.2	1017.2	-27.8	-35.6	-31.6	- 2.9	- 8.3	28	-45.0	6	0	28	-36.1	61	3	- 6	2	3	0	46	102	0.8	17	17.9	9	11	13	6	9	5.1	
BETHEL	38	993.9	999.6	- 9.4	-17.8	-13.5	- 0.3	3.3	19	-37.8	11	0	28	-16.1	80	11	- 18	4	10	0	272	406	2.6	5	21.0	3	5	7	3	18	7.0	
BETTLES	196	983.7	1010.8	-18.3	-28.3	-23.2		- 0.6	28	-43.3	8+	0	28	-27.8	69	9		6	5	0	119	660	2.7	36	8.9	6	27+	12	5	11	5.1	
BIG DELTA	386	957.0	1007.6	-11.7	-22.8	-17.2		5.0	26	-43.3	5+	0	28	-20.0	76	T		T	0	0	5	76	4.1	13	16.5	19	27+	9	8	11	5.4	
COLD BAY	29	991.2	995.1	0.6	- 5.0	- 2.2	0.0	5.0	19	-17.2	11+	0	22	- 5.6	78	59	- 21	11	22	0	533	279	0.8	21	25.9	34	6	0	7	21	8.4	
FAIRBANKS	133	989.2	1007.4	-14.4	-28.9	-21.8	- 2.4	5.0	27	-45.0	4	0	28	-28.3	55	3	- 11	2	3	0	36	559	1.0	2	6.3	10	27+	6	11	11	6.1	
FAREWELL	457			-10.0	-22.2	-16.1		3.9	15	-44.4	5	0	28			11			2		69							7	6	15	6.4	
GULKANA	479	945.8	1008.2	-12.2	-24.4	-18.6		2.2	28+	-42.2	5	0	28	-21.7	74	2		1	5	0	41		0.4	19	11.6	16	27	5	8	15	6.7	
HOMER	20			- 1.1	- 9.4	- 5.4		5.0	14	-22.8	5	0	25			59		25	9	0	711	686						7	8	13	6.7	
ILIAMNA	57			- 6.7	-13.9	-10.1		2.2	25+	-35.6	5	0	28			35		18	7		343	965						8	8	12	6.6	
JUNEAU	4	1004.4	1005.0	- 1.1	-11.1	- 6.0	- 3.1	4.4	10	-23.9	5	0	28	- 7.8	86	17	- 60	5	10	0	434	635	1.5	10	12.5	12	20	4	8	16	7.4	45
KING SALMON	15	994.9	997.1	- 7.2	-14.4	-10.7	- 2.6	2.2	27+	-37.2	11	0	27	-15.0	69	49	25	33	12	0	353	305	2.4	9	23.7	14	27+	6	7	15	7.0	
KOTZEBUE	3	1006.8	1007.3	-13.3	-21.1	-17.4	2.6	- 1.1	28	-32.8	9	0	28	-22.2	65	5	- 3	3	7	0	79	279	3.3	8	17.0	17	28+	8	4	16	6.4	
MC GRATH	105	991.2	1004.6	-12.8	-26.1	-19.6	- 1.8	6.1	27	-47.2	5	0	28	-23.9	65	6	- 23	4	5	0	203	457	0.4	5	11.6	20	28+	6	7	15	6.7	
NENANA	109			-15.0	-28.9	-22.2		7.2	27	-47.8	4	0	28			1		1	2	0	13				9.4	6	17	9	8	11	5.6	
NOME	4	1002.4	1003.3	-10.0	-20.0	-14.9	- 0.2	0.0	27	-35.0	10+	0	28	-17.8	78	8	- 16	2	12	0	107	279	3.9	6	19.7	4	27	10	4	14	5.8	61
ST. PAUL ISLAND	7	994.2	995.0	- 1.7	- 6.7	- 4.3	0.5	2.2	23+	-12.8	10	0	28	- 6.1	86	43	11	17	19	0	417	229	3.5	5	26.4	9	5	0	6	22	8.9	
SHEMYA	37	991.2	994.8	0.6	- 2.8	- 1.2	- 0.6	4.4	4	- 6.1	19+	0	28	- 4.4	77	39	- 19	5	22	0	424	178	2.8	33	28.2	32	5	0	7	21	8.8	
SUMMIT	732	913.3	1005.4	-10.0	-17.8	-13.8		0.0	27	-33.3	4	0	28	-16.7	76	12		5	9	0	208	305	4.7	4	15.6	5	8+	5	3	20	7.3	
TALKEETNA	105	988.2	1001.8	- 3.3	-16.1	- 9.7		4.4	28	-36.1	5	0	28	-12.8	73	23		10	8	0	660	762	2.0	1	10.3	4	17	4	8	16	7.3	
TANANA	71			-17.2	-28.3	-22.7		1.7	28	-47.8	5	0	28			7		5	4		89	610			13.4	9	27	6	6	16	6.8	
UNALAKLEET	5	1002.7	1003.5	-11.1	-18.9	-14.7		3.3	27	-36.7	9	0	28	-17.8	78	5		2	8	0	130	635	5.7	8	19.7	10	24+	6	2	20	6.9	
YAKUTAT	9	1001.0	1002.1	0.0	-11.1	- 5.6	- 3.7	4.4	17+	-28.9	5	0	28	- 8.9	74	91	-117	31	13	0	861	1118	1.9	9	14.3	13	20	3	7	18	7.5	
ARIZONA																																
FLAGSTAFF	2135	782.9	1015.8	1.7	- 9.4	- 3.7	- 2.3	9.4	11+	-18.3	8	0	28	-11.1	55	99	54	24	13	0	1069	432	2.1	21	11.2	23	6	9	3	16	6.4	
PHOENIX	340	974.6	1014.1	18.9	4.4	11.7	- 0.3	24.4	18	- 1.7	1	0	2	2.8	60	20	- 2	5	8	0	0	0	0.9	13	19.2Y	SSW	18	11	5	12	5.3	76
TUCSON	788	924.8	1013.3	18.9	4.4	11.7	0.1	25.0	25	- 2.2	1	0	2	- 1.1	49	13	- 9	5	5	0	0	0	1.6	16	18.8	W	22	14	3	11	5.1	72
WINSLOW	1492	848.6	1015.4	11.1	- 3.9	3.7	0.6	16.7	25	-12.2	1	0	24	- 5.0	60	17	5	7	7	1	23	T	2.0	22	16.1	22	6	9	8	11	5.2	
YUMA	59	1006.8	1014.0	21.1	6.7	13.8	- 0.2	24.4	25+	1.1	1	0	0	1.7	48	1	- 8	1	1	0	0	0	0.3	19	11.6	W	22+	9	12	7	4.9	82
ARKANSAS																																
FORT SMITH	136	1001.7	1018.8	11.7	0.0	6.0	- 0.5	22.2	7	- 5.0	19+	0	13	- 0.6	69	73	- 14	46	8	1	94	25	1.3	6	13.4	W	8	10	6	12	6.0	56
LITTLE ROCK	78	1008.8	1018.7	11.1	1.1	6.1	- 0.8	22.2	6	- 4.4	13+	0	12	0.5	71	61	- 49	26	10	2	58	25	1.0	1	16.5	NW	8	10	6	12	5.9	50
CALIFORNIA																																
BAKERSFIELD	145	997.0	1014.8	15.0	6.1	10.6	- 0.5	20.6	10	0.6	1	0	0	4.4	67	72	43	27	14	0	0	0	0.6	4	10.7	15	15	7	6	15	6.6	
BISHOP	1252	869.3		6.7	- 8.9	- 1.1	- 6.2	9.4	17+	-18.9	8+	0	27			153	128	92	10		810	330						8	8	12	5.8	
BLUE CANYON	1609			1.7	- 3.9	- 1.1	- 3.9	8.9	3	- 7.2	20	0	27			452	193	69	22		3266	3150			24.1	18	27	2	3	23	8.8	
EUREKA U	13			11.1	5.0	7.[illegible]	- 1.1	17.2	10	1.1	22+	0	0			199	58	36	21		T	T			15.6	N	19	1	1	26	9.2	35
FRESNO	100	1002.7	1014.6	13.3	3.9	8.6	- 1.7	19.4	10	- 0.6	1	0	1	4.4	77	142	87	51	17	1	0	0	1.9	13	9.8	SE	6+	1	9	18	8.0	42
LONG BEACH	10	1013.9	1015.4	16.7	7.2	12.1	- 0.4	23.3	3	2.8	1	0	0	6.7	72	154	96	44	13	1	0	0	1.3	22	10.7	19	23+	8	7	13	6.2	
LOS ANGELES	30	1011.2	1014.8	15.6	8.9	12.2	- 0.7	22.8	3	5.6	1	0	0	7.2	73	96	22	23	14	1	0	0	1.3	21	16.5Y	S	6	11	2	15	5.7	
LOS ANGELES U	82			16.7	8.9	12.7	- 1.2	23.3	3	5.6	1	0	0			204	119	54	13		0	0			8.9	S	6	11	1	16	6.0	75
MT SHASTA R	1080			3.9	- 3.3	0.3	- 2.5	9.4	3	-11.1	2	0	25			256	106	51	19		2126	1016										
OAKLAND	2	1013.2	1013.3	12.8	7.8	10.3	- 0.1	16.7	10	5.0	13+	0	0	6.7	81	225	143	37	19	3	0	0	1.6	17	14.3	23	5	3	6	19	7.8	
RED BLUFF	104	1000.0	1012.8	11.7	4.4	7.8	- 2.0	15.6	12+	- 1.1	22+	0	3	4.4	81	219	135	42	17	2	0	0	2.9	17	18.8	S	24	3	2	23	8.7	29
SACRAMENTO	5	1012.5	1013.4	11.7	5.0	8.6	- 1.0	17.2	10	0.6	3	0	0	5.0	80	177	101	36	16	2	0	0	2.5	15	15.6	SE	24	1	7	20	8.4	40
SANDBERG R	1377	858.5		6.1	- 0.6	2.9	- 2.3	11.7	17+	- 5.0	1	0	18			136	71	52	12		551	178			25.0	18	24	7	4	17	6.9	
SAN DIEGO	4	1014.6	1015.5	16.1	9.4	12.7	- 0.7	21.1	3	5.0	1	0	0	7.8	72	110	56	25	12	0	0	0	1.0	21	15.6	S	25	7	7	14	6.4	65
SAN FRANCISCO	2	1012.9	1013.4	12.8	6.1	9.4	- 1.1	18.3	10	3.3	26+	0	0	5.6	79	219	131	42	17	2	0	0	1.7	21	21.0	S	24	3	5	20	8.0	

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%
CALIFORNIA															
SAN FRANCISCO U	16			12.2	7.8	10.1	- 1.6	17.8	10	5.0	4	0	0		
SANTA MARIA	72			15.6	5.6	10.6	- 0.4	20.0	3	0.6	1	0	0		
STOCKTON	7	1012.9	1014.0	11.7	4.4	8.0	- 1.4	17.2	10	- 1.7	3	0	2	5.6	86
COLORADO															
ALAMOSA	2297	767.0		5.6	-15.0	- 4.7	0.0	11.7	25	-24.4	3	0	28		
COLORADO SPRINGS	1873	806.0	1014.2	8.3	- 6.1	1.0	1.3	17.8	25	-13.9	3	0	28	-11.1	48
DENVER	1610	831.0	1011.7	10.0	- 6.1	1.9	2.2	20.0	25	-11.1	3	0	28	- 8.9	54
GRAND JUNCTION	1480	849.6	1016.0	6.1	- 4.4	0.9	0.6	16.1	25	-13.9	2	0	26	- 5.6	67
PUEBLO	1428	851.3	1012.7	11.7	- 5.6	3.2	2.2	19.4	26+	-15.0	3	0	25	-10.0	41
CONNECTICUT															
BRIDGEPORT	2	1012.9	1013.4	1.7	- 3.9	- 1.2	- 0.3	5.6	25	-10.6	16+	0	27	- 6.1	71
HARTFORD	52	1006.4	1013.1	1.1	- 6.7	- 2.9	- 0.2	5.0	21	-13.9	16	0	28	- 7.8	69
NEW HAVEN	2	1012.9		1.7	- 4.4	- 1.6	- 0.2	5.0	21	-13.9	11	0	27		
DELAWARE															
WILMINGTON	23	1012.2	1015.1	4.4	- 2.8	0.9	- 0.1	8.3	24	- 8.3	15	0	22	- 6.7	59
DIST. OF COLUMBIA															
WASH NAT'L AP	3	1013.9	1016.3	6.7	- 1.1	2.7	- 0.5	10.6	24	- 7.2	15	0	17	- 5.6	59
FLORIDA															
APALACHICOLA U	4			16.1	7.8	11.9	- 1.9	21.1	12+	1.1	19	0	0		
DAYTONA BEACH	9	1015.9	1017.3	18.3	7.2	12.9	- 3.0	26.7	2	0.0	5	0	1	6.1	66
FORT MYERS	5	1016.6	1017.1	21.7	10.6	16.1	- 2.4	27.2	2	5.6	20	0	0	10.0	72
JACKSONVILLE	6	1016.3	1017.3	17.2	6.1	11.8	- 2.3	26.7	2	0.6	28	0	0	5.0	67
KEY WEST	1	1015.6	1016.2	22.2	17.8	20.1	- 1.2	25.6	3+	13.3	20	0	0	14.4	70
LAKELAND U	65			20.0	8.9	14.5	- 2.8	26.7	2	2.8	19	0	0		
MIAMI	2	1015.9	1016.1	23.3	13.3	18.4	- 1.5	28.9	3	5.7	19	0	0	11.7	66
ORLANDO	33	1013.2	1017.4	20.6	8.3	14.3	- 2.3	26.7	7+	1.1	5	0	0	6.7	66
PENSACOLA	14	1013.2	1017.2	16.7	6.7	11.7	- 1.7	23.9	2	- 1.1	19	0	1	5.6	70
TALLAHASSEE	17	1015.2	1017.7	17.8	3.9	11.1	- 2.1	26.1	2	- 4.4	5	0	5	5.0	73
TAMPA	6	1016.6	1017.0	19.4	7.2	13.2	- 3.8	25.0	1	0.0	5	0	1	7.2	71
WEST PALM BEACH	5	1015.9	1016.5	22.2	10.6	16.5	- 3.3	28.3	3	6.1	27+	0	0	10.0	68
GEORGIA															
ATHENS	244	987.5	1017.1	11.7	1.1	6.4	- 1.4	19.4	2	- 5.6	13	0	16	- 1.1	64
ATLANTA	308	979.7	1017.3	11.1	1.1	5.9	- 1.9	19.4	1	- 5.6	13	0	18	- 0.6	69
AUGUSTA	41	1011.5	1016.9	13.9	0.6	7.2	- 2.4	22.8	2+	- 5.6	13	0	16	0.0	66
COLUMBUS	117	1003.4		13.9	2.2	8.0	- 1.8	23.9	1	- 3.9	13	0	9	1.7	70
MACON	108	1004.4	1017.6	13.3	1.1	7.3	- 3.3	23.3	2	- 4.4	13	0	15	1.1	70
ROME	194			11.1	0.0	5.6	- 1.3	20.6	2	- 6.1	13	0	15		
SAVANNAH	14	1015.2	1017.0	15.0	2.2	8.4	- 3.3	26.1	1	- 2.8	20+	0	14	1.1	66
HAWAII															
HILO	8	1015.6	1016.9	25.6	18.9	22.3	0.9	29.4	12+	16.7	24	0	0	18.9	84
HONOLULU	2	1015.6	1015.9	26.7	20.0	23.3	0.8	29.4	10	18.3	26+	0	0	17.2	74
KAHULUI	15	1013.5	1015.8	26.7	18.3	22.5	0.4	28.9	11+	13.3	5	0	0	17.8	76
LIHUE	31	1012.5	1017.6	23.9	18.9	21.4	- 0.1	27.2	12	16.7	14	0	0	17.8	82
IDAHO															
BOISE	865	911.6	1013.0	6.1	- 1.1	2.3	0.9	10.6	11	- 8.9	1	0	20	- 3.3	69
LEWISTON	431			5.0	- 2.2	1.5	- 0.7	10.0	28	- 9.4	2	0	24		
POCATELLO	1358	859.1	1015.7	1.7	- 8.9	- 3.5	- 0.9	7.2	11	-16.7	4	0	28	- 6.7	77
ILLINOIS															
CAIRO U	96			7.2	1.1	4.3	- 0.6	12.2	21+	- 3.3	12	0	12		
CHICAGO O'HARE	201	995.6	1020.9	2.2	- 4.4	- 1.2	2.1	6.1	21	-12.2	13+	0	25	- 6.7	67
CHICAGO MIDWAY	185	997.3	1020.8	2.2	- 3.9	- 0.9	1.4	5.6	18+	-11.7	4	0	25	- 6.7	67

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
CALIFORNIA																	
SAN FRANCISCO U	184	91	34	19		0	0			15.2	SE	24+					51
SANTA MARIA	192	129	59	16		0	0						7	11	10	5.6	
STOCKTON	138	75	39	18	0	0	0	2.8	15	14.3	14	5	2	3	23	8.6	
COLORADO																	
ALAMOSA	3	- 1	2	3		61	T						9	12	7	4.8	
COLORADO SPRINGS	3	- 5	2	2	0	51	25	1.0	6	13.9	36	7	5	9	14	6.4	
DENVER	11	- 7	6	3	0	107	51	0.4	25	14.3	NW	2	5	9	14	6.4	72
GRAND JUNCTION	10	- 7	6	7	0	97	25	1.5	13	15.2	SW	25	5	5	18	7.6	60
PUEBLO	1	- 11	1	2	0	15	25	0.9	34	15.2	NW	1	8	12	8	5.4	77
CONNECTICUT																	
BRIDGEPORT	93	18	59	10	0	551	457	4.4	35	29.1	34	10	4	8	16	7.3	
HARTFORD	84	10	47	11	0	818	432	3.3	34	15.2	N	10+	5	7	16	7.1	52
NEW HAVEN	63	- 18	32	8		551	381			18.8	N	10	6	6	16	7.3	51
DELAWARE																	
WILMINGTON	45	- 30	17	9	0	140	127	4.0	32	16.1	30	9	4	6	18	7.7	
DIST. OF COLUMBIA																	
WASH NAT'L AP	53	- 10	24	8	0	56	25	3.3	34	16.5	NW	4	5	3	20	7.7	46
FLORIDA																	
APALACHICOLA U	153	54	72	8	2	0	0			18.8	E	15	8	4	16	6.2	54
DAYTONA BEACH	52	- 18	29	5	1	0	0	1.3	32	15.6	26	15	5	10	13	6.5	
FORT MYERS	73	17	66	3	1	0	0	1.0	1	13.0	35	15	6	12	10	5.9	
JACKSONVILLE	86	12	69	6	1	0	0	1.5	32	[illegible]	NE	15	8	6	14	6.1	61
KEY WEST	34	- 16	33	3	1	0	0	2.5	4	12.5	N	4	5	11	12	6.5	74
LAKELAND U	41	- 23	24	5		0	0						7	13	8	5.6	70
MIAMI	51	4	51	1	1	0	0	1.0	34	12.5	35	4	6	13	9	5.8	
ORLANDO	84	22	55	2	1	0	0	1.1	34	20.6	25	15	8	11	9	5.9	
PENSACOLA	126	19	57	9		T	T	1.0	36	19.3	E	15	6	5	17	6.9	58
TALLAHASSEE	131	25	80	7	2	0	0	1.2	1	17.9	9	15	9	6	13	6.2	
TAMPA	54	- 19	41	4	1	0	0	0.8	35	11.2	30	15	4	11	13	6.3	65
WEST PALM BEACH	42	- 17	39	2	1	0	0	1.4	33	17.4	31	15	5	10	13	6.4	
GEORGIA																	
ATHENS	86	- 34	18	9	2	53	51	1.0	30	10.3	30	3+	10	2	16	6.2	
ATLANTA	81	- 33	18	10	1	30	25	1.9	33	14.8	NW	3	7	5	16	6.7	54
AUGUSTA	59	- 30	17	9	1	T	T	1.1	30	11.6	29	12	9	2	17	6.2	
COLUMBUS	105	- 13	36	12	1	T	T	1.2	34	15.6	7	15	8	2	18	6.7	
MACON	86	- 22	28	11	1	T	T	1.3	32	14.3	E	15	7	4	17	6.5	45
ROME	155	20	59	9		10	T										
SAVANNAH	40	- 53	26	7	0	T	0	1.5	31	14.8	NE	15	8	6	14	6.2	61
HAWAII																	
HILO	1109	780	399	25	0	0	0	3.5	13	10.3	E	21	1	6	21	8.5	20
HONOLULU	12	- 72	4	10	0	0	0	5.9	6	17.9	NE	21	1	10	17	7.7	55
KAHULUI	89	25	54	13	0	0	0	5.4	5	16.1	E	21	6	8	14	6.5	63
LIHUE	49	- 86	10	15	0	0	0	5.1	6	13.4	NE	21	1	4	23	8.8	22
IDAHO																	
BOISE	25	- 8	9	11	0	140	152	2.0	13	13.4	SE	24	1	9	18	8.3	38
LEWISTON	19	- 5	8	9		94	229						0	2	26	9.5	
POCATELLO	24	1	9	11	0	386	127	1.7	21	17.0	W	1	1	2	25	8.9	50
ILLINOIS																	
CAIRO U	44	- 49	14	9		99	51			11.6	W	8	6	3	19	7.4	33
CHICAGO O'HARE	3	- 35	1	5	0	58	25	1.6	1	13.0	28	10	6	6	16	6.8	
CHICAGO MIDWAY	6	- 34	4	5	0	81	25	1.6	2	11.6	[illegible]	10	6	7	15	6.9	47

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation, ground	Pressure: Station	Pressure: Sea level	Temperature: Average max mum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max 32.2 °C or above	Temperature: No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile 1.6 kilometers: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy 4-7	No. of days: Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C	C	C	C.		C.				C.	%	Mm.	Mm	Mm			Mm.	Mm	M p s		M p s							%
ILLINOIS																																
MOLINE	177	998.6	1021.0	1.1	- 5.6	- 2.3	1.2	5.6	28+	-15.6	3	0	27	- 6.1	77	5	- 29	4	3	0	23	T	1.0	3	11.6	NW	11	6	5	17	6.9	51
PEORIA	199	995.9	1020.7	2.8	- 4.4	- 0.9	1.1	7.2	16	-13.3	3	0	28	- 5.6	74	14	- 29	8	6	0	56	25	1.4	4	13.4	NW	11	5	4	19	7.3	44
ROCKFORD	221	992.9	1020.8	1.7	- 5.6	- 2.1	2.2	5.0	25	-13.9	13+	0	27	- 6.1	75	1	- 36	1	2	0	20	25	1.8	2	13.0	29	11	6	4	18	7.2	
SPRINGFIELD	179	997.0	1020.0	3.3	- 3.9	- 0.3	- 0.1	9.4	5	-11.1	3	0	23	- 4.4	77	50	4	27	5	0	173	152	1.0	36	13.0	NW	11	6	4	18	7.3	44
INDIANA																																
EVANSVILLE	116	1005.1	1019.4	6.1	- 1.1	2.5	- 0.6	13.3	8	- 7.2	13	0	19	- 2.9	70	35	- 45	11	9	1	178	102	1.1	34	11.6	NW	12+	6	4	18	7.2	40
FORT WAYNE	241	988.8	1020.0	1.7	- 6.1	- 2.3	- 0.3	6.7	21	-15.0	14	0	28	- 6.7	74	10	- 46	4	7	0	71	25	1.0	36	13.4	W	4	5	6	17	7.3	57
INDIANAPOLIS	241	989.5	1019.4	3.9	- 4.4	- 0.2	0.3	11.7	21	-10.6	13	0	25	- 5.0	73	31	- 27	20	5	0	20	25	1.3	1	12.5	N	9	5	6	17	7.4	35
SOUTH BEND	236	990.9	1020.1	1.1	- 6.1	- 2.3	0.6	6.7	21	-16.1	14	0	27	- 6.1	76	14	- 34	5	8	0	254	127	1.4	1	10.3	23	4	7	4	17	7.2	
IOWA																																
BURLINGTON	211			1.7	- 5.0	- 1.7	0.7	6.1	10+	-15.0	3	0	28	- 5.0	77	24	- 11		4	0	150		1.3	4	10.3	32	12+	4	5	19	7.6	
DES MOINES	286	985.1	1021.3	0.0	- 6.7	- 3.4	1.4	5.6	25	-18.3	1	0	24	- 6.1	81	25	- 3	9	8	0	312	127	1.4	9	12.1	NW	11	6	1	21	7.7	36
DUBUQUE	322	980.4		- 1.1	- 7.8	- 4.4	1.2	3.3	27+	-18.3	3	0	29			10	- 25	7	4		109	102						5	5	18	7.4	
SIOUX CITY	334	979.0	1020.7	- 1.1	- 9.4	- 5.2	0.2	3.9	10	-22.8	3+	0	26	- 7.2	82	34	11	13	7	0	330	356	1.2	10	16.1	NW	11	4	4	20	7.9	45
WATERLOO	265	988.5	1021.8	- 2.2	- 8.9	- 5.6	0.3	2.2	24	-22.2	3	0	26	- 8.3	80	1	- 23	1	1	0	8	76	1.0	9	11.2	30	11	5	2	21	7.8	
KANSAS																																
CONCORDIA	448	963.8	1018.6	2.8	- 5.6	- 1.4	- 1.2	11.1	5	-17.2	1	0	26	- 3.9	84	44	21	16	10	0	368	254	1.1	9	14.3	NW	28	8	5	15	6.9	38
DODGE CITY	787	923.5	1016.3	7.2	- 3.9	1.8	0.2	17.8	5	-10.0	18	0	24	- 4.4	75	45	27	25	5	1	226	102	0.8	14	18.3	N	7	7	6	15	6.6	48
GOODLAND	1114	885.2	1014.8	6.7	- 5.6	0.7	1.3	18.3	4	-11.7	3	0	27	- 6.7	69	10	- 3	6	8	1	124	76	1.5	17	12.5	34	27	8	4	16	6.5	
TOPEKA	267	986.5	1019.4	5.0	- 2.8	1.1	0.4	11.1	25+	-16.1	1	0	18	- 3.9	73	11	- 16	6	6	0	86	76	1.1	5	12.5	N	8	5	6	17	7.3	41
WICHITA	403	968.8	1017.8	7.2	- 2.8	2.3	- 0.1	20.0	26	-11.1	18	0	19	- 3.3	72	34	11	20	5	0	211	178	0.7	8	15.6	N	8	7	7	14	6.3	50
KENTUCKY																																
COVINGTON	265	986.1	1018.8	5.0	- 3.3	0.9	0.3	11.7	21	- 8.9	14+	0	22	- 5.0	67	32	- 42	22	7	0	8	T	1.4	35	12.5	34	8	4	6	18	7.7	
LEXINGTON	294	982.4	1018.7	6.1	- 1.7	2.3	0.2	12.8	21+	- 9.4	14	0	19	- 3.9	68	41	- 46	14	11	1	155	76	0.7	33	10.3	19	8+	7	4	17	7.1	
LOUISVILLE	145	1000.7	1018.8	6.7	- 1.1	2.7	0.6	14.4	8	- 6.7	14+	0	19	- 3.3	69	42	- 42	14	9	1	160	51	1.3	35	12.5	N	8+	7	4	17	7.0	48
LOUISIANA																																
ALEXANDRIA	28	1013.9	1018.1	15.6	3.9	9.7	- 1.9	25.6	6	- 3.3	4	0	6			152	26	67	9	2	0	0	0.8	1	10.3	9	14+	5	6	17	7.2	
BATON ROUGE	20	1014.9	1017.7	17.8	6.1	11.9	- 1.1	26.7	6	- 0.6	18	0	3	5.0	68	138	26	54	11	4	0	0	0.7	3	10.7	12	21	4	6	18	7.5	
LAKE CHARLES	3	1016.3	1017.4	17.2	7.2	12.1	- 1.4	26.7	6	0.6	18	0	0	7.8	78	171	57	69	8	4	T	0	1.0	6	13.4	9	14	2	8	18	8.0	
NEW ORLEANS	1	1016.9	1017.8	17.8	7.8	12.6	- 1.4	27.2	2	1.7	18+	0	0	6.7	69	122	21	36	11	2	0	0	1.0	2	13.9	11	14	4	4	20	7.4	
SHREVEPORT	77	1008.5	1017.8	15.0	4.4	9.6	- 0.6	25.0	7	- 2.8	4	0	2	3.3	70	110	6	48	9	3	0	0	0.6	6	10.3	29	8+	4	4	20	7.4	50
MAINE																																
CARIBOU	190	990.5		- 2.8	-12.8	- 7.9	2.9	6.1	20	-28.9	6	0	28			57	6	26	11		754	1295						5	2	21	7.8	
PORTLAND	14	1010.2	1012.7	1.1	- 8.3	- 3.9	1.2	5.6	20	-21.1	6	0	27	- 8.9	68	160	63	63	11	0	1554	711	2.3	36	14.8	NE	9+	7	4	17	6.7	47
MARYLAND																																
BALTIMORE	45	1010.5	1016.1	5.0	- 2.2	1.6	- 0.4	8.9	11	- 8.3	15	0	19	- 6.7	56	44	- 29	20	8	0	163	51	3.2	32	18.8	W	4	4	5	19	7.5	42
MASSACHUSETTS																																
BLUE HILL OBS R	192			0.0	- 6.1	- 2.9	- 0.4	3.9	12	-13.3	15	0	28			237	142	83	15		1661	1041			25.0	NE	9					37
BOSTON	5	1011.2	1012.2	1.1	- 3.9	- 1.4	- 0.4	4.4	12	-11.1	6	0	26	- 6.7	70	180	96	68	12	0	1049	508	4.0	34	19.2	N	9	6	5	17	6.9	40
NANTUCKET	13	1009.8	1010.0	4.4	- 1.7	1.3	1.7	8.9	9+	- 8.3	16	0	15	- 2.2	78	99	3	30	16	0	124	T	4.4	36	21.0	NW	10	3	6	19	7.8	33
WORCESTER	301	974.3	1012.4	- 0.6	- 6.7	- 3.8	0.1	4.4	12	-15.0	15	0	28	- 7.8	76	77	3	27	9	0	1003	787	3.1	34	19.2	28	4	5	6	17	7.0	
MICHIGAN																																
ALPENA	210	994.2	1020.5	- 0.6	-11.7	- 6.3	1.1	3.3	28+	-21.7	15	0	28	-11.7	67	9	- 32	5	7	0	206	254	1.6	31	9.8	W	3	7	8	13	6.1	52
DETROIT	189			1.7	- 5.6	- 2.0	0.7	7.8	23	-11.1	14	0	26			3	- 50	3	1	0	28		2.1	33	14.3	29	3					
DETROIT M WAYNE CO	193	994.2	1019.2	2.2	- 6.1	- 2.1	0.8	7.8	23	-12.2	14+	0	26	- 7.8	67	4	- 46	4	3	0	58	51	1.9	34	15.6	NW	4	5	7	16	7.0	46
FLINT	235	990.5	1019.4	1.1	- 7.2	- 3.3	0.7	7.2	21	-15.0	15	0	27	- 8.3	68	4	- 40	2	6	0	74	25	1.5	33	10.7	27	3	6	5	17	7.0	
GRAND RAPIDS	239	989.8	1020.3	- 0.6	- 8.3	- 4.2	0.1	4.4	21	-17.2	14	0	28	- 8.9	71	8	- 36	5	5	0	160	51	1.7	35	13.9	W	4	6	3	19	7.4	46
HOUGHTON LAKE	350	976.6	1020.6	- 1.1	-12.8	- 7.0	0.3	3.9	28	-23.9	6	0	28	-10.0	75	8	- 25	3	10	0	221	229	1.5	33	9.8	30	3	7	2	19	7.0	
LANSING	256	987.1	1020.1	1.7	- 8.9	- 3.7	0.7	8.9	21	-15.6	5	0	28	- 9.4	65	6	- 44	3	6	0	79	51	1.6	34	16.1	W	4	5	7	16	6.9	52
MARQUETTE U	206			- 1.7	- 8.3	- 5.2	1.6	2.2	23	-16.1	4	0	28			20	- 22	7	11		310	686			14.3	SW	10	4	5	19	7.6	50
MUSKEGON	191	996.6	1020.4	0.0	- 6.7	- 3.5	0.0	5.6	28	-14.4	15	0	28	- 8.3	69	11	- 35	4	6	0	244	152	1.8	1	11.6	31	3	6	4	18	7.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C	C.	C.	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							
MICHIGAN																																
SAULT STE MARIE	220	992.9	1020.8	- 2.2	-12.8	- 7.6	1.4	3.3	26	-20.6	13	0	28	-11.7	73	17	- 21	5	10	0	305	508	1.7	33	13.9	W	3	7	6	15	6.6	67
MINNESOTA																																
DULUTH	435	968.8	1023.1	- 5.0	-15.0	- 9.8	2.0	2.2	24	-27.2	5	0	28	-12.8	76	7	- 18	3	7	0	76	965	1.0	6	13.9	NW	11	6	2	20	7.6	58
INTERNATIONAL FALLS	359	977.7	1023.3	- 5.6	-18.3	-12.0	1.8	2.2	28	-35.0	3	0	28	-16.7	65	7	- 11	4	5	0	104	889	0.6	8	10.3	26	10	3	7	18	7.2	
MINNEAPOLIS	254	990.5	1022.6	- 2.8	-11.7	- 7.1	2.0	3.3	24+	-28.9	1	0	27	-11.7	70	8	- 12	3	7	0	135	584	1.0	11	12.5	NW	10	4	5	19	7.8	45
ROCHESTER	395	971.9	1021.8	- 2.8	-11.7	- 7.4	1.3	2.8	24	-26.1	1	0	28	-11.1	75	4	- 17	2	3	0	66	356	0.6	8	15.6	30	10	5	3	20	7.8	
ST CLOUD	315	982.4	1022.5	- 3.9	-13.9	- 9.0	1.3	5.6	24	-29.4	1	0	28		72	18	- 3	9	8		173	762						7	3	18	7.1	
MISSISSIPPI																																
JACKSON	94	1005.8	1018.0	15.0	2.8	8.9	- 1.3	25.0	6	- 5.0	4	0	8	3.3	71	77	- 49	28	10	3	0	0	0.8	1	12.1	N	3	5	9	14	6.5	50
MERIDIAN	88	1006.8	1018.1	16.1	3.3	9.6	- 0.8	23.9	1	- 3.9	4	0	8	2.8	70	58	- 71	29	7	1	0	0	0.7	33	10.3	34	3	7	7	14	6.5	
MISSOURI																																
COLUMBIA	237	990.2	1019.2	5.0	- 2.8	1.3	0.3	11.7	10	- 9.4	3	0	18	- 2.9	77	39	- 7	18	9	0	94	51	1.0	6	13.0	NW	8	5	4	19	7.6	39
KANSAS CITY	226	991.5	1019.4	5.0	- 2.2	1.2	- 0.9	11.1	25	-13.3	1	0	19	- 2.8	78	12	- 19	6	7	0	41	102	0.9	5	13.0	NW	8	6	6	16	7.2	43
ST JOSEPH	247			5.0	- 3.3	0.7	1.2	14.4	25	-22.2	1	0	19	- 3.2	75	9	- 18		6	0	13		0.9	5	10.3	12	26+	6	5	17	7.1	
ST LOUIS	163	999.0	1020.0	5.6	- 2.2	1.8	0.3	13.9	5	- 8.3	13	0	19	- 2.8	74	52	0	19	9	1	147	76	0.7	1	12.5	W	2	4	6	18	7.4	41
SPRINGFIELD	386	972.2	1018.7	7.8	- 2.8	2.6	- 0.3	16.1	7	-10.6	18	0	20	- 3.3	71	34	- 20	14	9	0	224	203	0.8	14	13.9	SE	26	6	5	17	7.1	41
MONTANA																																
BILLINGS	1087	887.2	1014.9	0.0	- 8.3	- 4.3	- 0.8	6.7	9	-15.6	7	0	28	-10.0	68	4	- 11	2	4	0	51	152	1.5	27	14.3	NW	2	4	7	17	7.5	34
GLASGOW	696	931.9	1018.4	- 9.3	-17.8	-13.2	- 3.0	3.3	9	-30.6	2	0	28	-15.0	84	4	- 7	1	6	0	69	508	2.7	10	13.0	10	25	7	1	20	7.5	
GREAT FALLS	1116	883.5	1016.5	- 3.9	-13.3	- 8.6	- 4.0	5.6	4	-20.6	26+	0	28	-12.2	74	10	- 9	4	6	0	132	305	2.2	21	21.0	SW	3	2	11	15	7.2	59
HAVRE	788	920.8	1017.5	- 8.3	-20.0	-14.1	- 5.3	3.3	9	-29.4	1	0	28	-18.9	64	6	- 5	3	5	0	140	584	1.4	23	15.6	SW	9	3	6	19	7.3	78
HELENA	1167	876.4	1017.4	- 3.9	-15.6	- 9.7	- 4.8	3.9	9+	-22.8	29+	0	28	-13.3	72	6	- 5	4	5	0	91	381	1.3	25	20.1	[illegible]	6	1	8	19	8.0	45
KALISPELL	904	906.9	1014.5	- 1.1	-11.7	- 6.6	- 2.4	3.3	3	-19.4	14+	0	28	- 9.4	77	13	- 13	5	10	0	183	711	0.4	23	10.3	21	3	0	8	20	8.5	
MILES CITY	801	919.7	1016.8	- 3.9	-13.3	- 8.6	- 2.1	3.9	25	-20.6	8	0	28	-11.7	79	6	- 3		4	0	61		0.3	36								
MISSOULA	972	899.8	1015.4	- 1.1	-11.7	- 6.3	- 2.4	4.4	9	-21.1	21	0	28	- 7.3	89	13	- 9	4	9	0	234	406	0.5	13	12.1	SE	9	4	2	22	8.1	41
NEBRASKA																																
GRAND ISLAND	561	950.6	1019.3	- 0.6	- 7.8	- 4.1	- 0.8	6.7	4	-18.3	1	0	25	- 6.1	85	63	44	29	10	0	546	483	0.8	13	13.0	34	28	4	5	19	7.3	
LINCOLN U	351			1.1	- 6.1	- 2.7	- 0.9	6.7	5	-18.9	1	0	24			23	- 5	12	8		345	279			13.9	NE	7	5	6	17	7.4	39
NORFOLK	471			- 1.1	- 8.9	- 4.9	0.1	3.9	10	-21.7	1	0	27			47	27	19	8		485	483						4	6	18	7.8	
NORTH PLATTE	846	916.4	1017.8	0.0	- 8.9	- 4.3	- 2.1	5.0	5	-18.9	3	0	28	- 6.7	95	7	- 7	3	8	0	91	102	1.2	13	16.1	NW	27	5	5	18	7.4	36
OMAHA	298	983.4	1020.0	1.1	- 6.7	- 2.9	0.1	7.8	25	-21.1	1	0	24	- 5.6	80	34	10	17	9	0	356	229	0.9	9	13.0	NW	11	4	7	17	7.5	35
SCOTTSBLUFF	1206	876.1	1014.9	6.1	- 6.1	0.2	1.9	13.3	9	-13.3	21+	0	28	- 5.6	69	13	3	7	7	0	137	51	0.6	9	11.6	29	1	6	9	13	6.7	
VALENTINE	789			0.0	-10.6	- 5.3	- 0.3	5.0	23+	-22.2	12	0	28			16	2	7	7		170	203			13.4	NW	27+	5	2	21	8.1	40
NEVADA																																
ELKO	1539	838.8	1013.3	2.2	- 9.4	- 3.7	- 1.4	7.2	10	-21.7	3	0	28			45	22	13	15	0	442	102	0.3	8	11.6	24	1	4	[illegible]	19	7.0	
ELY	1906	802.6	1012.7	3.3	-10.0	- 3.4	- 0.4	12.2	10	-21.7	27	0	28	- 8.3	68	56	28	39	11	0	485	229	3.2	19	17.0	[illegible]	24	4	[illegible]	10	7.8	56
LAS VEGAS	659	936.3	1013.8	13.3	2.8	7.9	- 0.8	17.2	16	- 3.3	1	0	6	- 1.1	58	24	13	8	7	0	0	0	2.1	22	14.8	SW	25	10	4	14	5.9	65
RENO	1342	859.5	1010.5	6.7	- 4.4	1.2	- 0.8	12.8	10	-12.8	7	0	21	- 5.6	61	44	18	16	10	0	597	203	0.7	22	18.8	SW	5	4	8	16	7.4	50
WINNEMUCCA	1311	862.2	1011.9	5.0	- 5.6	- 0.4	- 0.6	12.2	10	-15.6	2	0	25	- 6.1	66	38	14	[illegible]	11	0	351	152	0.8	12	12.1	NE	17	2	6	20	8.1	27
NEW HAMPSHIRE																																
CONCORD	104	1000.3	1013.4	0.6	-10.0	- 4.9	0.3	6.7	20	-23.3	17	0	27	- 8.3	74	94	1	47	11	0	1,65	940	4.3	34	15.2	NW	10+	6	8	14	6.6	52
MT WASHINGTON OBS	1909			- 9.4	-16.7	-13.2	1.4	1.1	21	-31.7	5	0	28			649	517	213	16	0	4387	864			57.7Y	W	5	4	6	18	7.5	41
NEW JERSEY																																
ATLANTIC CITY	20	1011.5	1013.9	3.9	- 4.4	- 0.1	- 1.6	8.3	25+	-13.9	6	0	21	- 5.0	70	60	- 19	24	8	0	178	51	4.2	34	17.9	32	9	6	3	19	7.5	31
ATLANTIC CITY U	3			3.3	- 1.7	0.9	- 1.2	8.3	3	- 6.7	15	0	20			74	- 12	36	8						23.2	NW	10					
NEWARK	2	1013.2	1014.2	2.8	- 3.3	- 0.4	- 0.8	6.1	21	- 9.4	15+	0	23	- 6.1	68	68	- 3	35	10	0	419	356	3.4	32	14.2	30	9	3	9	16	7.9	
TRENTON U	17			3.3	- 2.2	0.4	- 0.4	6.1	25+	- 8.3	15	0	22			66	T	30	8		368	203			17.9	NW	10	4	7	17	7.3	47
NEW MEXICO																																
ALBUQUERQUE	1619	835.4	1014.8	11.1	- 3.9	3.6	- 0.8	18.3	26+	-12.2	1	0	25	- 8.3	47	9	- 1	5	4	0	46	25	3.6	34	18.8	NW	7	11	[illegible]	[illegible]	4.8	74
CLAYTON	1515			10.0	- 4.4	2.8	0.6	20.0	26	-13.3	1	0	26			17	7	13	[illegible]		97	51						11	8	9	5.0	
ROSWELL	1102			16.1	- 2.2	7.0	1.4	25.0	26	-10.0	4	0	20			12	1	8	4	1	0	0			14.8	[illegible]	[illegible]					71

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Max mum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C.	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
NEW YORK																																
ALBANY	84	1004.4	1015.5	0.6	- 8.3	- 4.1	0.6	6.7	21	-17.8	17	0	28	- 7.2	79	42	- 14	18	11	1	526	305	1.8	31	15.6	W	4	5	6	17	7.1	46
BINGHAMTON	485	955.0	1015.9	- 1.7	- 8.3	- 5.0	- 0.4	6.1	22	-13.9	14	0	28	- 8.3	77	25	- 31	8	15	0	315	127	1.9	31	16.1	W	5	3	5	20	8.1	47
BUFFALO	215	990.9	1017.6	- 0.6	- 7.8	- 4.1	0.3	9.4	22	-16.7	15	0	28	- 7.2	80	25	- 44	[illegible]	11	0	325	152	2.0	29	17.9	W	3	3	4	21	8.2	46
J.F. KENNEDY	4	1013.2	1013.9	1.7	- 2.8	- 0.7	- 0.4	5.0	25+	- 9.4	16	0	25	- 5.6	70	94	20	62	10	0	569	508	4.3	33	17.9	33	6	4	10	14	7.3	
NEW YORK U	40	1010.2	1013.3	2.8	- 2.2	- 0.3	- 0.4	6.7	25	- 8.3	14	0	21	- 6.7	62	77	5	45	8	0	422	381	3.1	34	17.0	NW	[illegible]					[illegible]
NEW YORK LA GUARDIA	3	1012.2	1014.1	2.2	- 2.8	- 0.3	- 1.2	5.0	25+	- 7.8	14	0	23	- 7.8	60	66	- 13	47	12	0	470	406	4.1	35	[illegible]	NW	[illegible]	3	9	16	7.3	
ROCHESTER	167	996.3	1017.3	0.0	- 6.7	- 3.3	0.6	6.1	22	-13.9	15	0	27	- 7.8	73	23	- 41	6	10	0	452	127	3.2	28	16.1	W	3	2	8	18	7.6	40
SYRACUSE	125	1001.4	1016.8	- 1.1	- 8.3	- 4.7	- 0.4	3.3	3	-17.2	16	0	28	- 7.2	82	38	- 42	12	16	0	541	178	2.3	28	17.0	W	4	5	6	17	7.4	[illegible]
NORTH CAROLINA																																
ASHEVILLE	652	938.4	1016.1	7.8	- 1.1	3.2	- 0.6	15.0	7+	- 8.3	21	0	21	- 2.2	73	129	27	38	11	0	648	381	[illegible]	35	21.9	35	9	9	6	13	[illegible]	[illegible]
CAPE HATTERAS	2	1013.9	1014.3	9.4	3.3	6.4	- 1.7	16.1	1	- 3.3	11	0	3	1.1	72	89	- 11	28	9	2	T	[illegible]	[illegible]	24	16.1	WNW	3	9	[illegible]	15	6.6	[illegible]
CHARLOTTE	224	988.5	1016.6	9.4	- 0.6	4.3	- 2.5	15.0	5+	- 7.2	13	0	19	- 3.3	61	132	42	32	11	1	335	305	1.6	34	12.5	NW	3	10	5	13	5.8	63
GREENSBORO	273	984.1	1016.4	10.0	- 0.6	4.5	- 0.5	15.6	5	- 8.9	14	0	20	- 3.3	61	76	- 7	26	9	0	18	25	2.1	34	15.6	NW	3	7	8	13	6.2	54
RALEIGH	132	999.7	1015.8	10.0	0.0	4.9	- 1.2	16.7	5	- 8.3	14	0	17	- 3.3	60	91	9	34	9	0	20	25	2.5	34	[illegible]	[illegible]	9	8	8	12	6.1	[illegible]
WILMINGTON	9	1014.6	1015.8	12.8	2.2	7.3	- 2.0	23.9	2	- 3.9	14	0	11	- 0.6	62	64	- 23	25	7	0	T	T	2.6	32	15.6	NE	16	7	6	15	6.1	63
NORTH DAKOTA																																
BISMARCK	502	957.7	1020.4	- 4.4	-14.4	- 9.6	0.7	1.7	26+	-33.9	2	0	28	-12.2	77	30	19	12	9	0	442	457	1.6	10	17.4	SE	25	3	5	20	[illegible]	48
FARGO	273	988.2	1022.8	- 6.1	-15.0	-10.7	1.2	1.7	25	-31.7	2+	0	28	-13.3	77	12	- 1	3	10	0	198	432	1.5	13	14.8	NW	10	6	3	19	7.5	32
WILLISTON	579	947.2	1019.1	- 5.6	-16.7	-11.1	- 0.2	1.7	26+	-32.2	2	0	28	-13.3	81	15	3	5	9	0	152	381	0.6	14	17.9	SE	25	4	4	20	7.6	50
OHIO																																
AKRON	368	972.2	1018.1	3.9	- 5.6	- 0.9	0.9	11.1	22	-12.8	15	0	25	- 6.7	57	22	- 36	9	14	0	147	51	1.8	33	13.0	29	4	2	6	20	7.9	
CINCINNATI OBS	232			5.0	- 2.8	1.2	- 0.5	11.1	22+	- 8.9	14+	0	22			32	- 39	18	6		5	T			10.3	SW	3					41
CLEVELAND	237	989.2	1019.2	0.6	- 5.6	- 2.3	- 0.3	8.9	22	-13.9	15	0	25	- 7.8	67	19	- 40	8	11	0	142	51	2.2	32	14.3	NW	4	3	6	19	7.8	45
COLUMBUS	247	988.2	1019.0	3.9	- 4.4	- 0.3	0.2	9.4	22+	-10.6	13	0	26	- 6.1	66	30	- 29	20	9	0	64	25	1.7	34	13.0	W	3	2	9	17	7.8	46
DAYTON	305	981.7	1018.9	3.9	- 4.4	- 0.2	0.4	10.6	21	-11.1	14	0	26	- 6.1	69	19	- 40	14	6	0	23	T	1.7	34	14.3	N	9	4	5	19	7.8	49
MANSFIELD	395			2.8	- 5.6	- 1.2	1.1	10.0	22	-12.2	14+	0	27	- 6.1	71	19	- 47	10	10	0	188	76	2.1	34	11.3	27	4	2	8	18	8.1	
TOLEDO	204	993.9	1020.1	1.7	- 6.7	- 2.6	0.1	7.8	23	-12.8	10	0	28	- 9.3	66	7	- 41	3	6	0	64	25	1.9	35	12.1	W	11+	5	6	17	7.1	55
YOUNGSTOWN	359	973.9	1018.2	1.1	- 7.2	- 2.9	- 0.4	8.9	22	-15.6	15	0	28	- 7.2	74	21	- 42	10	13	0	300	102	1.9	34	10.3	29	4+	2	6	20	8.0	
OKLAHOMA																																
OKLAHOMA CITY	392	970.2	1017.5	11.1	0.0	5.7	0.6	23.9	7	- 7.2	9	0	15	- 0.6	70	49	14	26	7	0	33	25	0.4	8	17.0	NW	7	8	9	11	5.9	55
TULSA	198	993.2	1018.2	11.1	- 0.6	5.2	0.4	23.9	7	- 6.1	18+	0	19	- 1.7	64	34	- 11	18	5	1	135	76	0.4	13	13.4	SE	26	10	5	13	6.0	55
OREGON																																
ASTORIA	2	1008.1	1008.9	8.9	0.6	4.6	- 1.4	12.8	17	- 2.2	19+	0	15	1.1	81	144	-107	33	20	1	25	127	1.9	12	9.8	7	24	0	5	23	8.8	
BURNS U	1265	866.2	1012.1	2.8	- 8.9	- 3.2	- 1.9	6.7	11	-15.6	4	0	28	- 6.1	81	37	5	10	15		307	330	0.3	1				1	7	20	8.4	
EUGENE	109	996.3	1009.9	8.9	0.6	4.8	- 1.1	13.9	16+	- 3.3	6	0	12	1.7	94	82	- 45	39	13	0	T	406	1.7	17	10.3	18	8	0	1	27	9.5	
MEACHAM	1234	869.3	1012.0	0.0	- 5.6	- 2.7	- 1.1	4.4	18	- 7.8	24+	0	28			45	- 57	10	15		351	711			8.9	12	8+	1	5	22	8.9	
MEDFORD	396	962.4	1010.6	8.9	1.1	4.9	0.4	16.1	17	- 2.2	22+	0	15	0.0	75	37	- 24	9	11	0	86	51	1.1	14	17.0	15	27	0	4	24	9.2	
PENDLETON	452	957.7	1012.3	5.0	- 1.1	1.9	- 1.1	11.1	27	- 9.4	6	0	19	- 1.7	81	22	- 8	8	10	0	69	229	0.5	22	15.6	16	8	0	4	24	9.0	
PORTLAND	6	1008.8	1010.2	8.3	0.0	4.3	- 1.3	13.9	18	- 5.0	25	0	11	0.6	78	80	- 27	28	14	0	T	127	2.8	13	14.8	E	24	0	4	24	9.1	[illegible]
SALEM	60	1002.4	1009.7	9.4	0.0	4.6	- 0.9	14.4	16	- 4.4	25	0	17	1.1	81	82	- 53	38	17	0	10	102	1.6	19	11.6	18	9+	0	2	26	9.1	
SEXTON SUMMIT R	1169	874.7	1009.5	1.7	- 2.8	- 0.5	- 2.8	9.4	18	- 6.1	5	0	26			64	- 41	17	14		406	2235	3.5	17	18.8	9	24	0	2	26	9.6	
PACIFIC AREA																																
JOHNSTON	2	1011.2	1011.9	27.8	22.8	25.1	0.1	29.4	6	20.6	28+	0	0	21.7	81	115	76	45	20	0	0	0	6.9	8	13.9	E	23+	3	13	12	6.9	50
KOROR R	29	1007.1	1010.8	30.6	23.9	27.3	0.4	31.7	19+	22.2	17	0	0	22.8	80	74	-107	30	16	0	0	0	3.4	6	9.8	NE	25	0	7	21	8.3	79
KWAJALEIN	2	1007.8	1008.5	30.6	25.0	27.9	1.2	31.7	28+	22.8	19	0	0	22.2	74	11	- 44	5	6	0	0	0	6.8	6	13.4	6	19	0	6	22	9.0	
MAJURO	3	1008.1	1008.4	29.4	25.6	27.3	0.4	30.0	26+	23.9	16	0	0	22.8	77	60	-157	22	9	0	0	0	4.5	6	12.5	NE	26	0	8	20	8.5	57
PAGO PAGO	4	1007.1	1007.2	30.6	23.9	27.3		31.7	19+	22.8	19+	0	0	24.4	87	297		44	22	1	0	0	1.1	5	11.6	E	11	2	5	21	8.6	39
PONAPE R	37	1003.1	1008.5	29.4	22.8	26.2	- 0.8	31.1	17	19.4	10	0	0	22.2	79	241	- 7	127	16	0	0	0	4.2	6	8.9	NE	26+	0	5	23	9.0	43
TAGUAC GUAM R	110	999.0	1011.7	28.3	20.6	24.6	- 1.2	30.0	20	16.1	9	0	0	20.6	79	28	- 60	8	15	0	0	0	4.4	8	9.8	SE	18+	1	13	14	7.1	67
TRUK MOEN ISLAND	2	1008.5	1008.9	29.4	23.9	26.8	- 0.3	30.6	9	22.2	15+	0	0	22.2	74	37	-123	10	10	0	0	0	5.8	4	10.3	NE	13+	0	3	25	9.2	76
WAKE	3	1012.9	1013.1	27.8	22.2	25.0	- 0.1	29.4	16	20.0	14	0	0	18.3	70	19	- 15	5	10	0	0	0	5.4	6	14.8	E	14+	6	17	5	5.0	71
YAP R	13	1008.5	1010.4	30.6	22.8	26.6	- 0.3	31.7	22	21.1	11	0	0	21.7	76	31	- 86	14	13	0	0	0	3.9	7	9.4	NE	27	1	12	15	7.5	61
PENNSYLVANIA																																
ALLENTOWN	118	1000.7	1015.2	2.8	- 5.0	- 1.0	0.6	6.1	24+	-10.0	16+	0	28	- 7.2	65	41	- 26	12	8	0	300	127	3.2	32	17.0	32	9	4	8	16	7.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm.	Mps		Mps							%
PENNSYLVANIA																																
ERIE	223	990.9	1018.7	0.0	- 7.2	- 3.5	- 0.4	8.9	22	-18.3	15	0	26	- 7.2	75	19	- 40	6	13	0	345	102	1.6	31	11.6	29	3	2	8	18	7.9	
HARRISBURG	103	1003.1	1016.1	4.4	- 2.8	0.7	0.4	7.8	21	- 8.9	6	0	23	- 6.1	63	43	- 15	13	10	0	427	178	2.5	29	15.6	NW	5	3	7	18	7.7	46
PHILADELPHIA	2	1013.5	1014.6	3.3	- 3.3	0.0	- 0.7	6.7	24	- 9.4	15	0	26	- 7.2	60	48	- 23	14	8	0	241	102	3.4	35	20.1	NW	9	6	3	19	7.4	37
PITTSBURGH	347	972.2	1017.5	3.3	- 6.1	- 1.4	0.2	10.6	22	-14.4	15	0	27	- 8.3	63	13	- 43	5	13	0	102	51	2.4	32	13.0	32	9+	1	9	19	7.9	46
READING U	81			3.9	- 2.8	0.7	- 0.1	7.8	21	- 7.8	15+	0	22			36	- 31	11	8		231	102			27.3	NW	10	6	8	14	6.7	44
SCRANTON	283	980.7	1016.2	0.6	- 6.1	- 3.0	- 0.9	5.6	22+	-11.7	16+	0	28	- 8.3	68	24	- 26	9	11	1	376	127	2.0	32	13.9	W	3	3	6	19	7.8	40
WILLIAMSPORT	160	997.0	1016.8	2.8	- 7.2	- 2.1	- 0.6	8.3	21	-15.6	6	0	28	- 6.7	73	18	- 45	8	9	0	170	76	2.6	30	10.3	30	10+	3	6	19	7.7	
RHODE ISLAND																																
BLOCK ISLAND	34			1.1	- 2.8	- 0.8	- 0.2	3.9	3+	- 9.4	15	0	24			99	15	42	6		211	127						5	5	18	7.5	
PROVIDENCE	16	1009.8	1012.1	1.1	- 5.0	- 1.8	- 0.6	3.3	23+	-12.2	15	0	26	- 6.7	69	109	30	46	10	0	678	381	4.4	36	17.4	36	10	5	8	15	7.1	40
SOUTH CAROLINA																																
CHARLESTON	12	1014.9	1016.6	12.8	1.7	7.3	- 3.5	23.3	2	- 3.9	13	0	14	- 0.6	64	52	- 31	21	7	1	T	0	1.8	32	19.2Y	W	3	11	3	14	5.9	54
CHARLESTON U	3			13.3	5.0	9.1	- 2.2	21.1	1	1.1	15+	0	0			44	- 34	21	7		0	0			19.2	NE	15					
COLUMBIA	65	1008.8	1017.1	12.8	0.0	6.4	- 2.7	22.2	1	- 5.6	14+	0	17	- 0.6	67	77	- 18	24	8	1	20	25	1.3	31	11.2	32	9	10	2	16	5.9	49
GNVLE-SPARTANBURG	292	981.7	1017.1	10.0	0.0	4.9	- 2.3	16.7	5	- 7.8	13	0	20	- 2.2	64	133	30	38	10	1	175	152	1.3	35	13.0	NW	3	11	3	14	5.7	52
SOUTH DAKOTA																																
ABERDEEN	395	971.6	1020.7	- 3.3	-12.2	- 7.8	1.6	2.8	25	-28.3	3	0	27	-10.3	84	39	23	23	11	0	638	635	1.8	11	13.9	14	14	4	4	20	7.8	
HURON	391	971.6	1020.1	- 2.8	-10.0	- 6.3	2.2	2.2	26+	-26.1	3	0	27	-10.0	75	49	34	18	9	0	566	635	1.9	14	13.4	NW	10	5	2	21	8.2	38
RAPID CITY	964	901.8	1016.5	1.7	- 8.9	- 3.7	0.7	13.3	4	-18.3	8	0	28	- 8.9	72	19	6	7	5	0	201	102	0.8	5	15.6	N	27	2	9	18	7.9	36
SIOUX FALLS	432	966.5	1020.5	- 2.8	-11.7	- 7.2	- 0.1	2.8	22	-26.1	1	0	27	-10.0	76	65	41	21	13	[illegible]	724	864	1.9	12	12.0	12	26	4	[illegible]	22	8.1	
TENNESSEE																																
BRISTOL	459	962.4	1017.9	6.7	- 2.8	2.1	- 2.3	16.7	2	-11.1	14	0	20	- 3.9	69	145	55	39	12	0	384	254	1.3	30	12.5	29	3	7	3	18	7.0	
CHATTANOOGA	203	992.6	1017.9	10.6	1.1	5.7	- 1.2	20.0	2	- 5.0	13+	0	10	- 0.6	68	148	11	69	9	2	20	25	1.3	35	11.6	NW	9	9	[illegible]	17	6.9	41
KNOXVILLE	299	981.4	1017.2	8.3	0.0	4.1	- 2.1	18.3	2	- 6.7	13	0	17	- 2.2	67	141	19	45	11	0	196	127	1.3	36	10.3	W	9	7	3	18	6.9	48
MEMPHIS	79	1008.1	1018.7	11.1	1.7	6.3	- 0.4	19.4	27+	- 3.9	13	0	11	- 0.6	65	81	- 38	28	12	2	T	T	[illegible]	1	12.1	NW	[illegible]	[illegible]		16	6.4	[illegible]
NASHVILLE	180	995.9	1018.3	8.9	0.0	4.3	- 1.2	18.9	2	- 7.9	13	0	15	- 0.6	75	114	- 1	29	9	1	175	152	1.4	33	13.4	[illegible]	[illegible]	7	3	19	7.0	[illegible]
OAK RIDGE °	276			8.3	- 0.6	3.7	- 1.3	15.6	2	- 6.7	13	0	14			123	- 24	34	12		259	152			13.4Y		8+	7	4	17	6.7	
TEXAS																																
ABILENE	537	953.9	1016.2	15.0	2.8	8.9	- 0.2	26.7	7	- 3.9	3	0	8	0.0	51	33	5	21	6	2	T	T	0.9	18	17.4	W	7	8	[illegible]	18	6.9	[illegible]
AMARILLO	1098	888.9	1014.0	11.7	- 2.2	4.7	- 0.5	24.4	26	-11.1	3	0	23	- 6.1	58	13	- 3	6	5	4	74	51	[illegible]	21	19.2	SW	7	11	4	13	[illegible]	[illegible]
AUSTIN	182	994.9	1017.4	16.7	6.1	11.4	- 0.7	27.8	27	0.6	16+	0	0	5.0	71	106	41	70	8	[illegible]	0	0	1.6	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	7.9	[illegible]
BROWNSVILLE	6	1014.9	1015.3	23.3	13.9	18.7	0.9	30.0	6	8.9	18	0	0	14.4	78	46	8	35	9	1	0	0	1.7	9	14.8	SE	21+	1	[illegible]	24	[illegible]	[illegible]
CORPUS CHRISTI	12	1014.9	1016.3	20.0	11.1	15.7	- 0.1	26.1	27+	4.4	18	0	0	11.7	80	74	31	52	8	1	0	0	1.5	9	14.8	SE	14	1	[illegible]	[illegible]	[illegible]	[illegible]
DALLAS	147	1000.0	1017.5	15.6	5.0	10.1	0.4	28.3	7	- 1.7	18	0	2	1.7	62	56	- 9	[illegible]	6	1	T	T	0.6	5	14.3	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]
DEL RIO	313	979.3	1015.7	19.4	7.8	13.7	0.2	31.1	7	2.2	18	0	0	4.4	62	30	7	28	4	1	0	0	1.9	11	11.6	[illegible]	[illegible]	1	[illegible]	19	[illegible]	
EL PASO	1194	879.8	1012.8	17.2	1.1	9.1	- 0.4	21.7	25	- 5.0	1	0	13	- 6.1	37	2	- 8	1	4	1	0	0	1.1	29	17.0	[illegible]	7	13	[illegible]	[illegible]	[illegible]	[illegible]
FORT WORTH	164	997.0	1017.9	16.1	4.4	10.0	0.4	30.6	7	- 2.8	4	0	4	2.8	67	51	- 6	[illegible]	6	1	T	T	0.3	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	
GALVESTON U	2			16.1	11.1	13.6	- 0.2	25.0	6	5.0	18	0	0			90	17	28	7		0	0			[illegible]	[illegible]	16					[illegible]
HOUSTON	15	1015.2	1017.2	18.3	9.4	13.8	0.6	27.2	6	2.2	18	0	0	8.3	76	135	47	[illegible]	7	3	0	0	1.1	[illegible]	19.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LUBBOCK	992	902.1	1015.0	13.3	- 0.6	6.3	0.1	24.4	26+	-11.1	3	0	16	- 3.9	57	29	14	19	[illegible]	2	T	T	0.9	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MIDLAND	869	915.3	1014.4	16.1	1.7	8.9	- 0.1	23.9	26+	- 6.7	3	0	11	- 2.2	54	45	30	24	5	4	0	[illegible]	1.3	17	14.8	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	
PORT ARTHUR	5	1016.9	1017.5	17.2	7.8	12.6	- 0.8	26.7	6	0.0	18	0	1	8.9	82	105	- 8	47	[illegible]	3	T	T	1.3	7	27.7	[illegible]	14	1	8	19	[illegible]	[illegible]
SAN ANGELO	580	948.5	1015.7	18.3	3.3	10.9	0.6	28.3	7	- 4.4	3	0	7	0.6	56	27	4	[illegible]	4	1	[illegible]	[illegible]	1.7	19	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	
SAN ANTONIO	240	988.5	1016.9	17.8	6.7	12.0	- 1.0	27.8	27	0.6	18+	0	0	5.6	71	74	32	54	8	3	[illegible]	0	1.7	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VICTORIA	32	1012.5	1016.7	19.4	8.9	14.3	- 0.2	27.2	27	2.2	18	0	0	9.4	77	138	78	67	4	3	[illegible]	0	1.7	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
WACO	153	999.3	1017.5	15.6	5.6	10.7	- 0.1	27.8	7	- 2.2	4	0	1	4.4	72	53	- 8	[illegible]	7	[illegible]	T	T	0.4	31	[illegible]	[illegible]	17+	[illegible]	[illegible]	[illegible]	[illegible]	
WICHITA FALLS	303	979.7	1017.0	13.9	1.1	7.4	- 0.8	28.3	7	- 4.4	3	0	12	0.6	70	72	37	48	5	2	43	25	0.6	11	19.2	[illegible]	[illegible]	7	[illegible]	16	[illegible]	
UTAH																																
MILFORD	1533	841.9		6.1	- 5.6	0.2	1.5	12.8	11	-17.2	3	0	28			32	14	15	13		373	102						[illegible]	[illegible]	[illegible]	[illegible]	
SALT LAKE CITY	1286	868.3	1015.2	3.3	- 7.2	- 1.8	- 2.1	8.3	25	-17.2	4	0	27	- 5.6	75	72	42	23	8	0	709	[illegible]	1.6	18	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WENDOVER	1291	867.3	1014.9	3.3	- 5.0	- 0.9	- 1.4	7.8	16	-11.7	3	0	28			14	7	4	10		139	51										
VERMONT																																
BURLINGTON	101	1002.7	1015.7	- 3.3	-11.7	- 7.5	0.6	0.6	24+	-20.6	17	0	28	-10.6	78	24	- 22	6	10	[illegible]	432	381	[illegible]	35	15.2	N	10+	[illegible]	[illegible]	20	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C.	C.	C.	C	C.		C.				C	%	Mm	Mm.	Mm			Mm	Mm.	M p.s		M p.s							%
VIRGINIA																																
LYNCHBURG	279			6.7	- 2.2	2.4	- 1.4	13.9	5	-12.2	14	0	22			65	- 2	16	9		104	25			13.0	W	3	8	7	13	6.3	50
NORFOLK	7	1013.9	1014.9	7.2	1.7	4.3	- 1.0	13.3	6	- 3.3	14	0	10	- 3.3	63	55	- 27	22	10	0	20	T	3.3	33	15.6	NW	10	7	3	18	7.1	55
RICHMOND	50	1010.2	1016.2	6.7	- 1.1	2.7	- 1.7	14.4	5	- 7.8	14+	0	18	- 4.4	65	100	27	47	8	0	T	T	2.7	35	15.2	NW	2	5	4	19	7.5	43
ROANOKE	350	973.6	1016.4	7.2	- 1.7	2.9	- 1.1	13.3	5	- 9.4	14	0	20	- 6.7	54	70	- 3	17	8	0	290	102	2.6	31	15.6	32	9+	7	7	14	6.5	
WALLOPS ISLAND	3			5.0	- 1.1	2.0		9.4	24+	- 6.7	15	0	17			90		38	12		94	76			25.5Y	NW	10					
WASHINGTON																																
OLYMPIA	59	1002.4	1009.6	8.3	- 1.1	3.4	- 1.5	13.3	17	- 8.3	6	0	20	0.0	82	87	- 82	32	15	0	36	508	1.1	20	11.6	20	8	0	6	27	9.5	
QUILLAYUTE	55	1000.3	1007.8	8.3	- 0.6	3.7	- 0.9	13.9	28	- 5.0	5	0	20	1.7	88	231	- 81	67	18	0	157	305	1.6	11	12.5	SW	4	2	7	19	8.0	26
SEATTLE TACOMA	122	993.2	1009.6	8.9	2.2	5.7	0.8	13.9	17	- 0.6	6+	0	4	0.0	71	80	- 27	27	12	0	T	279	1.7	14	11.6	S	8	0	8	20	8.2	46
SPOKANE	718	926.5	1012.1	1.1	- 7.8	- 3.3	- 2.2	4.4	8	-16.1	2	0	27	- 5.0	85	31	- 17	16	11	0	137	1067	1.3	14	15.6	SW	9	1	4	23	8.8	42
STAMPEDE PASS R	1206	870.6		- 2.2	- 6.1	- 4.1	- 1.1	2.2	20	-11.7	6	0	28			209	- 49	52	20		879	5080										
WALLA WALLA U	289			5.0	- 1.1	2.1	- 1.5	12.2	11	- 7.2	6	0	23			31	- 8	10	14		94	254			16.1	S	8	1	1	26	9.2	16
YAKIMA	321	973.6	1013.0	2.2	- 6.1	- 1.9	- 3.1	5.6	17	-18.9	1	0	27	- 5.5	78	23	1	8	9	0	140	381	1.7	27	7.6	21	9+	3	4	21	8.1	
WEST INDIES																																
SAN JUAN P.R.	4	1011.9	1014.5	27.2	20.6	23.9	0.3	31.7	17	17.2	26	0	0	18.9	74	101	27	69	9	1	0	0	1.4	5	14.3	NE	1	13	11	4	4.4	74
SWAN ISLAND	9			28.3	23.3	25.7	- 0.1	28.9	28+	21.7	20+	0	0			26	- 4	20	6		0	0						10	16	2	4.5	
WEST VIRGINIA																																
BECKLEY	763	925.8	1017.6	3.3	- 4.4	- 0.7	- 2.0	12.2	2	-12.2	14	0	24	- 5.5	72	41	- 62	10	18	0	277	76	1.7	29	13.9	28	5	6	2	20	7.8	
CHARLESTON	286	982.7	1017.6	6.7	- 2.8	1.8	- 1.3	15.0	3	-11.1	14	0	21	- 5.0	64	32	- 57	12	9	1	33	25	1.3	28	10.3	28	5	4	5	19	7.8	
ELKINS	600	943.8		3.9	- 5.6	- 0.9	- 1.4	11.7	22	-17.2	15	0	25			54	- 29	19	14		345	76			11.6	27	4	4	1	22	8.5	
HUNTINGTON	252	987.5	1018.4	6.1	- 2.2	2.0	- 1.2	12.2	21	-11.7	14	0	20	- 4.4	67	24	- 53	9	11	0	71	25	1.3	30	9.4	24	4	4	6	18	7.8	
PARKERSBURG U	187			5.6	- 2.8	1.6	- 0.3	12.2	22+	- 8.9	15	0	22			21	- 51	13	9		15	T			15.2	W	3					38
WISCONSIN																																
GREEN BAY	208	995.3	1021.9	- 2.2	-10.6	- 6.3	1.4	2.2	24+	-21.7	4	0	28	-10.6	72	1	- 26	1	1	0	13	152	1.8	34	11.6	S	10	9	9	10	5.8	58
LA CROSSE	198	996.6	1022.4	- 1.1	-11.7	- 6.3	0.7	4.4	23	-25.0	1	0	29	-10.6	74	1	- 25		3	0	20		0.4	3								
MADISON	262	988.5	1021.3	- 0.6	- 9.3	- 4.7	2.3	3.3	23	-17.2	14+	0	28	- 8.3	76	5	- 24	3	4	0	43	51	1.3	1	12.5	W	11	6	5	17	7.0	48
MILWAUKEE	205	994.9	1021.1	0.6	- 5.6	- 2.6	2.7	5.0	24	-15.0	4+	0	27	- 6.7	72	1	- 34	1	3	0	18	25	1.7	36	13.0	SW	4	5	10	13	6.8	57
WYOMING																																
CASPER	1627	832.0	1013.2	4.4	- 7.8	- 1.7	1.5	11.7	25	-16.1	22	0	27	- 8.9	61	14	- 1	5	7	0	175	51	4.2	22	19.7	22	25	6	8	14	7.2	
CHEYENNE	1867	806.6	1013.5	6.1	- 6.1	0.0	2.6	13.9	25	-12.8	2	0	28	-10.6	50	6	- 8	4	5	0	119	102	2.9	27	21.9	W	9+	7	8	13	6.2	58
LANDER	1696	823.2	1013.0	3.9	- 7.8	- 2.1	2.3	10.0	13	-14.4	3	0	28	- 9.4	60	3	- 14	3	2	0	119	76	0.8	24	25.0	S	25	4	7	17	7.5	55
SHERIDAN	1208	874.4	1016.0	0.6	-11.1	- 5.2	- 0.7	12.8	9	-16.7	23	0	28	- 9.4	75	5	- 14	2	4	0	76	102	1.3	30	13.4	SW	1	4	7	17	7.3	58

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	566	2559	2071
HUNTSVILLE	649	2840	2479
MOBILE	320	1548	1307
MONTGOMERY	456	2037	1885
ALASKA			
ANCHORAGE	1312	8150	7725
ANNETTE	809	5069	4767
BARROW	2364	13110	13360
BARTER ISLAND	2523	13375	13165
BETHEL	1605	9052	9160
BETTLES	2093	12089	
BIG DELTA	1790	10979	
COLD BAY	1028	6075	6425
FAIRBANKS	2024	11556	10695
FAREWELL	1731	10803	
GULKANA	1862	11496	
HOMER	1189	7513	
ILIAMNA	1431	8398	
JUNEAU	1219	7192	6210
KING SALMON	1463	8701	7885
KOTZEBUE	1803	10296	10778
MC GRATH	1908	11151	10497
NENANA	2044	11758	
NOME	1675	9490	9584
ST. PAUL ISLAND	1135	6820	7174
SHEMYA	980	6297	6258
SUMMIT	1618	10480	
TALKEETNA	1412	9017	
TANANA	2070	11997	
UNALAKLEET	1667	9706	
YAKUTAT	1201	7613	6143
ARIZONA			
FLAGSTAFF	1105	5255	4973
PHOENIX	327	1279	1473
TUCSON	328	1264	1477
WINSLOW	738	3635	3794
YUMA	219	856	1058
ARKANSAS			
FORT SMITH	613	2822	2670
LITTLE ROCK	611	2515	2650
CALIFORNIA			
BAKERSFIELD	384	1743	1731
BISHOP	971	3564	3203
BLUE CANYON	971	4132	3542
EUREKA U	519	3130	3043
FRESNO	480	2236	1967
LONG BEACH	311	1031	1168
LOS ANGELES	306	1018	1183
LOS ANGELES U	277	843	938
MT SHASTA R	903	4475	3953
OAKLAND	402	1931	1992
RED BLUFF	522	2328	1959
SACRAMENTO	496	2268	2089
SANDBERG R	771	3346	2842
SAN DIEGO	274	907	994
SAN FRANCISCO	443	2199	2033
SAN FRANCISCO U	412	2188	1984
SANTA MARIA	386	1661	1924
STOCKTON	516	2338	2106
COLORADO			
ALAMOSA	1155	6183	6205
COLORADO SPRINGS	868	4471	4545
DENVER	821	4320	4484
GRAND JUNCTION	874	4549	4358
PUEBLO	753	3680	4072
CONNECTICUT			
BRIDGEPORT	978	3845	4019
HARTFORD	1063	4717	4577
NEW HAVEN	994	4086	4193
DELAWARE			
WILMINGTON	874	3619	3690
DIST. OF COLUMBIA			
WASH NATL AP	780	3211	3236
FLORIDA			
APALACHICOLA U	321	1272	1095
DAYTONA BEACH	275	971	724
FORT MYERS	130	458	380
JACKSONVILLE	327	1231	1044
KEY WEST	13	46	99
LAKELAND U	201	731	562
MIAMI	54	184	195
ORLANDO	206	750	655
PENSACOLA	339	1571	1244
TALLAHASSEE	372	1625	1247
TAMPA	252	882	581
WEST PALM BEACH	110	360	222
GEORGIA			
ATHENS	597	2657	2335
ATLANTA	620	2741	[illegible]
AUGUSTA	555	2311	1957
COLUMBUS	517	2259	1949
MACON	550	2336	1778
ROME	638	2968	2647
SAVANNAH	498	1952	1520

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
IDAHO			
BOISE	797	3904	4323
LEWISTON	842	4439	4093
POCATELLO	1094	5374	5113
ILLINOIS			
CAIRO U	700	3145	3040
CHICAGO O HARE	976	4657	4834
CHICAGO MIDWAY	966	4494	4526
MOLINE	1032	5086	4812
PEORIA	962	4678	4534
ROCKFORD	1017	5027	5057
SPRINGFIELD	934	4413	4152
INDIANA			
EVANSVILLE	793	3644	3510
FORT WAYNE	1036	4670	4616
INDIANAPOLIS	925	4269	4242
SOUTH BEND	1034	4724	4682
IOWA			
BURLINGTON	1002	4839	4619
DES MOINES	1086	5326	5102
DUBUQUE	1140	5602	5466
SIOUX CITY	1185	5583	5226
WATERLOO	1196	5847	5483
KANSAS			
CONCORDIA	992	4605	4159
DODGE CITY	826	3942	3780
GOODLAND	885	4466	4474
TOPEKA	866	4247	3994
WICHITA	804	3876	3612
KENTUCKY			
COVINGTON	872	3837	3946
LEXINGTON	799	3621	3568
LOUISVILLE	778	3466	3549
LOUISIANA			
ALEXANDRIA	429	1777	1592
BATON ROUGE	325	1505	1319
LAKE CHARLES	312	1338	1225
NEW ORLEANS	304	1450	1154
SHREVEPORT	438	1896	1799
MAINE			
CARIBOU	1316	6352	6950
PORTLAND	1112	4979	5311
MARYLAND			
BALTIMORE	835	3499	3558
MASSACHUSETTS			
BLUE HILL OBS R	1066	4600	4517
BOSTON	987	4069	4031
NANTUCKET	849	3769	3861
WORCESTER	1111	4984	4977
MICHIGAN			
ALPENA	1239	5645	5909
DETROIT	1018	4459	4512
DETROIT M WAYNE CO	1024	4639	4692
FLINT	1085	5042	4932
GRAND RAPIDS	1132	5141	5024
HOUGHTON LAKE	1272	5812	5882
LANSING	1103	5113	4977
MARQUETTE U	1182	5501	5720
MUSKEGON	1092	4930	4714
SAULT STE MARIE	1300	6283	6283
MINNESOTA			
DULUTH	1411	6968	7117
INTERNATIONAL FALLS	1524	7567	7747
MINNEAPOLIS	1274	6037	6226
ROCHESTER	1294	6217	6121
ST CLOUD	1374	6654	6561
MISSISSIPPI			
JACKSON	470	2047	1817
MERIDIAN	443	2128	1898
MISSOURI			
COLUMBIA	852	4002	3873
KANSAS CITY	857	4077	3626
ST JOSEPH	884	5158	4219
ST LOUIS	826	3889	3748
SPRINGFIELD	792	3771	3499
MONTANA			
BILLINGS	1134	5738	5122
GLASGOW	1584	7422	6676
GREAT FALLS	1350	6744	5475
HAVRE	1631	7721	6362
HELENA	1407	6677	5860
KALISPELL	1246	6665	5919
MILES CITY	1352	6629	5712
MISSOULA	1234	[illegible]	5924

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
NEBRASKA			
GRAND ISLAND	1121	5258	4904
LINCOLN U	1054	4843	4427
NORFOLK	1165	5625	5217
NORTH PLATTE	1133	5587	4930
OMAHA	1066	4964	4748
SCOTTSBLUFF	906	5019	4840
VALENTINE	1188	5868	5429
NEVADA			
ELKO	1100	4885	[illegible]
ELY	1087	5330	5403
LAS VEGAS	518	2130	2257
RENO	856	4183	4541
WINNEMUCCA	938	4561	4835
NEW HAMPSHIRE			
CONCORD	1165	5372	5342
MT WASHINGTON OBS	1587	9355	[illegible]
NEW JERSEY			
ATLANTIC CITY	926	4031	3503
ATLANTIC CITY U	872	3451	3331
NEWARK	938	3752	3760
TRENTON U	898	3684	3695
NEW MEXICO			
ALBUQUERQUE	735	3528	3384
CLAYTON	773	3617	3778
ROSWELL	564	2802	2680
NEW YORK			
ALBANY	[illegible]	[illegible]	5035
BINGHAMTON	1171	5278	5184
BUFFALO	1125	4732	4971
NEW YORK U	902	3593	3576
J.F. KENNEDY	950	3740	3745
NEW YORK LA GUARDIA	933	3706	3517
ROCHESTER	1087	4663	4810
SYRACUSE	1152	4829	4889
NORTH CAROLINA			
ASHEVILLE	755	3395	3401
CAPE HATTERAS R	594	2175	1970
CHARLOTTE	702	2979	2532
GREENSBORO	689	3072	2972
RALEIGH	667	2867	2692
WILMINGTON	554	2248	1894
NORTH DAKOTA			
BISMARCK	1405	7051	6557
FARGO	1460	7140	6843
WILLISTON	1480	7370	[illegible]
OHIO			
AKRON	963	4255	4436
CINCINNATI OBS	858	3869	3682
CLEVELAND	[illegible]	4571	4419
COLUMBUS	933	4218	4227
DAYTON	933	4247	4187
MANSFIELD	982	4347	4631
TOLEDO	1047	4817	4725
YOUNGSTOWN	1066	4713	4648
OKLAHOMA			
OKLAHOMA CITY	629	2979	2975
TULSA	652	3083	3061
OREGON			
ASTORIA	687	3873	3476
BURNS U	1079	5284	4988
EUGENE	673	3289	3297
MEACHAM	1051	5823	5299
MEDFORD	670	3334	3614
PENDLETON	820	4310	3846
PORTLAND	703	3699	[illegible]
SALEM	685	3764	3309
SEXTON SUMMIT R	944	4808	4081
PENNSYLVANIA			
ALLENTOWN	967	4202	4299
ERIE	[illegible]	4430	4545
HARRISBURG	882	3894	3953
PHILADELPHIA	918	3834	3840
PITTSBURGH	988	4517	4399
PITTSBURGH U	926	4011	3975
READING U	[illegible]	[illegible]	3733
SCRANTON	1068	4604	4635
WILLIAMSPORT	1022	4312	[illegible]
RHODE ISLAND			
BLOCK ISLAND	959	3890	3872
PROVIDENCE	1010	4243	4265
SOUTH CAROLINA			
CHARLESTON	551	2153	1688
CHARLESTON U	462	1818	1479
COLUMBIA	594	2421	2046
GNVLE-SPARTANBURG	668	[illegible]	2435
SOUTH DAKOTA			
ABERDEEN	1312	[illegible]	[illegible]
HURON	[illegible]	[illegible]	6123
RAPID CITY	1102	[illegible]	5227
SIOUX FALLS	[illegible]	[illegible]	5936

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
TENNESSEE			
BRISTOL	813	3538	3216
CHATTANOOGA	634	[illegible]	2626
KNOXVILLE	710	[illegible]	2760
MEMPHIS	601	2623	2607
NASHVILLE	700	[illegible]	2837
OAK RIDGE R	[illegible]	3264	2981
TEXAS			
ABILENE	[illegible]	2016	2163
AMARILLO	681	3020	3131
AUSTIN	345	[illegible]	1437
BROWNSVILLE	45	355	526
CORPUS CHRISTI	146	749	805
DALLAS	414	1794	1948
DEL RIO	[illegible]	1208	1339
EL PASO	[illegible]	2170	[illegible]
FORT WORTH	416	[illegible]	[illegible]
GALVESTON U	236	[illegible]	1016
HOUSTON	234	1019	1168
LUBBOCK	[illegible]	2711	2862
MIDLAND	467	2183	2179
PORT ARTHUR	289	1190	1216
SAN ANGELO	[illegible]	1713	1901
SAN ANTONIO	319	[illegible]	1312
VICTORIA	208	[illegible]	[illegible]
WACO	382	1620	1694
WICHITA FALLS	543	2364	2328
UTAH			
MILFORD	907	4567	4790
SALT LAKE CITY	1010	4604	4513
WENDOVER	965	4613	4413
VERMONT			
BURLINGTON	1298	5959	5925
VIRGINIA			
LYNCHBURG	[illegible]	3520	3216
NORFOLK	697	2722	2635
RICHMOND	783	3168	3047
ROANOKE	[illegible]	3509	3210
WALLOPS ISLAND	[illegible]	3259	
WASHINGTON			
OLYMPIA	746	4201	3657
QUILLAYUTE	729	4302	3847
SEATTLE TACOMA	627	3716	3560
SPOKANE	1080	[illegible]	4867
STAMPEDE PASS R	1126	[illegible]	[illegible]
WALLA WALLA U	816	[illegible]	3652
YAKIMA	1016	5132	4504
WEST VIRGINIA			
BECKLEY	[illegible]	[illegible]	3991
CHARLESTON	828	3655	3423
ELKINS	964	4514	4194
HUNTINGTON	819	3666	3405
PARKERSBURG U	837	[illegible]	3603
WISCONSIN			
GREEN BAY	1234	5758	[illegible]
LA CROSSE	1236	5694	5665
MADISON	1152	5597	5720
MILWAUKEE	1053	[illegible]	5432
WYOMING			
CASPER	998	5454	5223
CHEYENNE	913	4838	5112
LANDER	1025	5626	5665
SHERIDAN	1181	6273	5471

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

FEBRUARY 1969

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	0	0	
HUNTSVILLE	0	0	
MOBILE	10	15	
MONTGOMERY	8	11	
ALASKA			
ANCHORAGE	0	0	
ANNETTE	0	0	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	0	
BETTLES	0	0	
BIG DELTA	0	0	
COLD BAY	0	0	
FAIRBANKS	0	0	
FAREWELL	0	0	
GULKANA	0	0	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	0	0	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	0	
NENANA	0	0	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	0	
TALKEETNA	0	0	
TANANA	0	0	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	0	
PHOENIX	0	0	
TUCSON	0	0	
WINSLOW	0	0	
YUMA	0	7	
ARKANSAS			
FORT SMITH	0	1	
LITTLE ROCK	0	4	
CALIFORNIA			
BAKERSFIELD	0	0	
BISHOP	0	0	
BLUE CANYON	0	0	
EUREKA U	0	0	
FRESNO	0	0	
LONG BEACH	0	13	
LOS ANGELES	0	7	
LOS ANGELES U	0	19	
MT SHASTA R	0	0	
OAKLAND	0	0	
RED BLUFF	0	0	
SACRAMENTO	0	0	
SANDBERG R	0	0	
SAN DIEGO	0	5	
SAN FRANCISCO	0	0	
SAN FRANCISCO U	0	0	
SANTA MARIA	0	0	
STOCKTON	0	0	
COLORADO			
ALAMOSA	0	0	
COLORADO SPRINGS	0	0	
DENVER	0	0	
GRAND JUNCTION	0	0	
PUEBLO	0	0	
CONNECTICUT			
BRIDGEPORT	0	0	
HARTFORD	0	0	
NEW HAVEN	0	0	
DELAWARE			
WILMINGTON	0	0	
DIST.OF COLUMBIA			
WASH NATL AP	0	0	
FLORIDA			
APALACHICOLA U	2	3	
DAYTONA BEACH	4	11	
FORT MYERS	20	53	
JACKSONVILLE	8	10	
KEY WEST	108	277	
LAKELAND U	12	22	
MIAMI	66	170	
ORLANDO	10	22	
PENSACOLA	9	11	
TALLAHASSEE	8	15	
TAMPA	2	10	
WEST PALM BEACH	23	87	
GEORGIA			
ATHENS	0	0	
ATLANTA	0	0	
AUGUSTA	0	0	
COLUMBUS	1	1	
MACON	2	2	
ROME	0	0	
SAVANNAH	4	4	
HAWAII			
HILO	209	416	
HONOLULU	255	388	
KAHULUI	214	351	
LIHUE	160	225	
IDAHO			
BOISE	0	0	
LEWISTON	0	0	
POCATELLO	0	0	
ILLINOIS			
CAIRO U	0	0	
CHICAGO O HARE	0	0	
CHICAGO MIDWAY	0	0	
MOLINE	0	0	
PEORIA	0	0	
ROCKFORD	0	0	
SPRINGFIELD	0	0	
INDIANA			
EVANSVILLE	0	0	
FORT WAYNE	0	0	
INDIANAPOLIS	0	0	
SOUTH BEND	0	0	
IOWA			
BURLINGTON	0	0	
DES MOINES	0	0	
DUBUQUE	0	0	
SIOUX CITY	0	0	
WATERLOO	0	0	
KANSAS			
CONCORDIA	0	0	
DODGE CITY	0	0	
GOODLAND	0	0	
TOPEKA	0	0	
WICHITA	0	0	
KENTUCKY			
COVINGTON	0	0	
LEXINGTON	0	0	
LOUISVILLE	0	0	
LOUISIANA			
ALEXANDRIA	0	9	
BATON ROUGE	10	30	
LAKE CHARLES	4	21	
NEW ORLEANS	17	45	
SHREVEPORT	0	15	
MAINE			
CARIBOU	0	0	
PORTLAND	0	0	
MARYLAND			
BALTIMORE	0	0	
MASSACHUSETTS			
BLUE HILL OBS R	0	0	
BOSTON	0	0	
NANTUCKET	0	0	
WORCESTER	0	0	
MICHIGAN			
ALPENA	0	0	
DETROIT	0	0	
DETROIT M WAYNE CO	0	0	
FLINT	0	0	
GRAND RAPIDS	0	0	
HOUGHTON LAKE	0	0	
LANSING	0	0	
MARQUETTE U	0	0	
MUSKEGON	0	0	
SAULT STE MARIE	0	0	
MINNESOTA			
DULUTH	0	0	
INTERNATIONAL FALLS	0	0	
MINNEAPOLIS	0	0	
ROCHESTER	0	0	
ST CLOUD	0	0	
MISSISSIPPI			
JACKSON	0	3	
MERIDIAN	6	6	
MISSOURI			
COLUMBIA	0	0	
KANSAS CITY	0	0	
ST JOSEPH	0	0	
ST LOUIS	0	0	
SPRINGFIELD	0	0	
MONTANA			
BILLINGS	0	0	
GLASGOW	0	0	
GREAT FALLS	0	0	
HAVRE	0	0	
HELENA	0	0	
KALISPELL	0	0	
MILES CITY	0	0	
MISSOULA	0	0	
NEBRASKA			
GRAND ISLAND	0	0	
LINCOLN U	0	0	
NORFOLK	0	0	
NEBRASKA			
NORTH PLATTE	0	0	
OMAHA	0	0	
SCOTTSBLUFF	0	0	
VALENTINE	0	0	
NEVADA			
ELKO	0	0	
ELY	0	0	
LAS VEGAS	0	0	
RENO	0	0	
WINNEMUCCA	0	0	
NEW HAMPSHIRE			
CONCORD	0	0	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	0	0	
ATLANTIC CITY U	0	0	
NEWARK	0	0	
TRENTON U	0	0	
NEW MEXICO			
ALBUQUERQUE	0	0	
CLAYTON	0	0	
ROSWELL	0	0	
NEW YORK			
ALBANY	0	0	
BINGHAMTON	0	0	
BUFFALO	0	0	
J.F. KENNEDY	0	0	
NEW YORK U	0	0	
NEW YORK LA GUARDIA	0	0	
ROCHESTER	0	0	
SYRACUSE	0	0	
NORTH CAROLINA			
ASHEVILLE	0	0	
CAPE HATTERAS R	0	0	
CHARLOTTE	0	0	
GREENSBORO	0	0	
RALEIGH	0	0	
WILMINGTON	2	2	
NORTH DAKOTA			
BISMARCK	0	0	
FARGO	0	0	
WILLISTON	0	0	
OHIO			
AKRON	0	0	
CINCINNATI OBS	0	0	
CLEVELAND	0	0	
COLUMBUS	0	0	
DAYTON	0	0	
MANSFIELD	0	0	
TOLEDO	0	0	
YOUNGSTOWN	0	0	
OKLAHOMA			
OKLAHOMA CITY	0	0	
TULSA	0	0	
OREGON			
ASTORIA	0	0	
BURNS U	0	0	
EUGENE	0	0	
MEACHAM	0	0	
MEDFORD	0	0	
PENDLETON	0	0	
PORTLAND	0	0	
SALEM	0	0	
SEXTON SUMMIT R	0	0	
PACIFIC AREA			
JOHNSTON	349	682	
KOROR R	457	950	
KWAJALEIN	487	985	
MAJURO	458	933	
PAGO PAGO	459	985	
PONAPE R	401	879	
TAGUAC GUAM R	321	696	
TRUK MOEN ISLAND	432	925	
WAKE	338	717	
YAP R	422	898	
PENNSYLVANIA			
ALLENTOWN	0	0	
ERIE	0	0	
HARRISBURG	0	0	
PHILADELPHIA	0	0	
PITTSBURGH	0	0	
PITTSBURGH U	0	0	
READING U	0	0	
SCRANTON	0	0	
WILLIAMSPORT	0	0	
RHODE ISLAND			
BLOCK ISLAND	0	0	
PROVIDENCE	0	0	
SOUTH CAROLINA			
CHARLESTON	0	0	
CHARLESTON U	0	0	
COLUMBIA	0	0	
GNVLE-SPARTANBURG	0	0	
SOUTH DAKOTA			
ABERDEEN	0	0	
HURON	0	0	
RAPID CITY	0	0	
SIOUX FALLS	0	0	
TENNESSEE			
BRISTOL	0	0	
CHATTANOOGA	0	0	
KNOXVILLE	[illegible]	0	
MEMPHIS	0	[illegible]	
NASHVILLE	[illegible]	0	
OAK RIDGE R	0	0	
TEXAS			
ABILENE	0	0	
AMARILLO	0	0	
AUSTIN	5	30	
BROWNSVILLE	71	194	
CORPUS CHRISTI	16	78	
DALLAS	2	4	
DEL RIO	13	19	
EL PASO	0	0	
FORT WORTH	3	6	
GALVESTON U	4	7	
HOUSTON	13	48	
LUBBOCK	0	0	
MIDLAND	0	0	
PORT ARTHUR	4	21	
SAN ANGELO	1	7	
SAN ANTONIO	5	16	
VICTORIA	10	48	
WACO	2	14	
WICHITA FALLS	0	0	
UTAH			
MILFORD	0	0	
SALT LAKE CITY	0	0	
WENDOVER	0	0	
VERMONT			
BURLINGTON	0	0	
VIRGINIA			
LYNCHBURG	0	[illegible]	
NORFOLK	0	0	
RICHMOND	0	0	
ROANOKE	0	0	
WALLOPS ISLAND	0	0	
WASHINGTON			
OLYMPIA	0	0	
QUILLAYUTE	0	0	
SEATTLE TACOMA	0	0	
SPOKANE	0	0	
STAMPEDE PASS R	0	0	
WALLA WALLA U	[illegible]	0	
YAKIMA	0	0	
WEST INDIES			
SAN JUAN P.R.	287	615	
SWAN ISLAND	378	794	
WEST VIRGINIA			
BECKLEY	0	0	
CHARLESTON	0	0	
ELKINS	0	0	
HUNTINGTON	0	0	
PARKERSBURG U	0	0	
WISCONSIN			
GREEN BAY	0	0	
LA CROSSE	0	0	
MADISON	0	0	
MILWAUKEE	0	0	
WYOMING			
CASPER	0	0	
CHEYENNE	0	0	
LANDER	0	0	
SHERIDAN	0	0	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES: NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	HAILSTORMS: DEATHS	INJURIES	†DAMAGE: PROPERTY	CROPS	WINDSTORMS: DEATHS	INJURIES	†DAMAGE: PROPERTY	CROPS	LIGHTNING: DEATHS	INJURIES	†DAMAGE: PROPERTY	CROPS	‡ HEAVY SNOWSTORMS AND BLIZZARDS: DEATHS	INJURIES	†DAMAGE: PROPERTY	CROPS	# ICE STORMS: DEATHS	INJURIES	†DAMAGE: PROPERTY	CROPS	∅ ALL OTHER: DEATHS	INJURIES	†DAMAGE: PROPERTY	CROPS
Alabama																						1	0	°5	C				
Alaska																		0	0	3	0								
Arizona	1	1	0	0	0																								
Arkansas *																													
California										0	0	7	0					3	1	5	0					14	1	8	7
Colorado *																													
Connecticut										0	0	4	0					0	0	5	0								
Delaware																						0	0	4	0				
Florida	2	2	0	0	4																					0	2	°6	C
Georgia	1	1	0	0	4					0	0	4	0					0	?	5	0	0	?	5	0				
Hawaii										0	0	°4	C													1	0	6	0
Idaho *																													
Illinois *																													
Indiana *																													
Iowa *																													
Kansas																						0	0	4	0				
Kentucky																		0	0	?	0					0	0	5	0
Louisiana D																													
Maine										0	0	4	0					0	0	7	0								
Maryland																						0	0	4	0				
Massachusetts										2	0	7	0					0	2	8	0								
Michigan																										0	0	4	0
Minnesota *																													
Mississippi										0	0	?	0													0	0	?	0
Missouri *																													
Montana *																													
Nebraska *																													
Nevada																		0	0	6	0								
New Hampshire										0	0	5	0					2	0	7	0								
New Jersey																				5									
New Mexico *																													
New York																		5											
North Carolina										0	0	4	0					0	0	5	0	0	0	7	0				
North Dakota																		0	0	5	0								
Ohio *																													
Oklahoma																		0	0	?	?								
Oregon *																													
Pacific Area *																													
Pennsylvania																		0	1	4	0								
Puerto Rico										0	0	°4	C																
Rhode Island										0	0	4	0					0	0	5	0								
South Carolina																		0	0	4	0	2	0	6	8				
South Dakota																						0	0	5	0				
Tennessee																		[illegible]	0	5	0	0	0	?	0	0	0	4	0
Texas	1	1	0	0	3																					7	0	7	?
Utah *																													
Vermont										0	0	5	0					0	0	6	0								
U. S. Virgin Is.																										0	0	4	0
Virginia																		0	0	4	0								
Washington *																													
West Virginia *																													
Wisconsin *																													
Wyoming *																													

C Crop damage
° Includes crop damage
D Data delayed

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

FEBRUARY 1969

Elmer R. Nelson, Office of Hydrology

The most damaging floods during February occurred in southern California for the second consecutive month. In most areas the flood damage was less than in the previous month. Mud slides were more numerous than in January. Channel flows were generally below the January level. Flooding in the Salinas Basin was more severe than in January which was the most severe since 1952. The Chowchilla and Fresno Rivers crested higher than in January. Major damage in the San Joaquin Basin was confined to the valley floor and in the lower foothill areas.

The crests on the Wabash River from LaFayette, Ind., to Mt. Carmel, Ill., were the highest in 10 years. At Mt. Carmel, Ill, the crest was the highest since 1913. Flooding along the lower White River in Indiana was the highest in 5 years at some points. The crest on the Little Wabash River at Carmi, Ill., was the second highest in the history of the station.

Lake Michigan.--Runoff in the Grand River Basin in Michigan from the January thaw entered the lower Grand River in the beginning of February. Comstock Park, just north of Grand Rapids, Mich., exceeded flood stage by about 0.8 foot. This produced limited lowland flooding. The minor lowland flooding that resulted from an ice jam in Robinson Township in Ottawa County, Mich., during the latter part of December began to subside during the first few days of February.

Lake Erie.--The St. Marys River at Decatur, Ind., rose above flood stage on Jan. 18 and continued in flood to Feb. 5. The crest on Jan. 31 was 5.4 feet above flood stage. The St. Joseph River at Montpelier, Ohio, rose above flood stage on Jan. 19 and receded within its banks on Feb. 6. The crest on Jan 31 was 4.7 feet above flood stage. The Maumee River at Napoleon, Ohio, rose out of its banks on Jan. 28 due to an ice jam at the eastern end of the city. About 25 families were evacuated. The ice jam broke on Jan. 29 after cresting 8.9 feet above flood stage. It rose above flood stage at Fort Wayne, Ind., Defiance, Ohio, and Grand Rapids, Ohio, on Jan. 30. It receded within its banks on Feb. 1-5. The crests ranged from 3.3 feet above flood stage at Grand Rapids to 6.2 feet above flood stage at Fort Wayne.

Lake Ontario.--Minor flooding occurred on Oatka Creek at Garbutt, N. Y., and on Black Creek at Churchville, N. Y., on Feb. 1. The crests were less than 0.5 foot above flood stage. Fields and pastureland were flooded to a minor extent with no observable damage.

ATLANTIC SLOPE DRAINAGE

The Susquehanna River at Vestal, N. Y., reached a stage of 18 to 19 feet (flood stage 18 feet) on Jan. 31 due to an ice jam about 1,000 feet below the gage. It receded within its banks on Feb. 1. Ice flows jammed temporarily at various points along the main stem on Feb. 1-2. Near bankfull stage was reported on the North Branch near Vestal, N. Y., due to ice jams during the same period. No damage resulted.

Light flooding occurred on the upper Neuse and lower Cape Fear Rivers in eastern North Carolina on the 3d-8th. This flooding was due to heavy rain that totalled between 1 and 2 inches on the morning of the 2d. The crests ranged from 1 to 2.5 feet above flood stage on the Neuse River to 5 to 6 feet above flood stage on the lower Cape Fear River. No damage was reported.

The Rocky River at Norwood, N. C., rose 1.1 feet above flood stage on the 4th and 0.2 foot above flood stage on the 24th. The Pee Dee River at Peedee, S. C., rose above flood stage on the 5th and continued in flood to the 13th. The crest on the 8th was 0.7 foot above flood stage. It rose above flood stage again on the 20th and continued in flood to Mar. 14. The crest on the 27th was 2.9 feet above flood stage. The Lumber River at Lumberton, N. C., continued in flood from Jan. 23 through February into March. There were four crests, with the highest crest 2.8 feet above flood stage occurring on the 27th.

The Saluda River at West Pelzer, S. C., rose 0.2 foot above flood stage on the 3d. The Broad River at Blair, S. C., was out of its banks on the 3d-5th. The crest on the 3d-4th was 4.5 feet above flood stage. This flooding was due to 1.5 to over 3 inches of rain on the 1st-3d. Little or no damage resulted from the flooding.

The Savannah River at Milhaven-Wade, Ga., rose briefly to flood stage on the 4th and 10th but did not exceed it. At Clyo, Ga., the river was above flood stage from Jan. 29 to Feb. 27. The crest on the 11th was 2.3 feet above flood stage.

EAST GULF OF MEXICO DRAINAGE

The Oostanaula River at Resaca, Ga., was out of its banks on the 3d-7th. The crest on the 5th was 5.6 feet above flood stage. The Etowah River at Canton, Ga., rose briefly above flood stage on the 3d. The crest was 0.4 foot above flood stage. This flooding was due to rainfall ranging from 2 to 3.5 inches on Feb. 1-3. There was no flooding of urban areas. Damage to farmlands and public roads along the Oostanaula was estimated at nearly $78,000.

The East Fork Tombigbee River at Fulton, Miss., was in light flood on the 2d-7th. The crest on the 3d was 2.7 feet above flood stage. The Tibbee River at Tibbee, Miss., was out of its banks on the 3d-6th. It crested on the 4th, 2.6 feet above flood stage. The main stem of the Tombigbee River rose above flood stage at Aberdeen, Miss., on the 3d and at Jackson, Miss., on the 7th. It receded within its banks at Aberdeen on the 8th and at Jackson on the 15th. The crests ranged from 2.9 feet above flood stage at Aberdeen on the 7th to 1.5 feet above flood stage at Jackson on the 10th. No appreciable damage resulted from the flooding.

The Pearl River rose above flood stage at Bogalusa, La., on the 24th and receded within its banks on the 28th. The crest on the 26th was 1.4 feet above flood stage. This overflow was due to 1.5 inches of rain on the 20th. A similar amount of rain occurred on the 15th. No damage resulted from the slight overflow.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Precipitation during February in the Upper Mississippi Basin was generally much below normal. Most of Wisconsin, Southwestern Minnesota, and northeastern Iowa reported less than 0.25 inch during the month. In northern and central Minnesota, the average precipitation ranged from 0.4 to 0.8 inch. In southwestern Minnesota, however, 1 to 2 inches of precipitation was observed.

The snow cover in the Upper Mississippi Basin on Feb. 28, as compared with that of other years is given in the following table:

COMPARATIVE SNOW DEPTHS (INCHES)

STATION	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956
(Minnesota)														
Bemidji	29	8	23	18	10	9	4	24	5	5	4	T	14	22
Duluth	30	7	24	12	21	12	10	23	8	17	9	3	22	--
Alexandria	29	4	18	1	4	T	2	17	0	4	1	0	4	12
New Ulm	19	T	10	T	3	T	2	17	0	T	T	0	0	6
Minneapolis	17	1	23	T	4	0	3	24	0	2	0	0	T	7
Rochester	12	T	6	0	1	0	3	13	2	3	13	0	T	6
(Wisconsin)														
Park Falls	18	4	23	3	20	7	16	33	6	17	10	3	16	20
Wausau	13	2	16	0	5	11	7	30	1	5	9	0	1	7
Portage	8	T	5	T	T	0	6	24	0	4	10	T	0	T

The Widespread flooding in Illinois and Missouri during February was due to rainfall during the last 2 weeks of January. The heaviest rains occurred on Jan. 27-29. Some snowmelt contributed to the overall runoff, but was not a major factor. The light to moderate precipitation on Jan. 17 and Jan. 23 conditioned the soil for maximum runoff. Major flooding occurred along the lower Meramec and Big Rivers in Missouri and along the Big Muddy River in southern Illinois. The Meramec River at Pacific, Mo., crested 13.4 feet above flood stage on Feb. 1. At Eureka, Mo., the crest was 15.4 feet above flood stage. The crest of 29.7 feet at Valley Park, Mo., (flood stage, 16 feet) on Feb. 2 was the highest stage since July 1957. The Meramec receded below flood stage at all points by Feb. 3. The Big River at Byrnsville, Mo., continued in flood from Jan. 30 to Feb. 1. The crest on Jan. 31 was 7.6 feet above flood stage. The Bourbeuse River at Union, Mo., crested 4.3 feet above flood stage on Feb. 1 and receded within its banks on the same day.

In Illinois, the Big Muddy River at Murphysboro, Ill., rose above flood stage on Jan. 24 and crested on Feb. 3, 16 feet above flood stage. Upstream at Plumfield, Ill., it rose out of its banks on Jan. 31 and crested 3.4 feet above flood stage on Feb. 3. The Big Muddy River receded within its banks on Feb. 17. The Kaskaskia River at Shelbyville and Vandalia, Ill., rose above flood stage on Jan. 29 and crested 3 to 7 feet above flood stage on Jan. 31. It rose above flood stage at New Athens, Ill., on Jan 31 and crested 1.2 feet above flood stage on Feb. 3. The Kaskaskia receded within its banks at these locations on Feb. 6. It rose above flood stage at Carlyle Dam, Ill., on Feb. 3 and continued in flood to Mar. 13. The crest on Feb. 21 was 4.3 feet above flood stage. Minor flooding occurred upstream at Vandalia, Ill., on the 9-13th and at Shelbyville, Ill., on the 10th. Light overflows occurred along the Sangamon and Illinois Rivers during the latter part of January and most of February. The Sangamon River at Riverton, Ill., receded within its banks on the 17th and the Illinois River at Meredosia, Ill., on the 25th. The crest at Meredosia, Ill., was 7.5 feet above flood stage on the 10th.

Missouri Basin.--Temperatures in South Dakota and in northern Nebraska averaged near normal during February, with the first half generally below normal and the latter half above. Some thawing occurred, but there was very little runoff. Most streams remained frozen except in southern South Dakota and northern Nebraska where some channels opened. Precipitation was heavy during the month and snowfall was generally over twice normal.

The month ended with snow cover of 20 to 35 inches in eastern South Dakota; 5 to 20 inches in central South Dakota; up to 10 inches in western South Dakota and eastern Wyoming; 10 to 30 inches in northwest Iowa; and 25 to 40 inches in southwest Minnesota. The water equivalent of this snow was 6 to 10 inches in the Big Sioux and Vermillion Basins; 5 to 8 inches in the James Basin; 4 to 6 inches in the Floyd Basin in Iowa; up to 6 inches along the Niobrara and White Rivers; and up to 4 inches in the Bad, Cheyenne, Moreau, and Grand River Basins. Most of the available water is in the lower reaches of the rivers in northern Nebraska and central South Dakota.

All streams in the Elkhorn and Platte River basins in Nebraska remained frozen and snow-covered at the end of February. Snow depths as of the 28th ranged from 9 inches up to 20 inches with water equivalents ranging from 2 inches up to 6 inches. Some ice action caused Salt Creek at Roca, Nebr., to rise to a stage of 16.53 feet on the 27th. (Flood stage, 19 feet). Resulting highwater due to an ice jam caused 8 to 10 inches of water over the highway to the west of the gage on the 26th. Some local and short period minor ice jams occurred on the Boyer River in western Iowa.

Light to locally moderate flooding developed near the end of February from snowmelt in parts of the lower Big Blue River basin, and in the lower Republican River Valley. The most significant rises occurred on the Big Blue River at Beatrice, Nebr., with an overflow of over 4 feet and at Blue Rapids, Kans., where it reached nearly 5 feet above flood stage. Overflows in the lower Little Blue River Valley, the Black Vermillion River and Fancy Creek in Kansas were of brief duration and relatively minor. Local overflows in the Republican Basin at Clay Center and Jamestown, Kans., were comparatively minor. There was some overflow on the Little Blue River above Fairbury, Nebr., on the 27-28th due to an ice jam. Highway 136 was covered with about 6 inches of water, but stages returned well within banks downstream at Fairbury. Water equivalents of the snow cover were predominantly 1.5 to 3 inches in the Big Blue River basin prior to the rises at the end of the month. Little runoff was released from the locally heavier water equivalents of 3 to 5 inches on the tributaries in the headwaters. The principal snow cover at the end of the month was from 4 to 8 inches over this area from the Big Blue River southward across Lincoln Creek, Beaver Creek, and the West Fork drainages. Damages were negligible. The overflow along the Blue River channel near Beatrice, Nebr., inundated about 1,000 acres. Although highway travel was affected for a short time in the Little Blue River Valley above Fairbury, Nebr., no damages were noted.

Ice-blocking caused minor flooding on the Grand, Blackwater, and Marmaton Rivers in Missouri. The Grand River at Sumner, Mo., was out of its banks on the 7-14th. The crest on the 10th was 3.9 feet above flood stage. The Blackwater River at Valley City, Mo., rose 1.3 feet above flood stage briefly on the 6th. The Marmaton River at Nevada, Mo.; rose above flood stage on Jan. 28 and continued in flood to Feb. 4. The crest on Jan. 31 was 1.9 feet above flood stage. Some damage resulted to farmland. Local highway traffic was affected in the Sumner, Mo., area as State Highway 139 was inundated at 27 feet.

Minor flooding occurred on the South Grand River at Urich, Mo., on the 6th and on the Osage River at Schell City, Mo., on the 9th. The Gasconade River at Jerome, Mo., crested 6.5 feet above flood stage on Feb. 1. It was out of its banks from Jan. 30 to Feb. 2.

Ice jam flooding occurred along the upper Missouri River in a 12-mile stretch about 40 miles south of Great Falls, Mont., from the latter part of January to Feb. 3. U. S. Highway 91 (Interstate Highway 15) was reopened on the afternoon of the 4th after the ice was removed. Downstream at Nebraska City, Mo., ice action caused minor flooding on the 26-28th. The crest on the 26th was 1.2 feet above flood stage.

Ohio River Basin.--Minor flooding developed on the Scioto River in Ohio during the last week in January and continued until Feb. 4. The overflow was due to moderate to heavy rains on Jan. 29-30. The crest stages varied from 1 to 4 feet above stage. While some secondary roads were closed temporarily, the principal flooding was on farmland not currently in production.

Minor flooding occurred on the Rough River at Dundee, Ky., on Jan. 31 to Feb. 1. The crest on Feb. 1 was 0.35 foot above flood stage. The Green River at Calhoun, Ky., was out of its banks on Feb. 1-4. It crested on the 3d, 0.8 foot above flood stage. There was minor damage ($156,000) from the overflows. About 20,000 acres were inundated.

The prolonged cold weather and snow cover during the first 2 weeks of January set the stage for major flooding in the Wabash Basin in Indiana during the latter part of January and early February. This cold weather caused ice to cover most streams up to 1 foot thick by the middle of January and the soil to freeze to a considerable depth. Heavy rainfall (up to 5 inches) over the lower Wabash and lower White Rivers on Jan. 28-30 caused heavy runoff. The crests on the Wabash River from Lafayette, Ind., to Mt. Carmel, Ill., were the highest in 10 years. At Mt. Carmel, Ill., the crest of 28.6 feet on Feb. 6 (flood stage 17 feet) was the highest since 1913. A few smaller homes and installations between the levee and the river were flooded and evacuations were necessary. The new levees protected large areas, preventing considerable damage and eliminated the necessity of evacuating many homes. Flooding along the lower White River was the highest in 5 years at some points. A few residences in some low-lying areas on the outskirts of Indianapolis and Spencer, Ind., were surrounded. A few families were evacuated near Spencer where the water reached the floor level in a few homes. Much bottomland was overflowed and numerous roads were closed along the East Fork of the White. Flooding occurred along the Muscatatuck at Austin, Ind., from Jan. 29 to Feb. 2. The crest on Jan. 31 was 7.9 feet above flood stage. The Embarrass River in Illinois crested 5 to 7 feet above flood stage.

The Little Wabash River reached a crest of 34.6 feet (flood stage, 27 feet) at Carmi, Ill., on Feb. 5. This was the second highest stage in the history of the station. Major damage resulted to crops (principally wheat) which were inundated. Damage resulted to highways, bridges, etc. due to erosion in the lower White and lower Wabash Rivers. There was also considerable damage to oil and gas lines in that area. The total damage in the Wabash Basin was estimated at $3.5 million.

The Saline River at Harrisburg, Ill., was out of its banks from Jan. 28 to Feb. 3. The crest on Jan. 31 was 11.2 feet above flood stage. The total damage in the Saline Basin was estimated at $357,000.

Minor flooding developed on the Harpeth River at Kingston Springs, Tenn., on Feb. 2. The crest was 0.1 foot above flood stage. This flooding was due to light to moderate rain during the last week of January. Little, if any damage resulted from this overflow.

Heavy rains (2.5 to 3.5 inches) on Jan. 31 to Feb. 2 caused flooding on the South Chickamauga Creek at Chickamauga, Tenn., the Elk River at Fayetteville, Tenn., and along the main stem of the Tennessee River at and below Whitesburg, Ala. The Duck River at Shelbyville, Tenn., rose to bankfull stage on Feb. 2 but did not exceed flood stage. The South Chickamauga Creek at Chickamauga, Tenn., was out of its banks from the 1st to the 5th. It crested 7.3 feet above flood stage on the 3d. The Elk River rose above flood stage at Fayetteville, Tenn., on the 2d and continued in flood to the 5th. The crest on the 2-3d was 3.6 feet above flood stage. Crests along the main stem of the Tennessee ranged from 1.3 feet above flood stage at Savannah, Tenn., on the 7th to 10.9 feet above flood stage at Paducah, Ky., on the 10th.

The lower Ohio River rose above flood stage at Fords Ferry, Ky., on Jan. 30 and at Newburgh, Ind., Shawneetown, Ill., and Cairo, Ill., on Jan. 31. By Feb. 5 flooding was in progress from Newburgh, Ind., to Cairo, Ill., (except at Evansville, Ind.) a distance of more than 200 miles. The crests on Feb. 2-12 ranged from 1 foot above flood stage at Cypress, Ind., to 11.2 feet above flood stage at Fords Ferry, Ky. Flooding continued until Feb. 19 at Cairo, Ill. The total damage along the lower Ohio River was estimated at $607,000.

White Basin.--Heavy rains during the last 4 days in January caused extensive flooding that continued into February on the White, Black, Cache, and Ouachita Rivers. The lower White River from Georgetown to St. Charles, Ark., and the Cache River at Patterson, Ark., remained above flood stage all of February. The lower Black River crested 7.3 feet above flood stage at Pocahontas, Ark., on the 3d. At Black Rock, Ark., the highest crest occurred on Jan. 31 and was 13.7 feet above flood stage. The crests on Feb. 3 and Feb. 24 were 12.6 and 0.8 foot above flood stage respectively. The White River crested 8.5 feet above flood stage at Newport, Ark., on the 1st. Below Newport, the crests were generally 5 to 6 feet above flood stage.

Arkansas Basin.--The Illinois River at Tahlequah, Okla., rose above flood stage on Jan. 30 and receded within its banks on Feb. 1. The crest on Jan. 31 was 8.1 feet above flood stage. Minor flooding occurred on the Fourche Maline River at Red Oak, Okla., on the 22d. The Poteau River rose briefly above flood stage at Poteau, Okla., on the 22d. The crest was 0.75 foot above flood stage. At Panama, Okla., the crest was 5.3 feet above flood stage on the 22d. It was out of its banks on the 22d-24th. The Petit Jean River at Danville, Ark., rose above flood stage on Jan. 30 and crested on Jan. 31, 3.9 feet above flood stage.

It receded within its banks early in February. There were two rises on the Fourche LaFave River at Houston, Ark., during February. The first occurred on Jan. 30 to Feb. 6 and the second on Feb. 23-24. The higher crest occurred on Feb. 1 and was 13.4 feet above flood stage. Due to the location of the overflows and the non-growing season, no flood damages resulted.

Red Basin.--The flooding in streams in northeastern Texas and southwestern Arkansas during the latter part of January and the first part of February was due to heavy rains on Jan. 29. Extensive flash flooding occurred in the Saline, Ouachita, and Caddo River basins in Arkansas during the night of Jan. 29 and the morning of Jan. 30. The Saline River at Silver Ridge, Ark., rose rapidly to a crest of 17.7 feet, 1.7 feet above flood stage on Jan. 30. It receded within its banks on Feb. 2. The Ouachita River rose above flood stage on Jan. 30 in the reach from Rockport to Camden, Ark. The crests ranged from 11.5 feet above flood stage at Arkadelphia, Ark., to 14.1 feet above flood stage at Rockport, Ark. The flooding continued until Feb. 13 at Camden, Ark.

The Little River rose above flood stage at Idabel, Okla., on Jan. 30 and at Horatio, Ark., on Jan. 31. The crests ranged from 2.3 feet above flood stage at Idabel, Okla., on Feb. 1 to 5.4 feet above flood stage at Horatio, Ark., on Jan. 31.

Rapid rises occurred on the Sulphur River to above flood stage at Hagansport, Tex., and Naples, Tex., on Jan. 30 and Feb. 1, respectively. The crests averaged around 9 feet above flood stage on Jan. 31 and Feb. 3. The Sulphur River receded within its banks at Hagansport on Jan. 5 and at Naples, Tex., on Jan. 11. There were two additional rises to above flood stage at Hagansport, Tex., on the 14-18th and 20-26th. The crests were 6 feet above flood stage on the 15th and 8.1 feet above flood stage on the 22d. At Naples, Tex., the Sulphur rose above flood stage on the 20th and continued in flood to Mar. 4. The crest on the 25th was 6.6 feet above flood stage.

The Little Missouri River at Boughton, Ark., rose above flood stage on Jan. 31 and continued in flood into February. The Saline River at Benton, Ark., rose 11 feet above flood stage on Jan. 30 and continued in flood into February.

The Blue River at Blue, Okla., rose 3.5 feet above flood stage on the 22d and receded within its banks on the 23d. The Clear Boggy at Caney, Okla., was out of its banks on the 22d-25th. The crest on the 22d was 2.6 feet above flood stage. The Kiamichi rose above flood stage at Belzoni, Okla., on the 21st and receded within its banks on the 24th. It crested on the 22d, 5.4 feet above flood stage.

Lower Mississippi Basin.--The flooding on the St. Francis River was due to heavy rains near the middle of January. It rose above flood stage at St. Francis, Ark., on Jan. 23 and continued in flood to Feb. 20. It crested on Feb. 3, 4.8 feet above flood stage. Upstream at Fisk, Mo., it rose above flood stage on Jan. 29 and continued in flood to Feb. 16.

The lower Mississippi River rose above flood stage at Caruthersville, Mo., on Feb. 2 and continued in flood to Feb. 19. At New Madrid, Mo., it was out of its banks on Feb. 3-18. The crests ranged from 3 to 4 feet above flood stage on the 13-14th.

Atchafalaya Basin.--The Atchafalaya River at Morgan City, La., rose above flood stage on Feb. 22 and continued in flood into March.

WEST GULF OF MEXICO DRAINAGE

The Calcasieu River at Hineston, La., rose above flood stage on the 23d and continued in flood to the end of the month. The crest on the 24th was 2.65 feet above flood stage. It rose 2 feet above flood stage at Kinder, La., on the 28th.

Minor flooding occurred on Lake Fork Creek at Quitman, Tex., on the 1st-4th and on the 22-25th. The higher crest occurred on the 24th and was 1.1 feet above flood stage.

Violent thunderstorms on the 13th and 14th accompanied by strong east and southeast winds produced high tides and the greatest destruction since hurricane Carla along the upper Texas coast. Wind gusts reached 100 m.p.h. at High Island, while tides up to 9 feet were reported at Kemah on Galveston Bay. Bayshore property damage was estimated in excess of $5.75 million, including damage to piers, boats, and shore property. Tidal influence on the 14th extended up the Trinity channel past Moss Bluff, Tex., where minor overflow occurred. Minor flooding also occurred on the Navasota near Easterly, Tex., on the 17th and 18th from heavy rains on the 13th and 14th. Following the heavy rains of the 21st and 22d, sharp rises and lowland flooding occurred in the lower reaches of the Sabine, Neches, Trinity, and Navasota Rivers. Flooding continued into March along all rivers except the Navasota. The San Jacinto River at Lake Houston, Tex., exceeded the spillway elevation all month with the highest level being 46.66 feet on the 23d. Spillway elevation is 44.5 feet. No damage resulted from the minor overflows.

The heavy rainfall (2 to 4 inches) on the 14th in south-central Texas caused minor flooding along the Navidad and Guadalupe Rivers. Additional heavy rainfall (up to 5 inches) on the 20th and 21st resulted in light flooding on the Lavaca at Edna, Tex., and on the Navidad at Ganado, Tex. The flooding was generally in the lowlands and no damage was reported.

Heavy local rain of up to more than 11 inches during the night of the 13th in the Odem-Edroy-St. Paul, Tex., area resulted in brief heavy flooding of fields and roads. Serious damage resulted to agricultural land, terraces, and waterways. Flooding of streams from Agua Dulce Creek northeastward to the Aransas River occurred through the 15th. Major flooding occurred in the town of Odem on the morning of the 14th and on Chiltipin Creek at Sinton, Tex., during the afternoon and early night of the 14th. Flood waters entered an estimated 75 homes in Odem and 300 homes in Sinton. Water was 2.5 to 3 feet deep in hangars at the Sinton Airport. Minor flooding from local runoff occurred along the Nueces River below Wesley Seale Dam on the 14th and 15th. Four persons were drowned when an automobile went into Agua Dulce Creek 10 miles east of Bishop on the 15th. Heavy rains of up to 4 inches over the Atascosa Basin on the 13th and early morning of the 14th caused minor flooding at Whitsett, Tex., on the 16th.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Minor flooding occurred along the Virgin River in Arizona and Nevada due to heavy precipitation on the 24-26th. The heaviest flow came from the Beaver Dan Wash. Some farmland was lost due to channeling. There was further damage to the dam at Bunkerville, Nev., and some to the irrigation systems.

PACIFIC SLOPE DRAINAGE

Recurring heavy rains occurred in southern California for the second consecutive month. In most areas the February flood damage was much less than in the previous month since much of the erosion, silting, and inundation had already occurred. However, some areas were harder hit than in January. In the Santa Clara River Valley an estimated $4 million damage resulted to the Ventura Marina and to anchored boats. The Ventura golf course and agriculture and petroleum industry installations along the Santa Clara River sustained heavy damage. An estimated $8 million flood damage was sustained in Ventura County during February. In Los Angeles, San Bernardino, Riverside, and Orange Counties, several foothill communities had to evacuate many homes. Some homes were destroyed due to erosion, flooding, or inundation.

Mud slides were more numerous in southern California during February than during January. The saturated soil was deluged with an additional 8 to 12 inches of precipitation during February in the lowlands, and 20 to 25 inches in the mountain areas. Rainfall intensities were mostly moderate to heavy with some exceptions. In the San Gabriel Mountains, Opids Camp recorded 13.48 inches in 24 hours and Cogswell Dam, 12.55 inches. The greatest storm total for the period Feb. 20-26 was 24 inches at Arrowhead where a part of the precipitation fell as snow (three feet of snow accumulated on the ground). Some seasonal precipitation totals for the period July 1, 1968 through February 1969 were in excess of 75 inches in mountain areas.

Channel flows were generally below the January 1969 levels. Preliminary peak flows by the Corps of Engineers and the Geological Survey at a few random locations were as follows:

River	Peak Flow February c.f.s.	Peak Flow January c.f.s.
Ventura	50,000	55,000
Santa Clara	150,000	165,000
Los Angeles	70,000	110,000
Santa Ynez (Lompoc)	80,000	100,000
Santa Ynez (Chachuma Res.)	60,000	80,000
Mojave:		
Hesperia (nr)	40,000	---
Victorville (nr)	37,000	---
Barstow (nr)	30,000	---

Property damage from the flooding during February was estimated at near $50 million. This is in addition to the $125 million damage sustained in the January flood. Both estimates include physical property damage, both public and private, as well as emergency costs for crews, equipment, and materials, and business and wage losses. Fourteen deaths resulted from causes directly attributable to the flood. Of these, five persons were drowned and nine persons lost their lives by mud slides.

Salinas Basin.--Severe flooding occurred on the Salinas River in California for the second consecutive month. The flooding during February was more severe than in January which was the most severe since 1952. During February, the peak flow at Bradley, Calif., was almost double the January peak. The crest at Bradley was 20.3 feet on Feb. 24 which was 1.4 feet higher than in January. Flood stage at this point is 15 feet. On the eastern tributaries east of Paso Robles, Calif., the flow according to the Geological Survey was more than double that in January. Flash flooding was also reported on some of the west side tributaries from Lockwood to Santa Margarita. There was some new flooding from San Lucas to Spreckles. This volume of water was large enough to cause a higher flow at Spreckles than in January and more extensive flooding from Spreckles to the ocean.

There was considerable scouring from Bradley to Spreckles which increased the flow. The crest at Spreckles was 26.5 feet on the 26th which was 0.4 foot higher than in January. Flood stage is 23 feet.

The rainfall that caused this flood was the heaviest in the basin upstream from King City. The storm rainfall from 8 a.m. on the 23d to 8 a.m. on the 24th beginning in the headwater were as follows: San Margarita, 8.36 inches; Paso Robles, 4.32; Lockwood, 3.09; Soledad, 3.01, and Salinas, 2.23 inches.

The damage from this flood is difficult to assess because the flood damage during the previous month was so extensive. There was considerable new flood damage in two areas. A large percentage of the total damage during February was in the sector from Spreckles westward to the ocean where there was practically no damage during January. The other sector was from San Lucas, Calif., to beyond Paso Robles where the flooding during February was more extensive than during January. The total additional flood damage during February will be in the millions of dollars.

San Joaquin Basin.--Heavy storms continued over the San Joaquin Basin during February. Precipitation for the month averaged over 200% of normal with several stations reporting over 300%. Storms were generally of the cold type which added substantially to the already near record snowpack in the southern Sierra Nevada. Snow depths and water equivalents reported by the California Department of Water Resources have exceeded all recorded values in the higher elevation stations.

Flooding occurred for the second consecutive month in the San Joaquin Basin. The uncontrolled foothill streams overflowed agricultural lands. Irrigation canals were filled beyond capacity by foothill runoff. The communities of Cutler, Orosi, Yettem, Woodlake, and Lindsay were again severely affected. There was considerable flooding within metropolitan Fresno, but not as extensive as in January. Poso Creek overflowed a larger area, causing considerable damage in the communities of McFarland, Delano, and Earlimart. Caliente Creek in the extreme southern end of the valley overflowed through the communities of Edison and Lamont. On the west side of the valley, the communities of Avenal and Coalinga were isolated by floodwaters from the coastal mountains. The Chowchilla and Fresno Rivers crested higher than in January. There was considerable flooding from the Fresno River in the city of Madera. Success Reservoir on the Tule River was filled to near capacity on the 26th and again on the 28th.

The Tuolumne River at Modesto, Calif., was above flood stage from the morning of the 25th to the afternoon of the 27th. The crest was 0.9 foot above flood stage. Only minor flooding occurred in the areas that had been extensively flooded in January.

The main stem of the lower San Joaquin River at Vernalis, Calif., remained above flood stage from Jan. 22 to Mar. 14. The crest on Jan. 27 was 0.3 foot above flood stage. Serious levee erosion resulted from the record duration of above flood stage. Constant patrol of levees was required. About 1,700 acres of farmland and roads were flooded near Patterson and Vernalis, Calif. These areas are likely to remain

flooded until low summer flows are reached, curtailing farm operations until well into the summer.

Major damage during February was confined to the valley floor and in the lower foothill areas. In these areas the damages were as heavy and in some cases heavier than in January. The floods of January and February followed so closely on one another that assessments of flood damage during the first flood was not completed before the second flood arrived. The total loss from flooding in the California counties of Merced, Madera, Mariposa, Fresno, Kings, Tulare, and Kern during January and February was estimated at over $68 million of which probably one-half of it occurred during February. Along the main stem of the San Joaquin, and the Tuolumne, the Corps of Engineers estimated an additional damage of $0.5 million during February or $6.5 million during January and February. The total damage in the entire basin will come close to $75 million for the 2 months.

Sacramento Basin.--The high stages in January continued through February with seven additional crests moving down the Sacramento. Overflow occurred for 9 consecutive days at Moulton Weir, 26 days at Colusa Weir, and the entire month at Tisdale and Fremont Weirs. No new areas were flooded, and except at the weirs, no flood or danger stages were reached. All bypass islands remained flooded the entire month and normal agricultural operations were impossible. Farming operations will likely be delayed several months beyond the usual spring starting time in the bypass areas.

Sherman Island remained flooded through February. The water level is being lowered about 0.1 foot per day by use of pumps. None of the gas wells have been placed in production and farm operations are not possible. Asparagus plants, still under water, will have to be replanted. All dwellings on the island, about 100, were destroyed beyond repair.

Coquille Basin.--Rain and snow were prevalent over the basin during the first half of the month. Much of the heavier rains were concentrated along the coast and over the coastal mountains. Flow along the main streams responded to the rainfall and limited snowmelt with rises generally about the 9th and again on the 11th. The South Fork Coquille River at Myrtle Point, Oreg., crested 1.2 feet above flood stage on the 9th and 0.1 foot above flood stage on the 11th. Only minor damage resulted from the overflows.

Columbia Basin.--The month of February was generally cold and dry throughout the Columbia Basin. The only exceptions were northeastern Washington (125%), southeastern Oregon (125%), and southwestern Idaho (140%), where above average precipitation was reported.

Heavy precipitation on the 8th caused Johnson Creek at Sycamore, Oreg., to crest 0.1 foot above flood stage, briefly, late on the 8th. Near bankfull stages resulted on the South Yamhill and Pudding Rivers. A second storm system with freezing levels up to 7,000 feet moved through western Oregon and Washington on the 10th and 11th. Precipitation was confined primarily to the central coast range of Oregon.

Only the South Yamhill, Pudding, and Tualatin Rivers received sufficient rainfall to cause flooding. The South Yamhill at Whiteson, Oreg., crested 2.9 feet above flood stage on the 11th. The Pudding River at Aurora, Oreg., reached flood stage on the 12th but did not exceed it. The Tualatin River at Farmington, Oreg., was slightly out of its banks on the 13-15th. The crest on the 14th was 0.2 foot above flood stage.

Streams east of the Cascades had mostly only minor rises. Locally moderate thundershowers and snowmelt caused runoff and near-flood conditions in the community of Mesa, Wash., from a rapid rise in Esquatzel Coulee.

Preliminary estimates of flood damage in the Willamette Basin tributaries was placed at $87,000 by the Corps of Engineers.

FLOOD STAGE DATA

(All dates in February unless otherwise specified) FEBRUARY 1969

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Lake Erie					
St. Marys: Decatur, Ind.	15	Jan. 18	5	20.4	Jan. 31
St. Joseph: Montpelier, Ohio	10	Jan. 19	6	14.7	Jan. 31
Maumee: Fort Wayne, Ind.	15	Jan. 30	5	21.2	Jan. 31
Defiance, Ohio	10	Jan. 30	3	14.1	1
Napoleon, Ohio	10	Jan. 28	1	18.9	Jan. 29
Grand Rapids, Ohio	15	Jan. 30	1	18.3	Jan. 30
Lake Ontario					
Oatka Creek: Garbutt, N. Y.	5	1	1	E5.4	1
Black Creek: Churchville, N. Y.	5	1	1	5.3	1
ATLANTIC SLOPE DRAINAGE					
Susquehanna: Vestal, N. Y.	18	Jan. 31	1	E18.5	Jan. 31
Neuse: Neuse, N. C.	14	3	6	#15.2	5
Smithfield, N. C.	13	3	8	15.5	6
Cape Fear: William O. Huske L&D (nr) Tarheel, N. C.	42	3	6	47.8	4
Elizabethtown Lock 2, N. C.	20	3	7	24.8	5
Rocky: Norwood, N. C.	15	4 24	4 24	16.05 15.2	4 24
Lumber: Lumberton, N. C.	8	Jan. 23	1/	8.5 8.8 9.8 10.8	Jan. 31 12-13 20 27
Pee Dee: Peedee, S. C.	19	5 20	13 Mar. 14	19.7 21.9	8 27
Saluda: West Pelzer, S. C.	9	3	3	9.2	3
Broad: Blair, S. C.	14	3	5	18.5	3-4
Savannah: Milhaven-Wade, Ga.	15	4 10	4 10	15.0 15.0	4 10
Clyo, Ga.	11	Jan. 29	27	13.3	11
EAST GULF OF MEXICO DRAINAGE					
Oostanula: Resaca, Ga.	22	3	7	27.6	5
Etowah: Canton, Ga.	17	3	3	17.4	3
East Fork Tombigbee: Fulton, Miss.	16	2	7	17.7	3
Tibbee: Tibbee, Miss.	23	3	6	25.6	4
Tombigbee: Aberdeen, Miss.	34	3	8	36.9	7
Jackson L&D, Miss.	43	7	15	44.5	10
Pearl: Bogalusa, La.	15	24	28	16.4	26
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Fox: Dayton, Ill.	12	Jan. 22	8	22.5	Jan. 26
Sangamon: Monticello, Ill.	13	1	1	13.3	1
Riverton, Ill.	13	Jan. 29	17	(18.7 (18.2	1 10
Illinois: LaSalle, Ill.	20	Jan. 31	2	21.3	Jan. 31
Havana, Ill.	14	Jan. 24	17	16.5	3
Beardstown, Ill.	14	Jan. 24	20	18.1	10
Meredosia, Ill.	10	Jan. 16	25	17.5	10
Bourbeuse: Union, Mo.	15	Jan. 31	1	19.3	1
Big: Byrnsville, Mo.	16	Jan. 30	1	23.6	Jan. 31
Meramec: Sullivan, Mo.	15	Jan. 30	1	26.9	Jan. 30
Pacific, Mo.	11	Jan. 30	3	24.4	1
Eureka, Mo.	16	Jan. 30	3	31.4	1
Valley Park, Mo.	16	Jan. 30	3	29.7	2
Big Muddy: Plumfield, Ill.	20	Jan. 31	7	23.4	3
Murphysboro, Ill.	16	Jan. 24	17	32.0	3
Kaskaskia: Shelbyville, Ill.	13	Jan. 29 10	4 10	16.2 13.3	31 10
Vandalia, Ill.	18	Jan. 29 9	6 13	25.0 20.8	31 11
Carlyle Dam, Ill.	423.5	3	Mar. 13	427.8	21
New Athens, Ill.	25	Jan. 31	6	26.2	3

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Missouri Basin					
Nishnabotna: Hamburg, Iowa	18	25	Mar. 4	21.5	Mar. 2
Buffalo Creek: Jamestown, Kans.	16	26	Mar. 1	16.4 17.6	27 28
Republican: Clay Center, Kans.	15	26	28	#17.3	27
Mill Creek: Washington, Kans.	18	26	28	#19.8	26
Little Blue: Hanover, Kans.	14	28	28	16.1	28
Barnes, Kans.	16	28	28	#16.7	28
Black Vermillion: Frankfort, Kans.	19	25	26	23.5	26
Fancy Creek: Winkler, Kans.	11	25	25	14.0	25
Big Blue: Beatrice, Nebr.	16	26	28	20.2	27
Barneston, Nebr.	18	27	27	18.0	27
Blue Rapids, Kans.	1101	26	Mar. 2	1105.7	27
Grand: Sumner, Mo.	26	7	14	29.9	10
Blackwater: Valley City, Mo.	20	6	6	21.3	6
Marmaton: Nevada, Mo.	22	Jan. 28	4	23.9	Jan. 31
South Grand: Urich, Mo.	20	6	6	20.8	6
Osage: Schell City, Mo.	25	9	9	25.5	9
Gasconade: Jerome, Mo.	15	Jan. 30	2	21.5	1
Missouri: Nebraska City, Mo.	18	26	28	19.25	26
Ohio Basin					
Scioto: Prospect, Ohio	10	1	2	11.0	1
Circleville, Ohio	14	Jan. 30	3	17.7	1
Piketon, Ohio	16	Jan. 30	4	(19.7 (19.85	Jan. 31 2
Rough: Dundee, Ky.	25	Jan. 31	1	25.35	1
Green: Calhoun, Ky.	23	1	4	23.8	3
Embarrass: Ste. Marie, Ill.	18	Jan. 30	5	22.75	Jan. 31
Lawrenceville, Ill.	15	Jan. 31	13	21.7	2
Muscatatuck: Austin, Ind.	T16	Jan. 29	2	23.9	Jan. 31
East Fork: Columbus, Ind.	10	Jan. 31	1	11.0	Jan. 31
Seymour, Ind.	14	Jan. 30	3	17.9	Jan. 30-31
Bedford, Ind.	20	Jan. 31	6	27.35	3
Williams, Ind.	10	2	6	15.0	4
Shoals, Ind.	25	4	6	26.4	6
White: Anderson, Ind.	10	Jan. 30	1	11.7	Jan. 31
Noblesville, Ind.	14	Jan 30	1	#15.2	Jan. 31
Nora, Ind.	T12	Jan. 30	E1	#13.5	Jan. 31
Ravenswood, Ind.	7	Jan. 30	1	8.1	Jan. 31
Centerton, Ind.	T603	Jan. 30	3	608.1	Jan. 30
Spencer, Ind.	14	Jan. 19	10	22.6	1
Elliston, Ind.	18	Jan. 19	7	28.2	2
Newberry, Ind.	18	Jan. 30	5	#23.85	3
Edwardsport, Ind.	15	Jan. 19	14	25.0	2-3
Petersburg, Ind.	16	Jan. 19	16	#24.8	4-5
Hazleton, Ind.	16	Jan. 20	16	(21.2 (26.8	Jan. 26 5
Skillet Fork: Wayne City, Ill.	15	Jan. 29	3	21.5	Jan. 31
Little Wabash: Wilcox, Ill.	16	Jan. 29	14	24.0	1
Carmi, Ill.	27	Jan. 30	19	34.6	5
Wabash: Bluffton, Ind.	10	Jan. 30	1	12.6	1
Wabash, Ind.	12	Jan. 29	1	15.9	Jan. 29
Lafayette, Ind.	11	Jan. 19	8	22.85	Jan. 30
Covington, Ind.	16	Jan. 20	10	27.0	Jan. 31
Montezuma, Ind.	14	Jan. 23	13	29.05	1
Clinton, Ind.	16	Jan. 24	E12	28.25	1
Terre Haute, Ind.	14	Jan. 29	E13	23.5	[illegible]
Hutsonville, Ill.	T20	Jan. 30	13	26.2	2-3

FLOOD STAGE DATA

(All dates in February unless otherwise specified) FEBRUARY 1969

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Wabash: Riverton, Ind.	18	Jan. 30	14	E22.3	3
Vincennes, Ind.	16	Jan. 30	16	25.0	4
Mt. Carmel, Ill.	17	Jan. 24	18	28.6	6
New Harmony, Ind.	15	Jan. 27	18	20.9	7
Saline: Harrisburg, Ill.	13	Jan. 28	3	24.2	Jan. 31
Harpeth: Kingston Springs, Tenn.	15	2	2	15.1	2
South Chickamauga Creek: Chickamauga, Tenn.	10	1	5	17.3	3
Elk: Fayetteville, Tenn.	659	2	3	662.6	2-3
Duck: Shelbyville, Tenn.	719	2	2	719.0	2
Tennessee: Whitesburg, Ala.	560	1	7	568.2	4
Florence, Ala.	419	2	7	422.1	3
Savannah, Tenn.	380	4	8	381.3	7
Paducah, Ky.	320	Jan. 30	18	330.9	10
Ohio: Dam 47, Newburgh, Ind.	38	Jan. 31	7	39.6	2
Dam 48, Cypress, Ind.	38	2	8	39.0	3
Mt. Vernon, Ind.	35	1	12	38.1	7
Dam 49, Uniontown, Ky.	37	2	14	42.1	8
Shawneetown, Ill.	33	Jan. 31	16	42.2	9
Dam 50, Fords Ferry, Ky.	34	Jan. 30	17	45.2	8
Dam 51, Golconda, Ill.	40	5	14	42.8	9
Paducah, Ky.	39	4	16	41.9	10
Dam 52, Brookport, Ill.	37	2	18	43.7	8
Dam 53, Grand Chain, Ill.	42	1	18	48.9	11
Cairo, Ill.	40	Jan. 31	19	47.3	12
White Basin					
Kings: Berryville, Ark.	6	Jan. 30	Jan. 30	21.45	Jan. 30
Black: Poplar Bluff, Mo.	16	Jan. 30	1	19.85	Jan. 31
Pocahontas, Ark.	17	Jan. 29	14	24.3	3
Black Rock, Ark.	14	Jan. 18 23	20 26	(27.7 (26.6 14.8	Jan. 31 3 24
Little Red: Judsonia, Ark.	30	Jan. 30 3	1 24	36.1 30.3	Jan. 30 4
Cache: Patterson, Ark.	7	Dec. 23	Mar. 16	11.3	1
White: Calico Rock, Ark.	19	Jan. 30	1	23.3	Jan. 30
Batesville, Ark.	23	Jan. 30	1	30.9	Jan. 30
Newport, Ark.	26	Jan. 31	10	34.5	1
Augusta, Ark.	32	Jan. 31	11	34.15	3
Georgetown, Ark.	21	Jan. 31	Mar. 10	26.7	4
Des Arc, Ark.	24	Jan. 30	Mar. 2	30.3	5
Clarendon, Ark.	26	Dec. 27	1/	(29.0 (32.0	Jan. 7-9 7
St. Charles, Ark.	25	Jan. 3	Mar. 21	(26.0 (30.1	Jan. 10 12
Little Missouri: Boughton, Ark.	20	Jan. 31	1	#22.05	1
Saline: Benton, Ark.	20	Jan. 30	Jan. 31	31.0	Jan. 30
Ouachita: Rockport (Malvern), Ark.	10	Jan. 30	Jan. 31	24.05	Jan. 30
Arkadelphia, Ark.	17	Jan. 30	2	28.5	Jan. 31
Camden, Ark.	26	Jan. 30	13	39.1	3
MISSISSIPPI SYSTEM	Ft.			Ft.	
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	Jan. 29	16	24.8	[illegible]
St. Francis, Ark.	18	Jan. 23	20	22.8	3
Mississippi: New Madrid, Mo.	34	3	18	37.0	13
Caruthersville, Mo.	32	2	19	35.9	13-14
Atchafalaya Basin					
Atchafalaya: Morgan City, La.	7	22	Mar. 8	7.2 7.3	22-23,28 Mar. [illegible]
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	23	28	14.65	24
Kinder, La.	16	28	28	18.0	28
Lake Fork Creek: Quitman, Tex.	16	1 22	4 25	16.3 17.1	2 24
Sabine: Edgewood, Tex.	12	22	27	12.5	23
Mineola, Tex.	14	1 22	6 Mar. 13	17.0 15.1	23 Mar. 1
Deweyville, Tex.	14	24	1/	16.6 #14.7	25 27
Neches: Beaumont, Tex.	5	25	Mar. 3	6.7	28
Trinity: Liberty, Tex.	24	23	Mar. 2	#25.1	27
Moss Bluff, Tex.	4	14 21	14 1/	4.7 7.2	14 28
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	1/	45.3 44.8 46.7	Dec. 3 Jan.17-19 23
Navasota: Easterly 7NE, Tex.	14	17 25	18 25	#14.1 #14.2	18 25
Navidad: Ganado, Tex.	21	15 22	16 26	22.5 28.3	16 23
Lavaca: Edna, Tex.	21	23	24	22.0	23
Guadalupe: Victoria, Tex.	21	17	19	23.7	18
Atascosa: Whitsett, Tex.	20	16	16	20.3	16
Nueces: Calallen, Tex.	7	14	16	7.7	15
PACIFIC SLOPE DRAINAGE					
Salinas: Bradley, Calif.	15	24	25	20.3	24
Spreckles, Calif.	23	25	26	26.5	26
Tuolumne: Modesto, Calif.	65	25	27	65.9	26
San Joaquin: Vernalis, Calif.	34	Jan. 22	Mar. 14	34.3	Jan. 27
Sacramento: Woodson Bridge, Calif.	183	11 15	12 16	185.3 185.6	12 15
South Fork Coquille: Myrtle Point, Oreg.	35	9 11	9 11	36.15 35.1	9 11
Columbia Basin					
South Yamhill: Whiteson, Oreg.	38	10	12	40.9	11
Pudding: Aurora, Oreg.	20	12	12	20.0	12
Tualatin: Farmington, Oreg.	29	13	15	29.2	14
Johnson Creek: Sycamore, Oreg.	8	8	8	8.1	8

* Provisional
\# Highest stage observed
1/ Continued at end of month
E Estimated
T Tentative

RAWINSONDE DATA

Average monthly values

FEBRUARY 1969

Columns for each station: standard pressure surface (mb); No. of observations; dynamic height; temperature; dew point †; resultant wind direction; resultant wind speed (m.p.s.).

ALBANY, N. Y. — 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	86	-6.1	-8.9	31	2.7
1000	28	126			33	2.3
950	28	526	-6.8	-10.1	34	5.1
900	28	968	-7.8	-12.2	34	5.3
850	28	1,392	-7.8	-14.0	33	5.1
800	28	1,863	-8.5	-16.3	32	4.9
750	28	2,360	-10.2	-18.6	32	6.5
700	28	2,892	-12.2	-21.5	31	5.4
650	28	3,453	-15.0	-25.0	29	7.5
600	28	4,057	-18.3	-29.0	30	8.6
550	28	4,595	-22.6	-32.9	30	9.4
500	28	5,394	-27.1	-36.9	28	10.7
450	28	6,140	-32.5	-40.6	28	11.6
400	28	6,965	-38.4	-45.3	28	13.1
350	28	7,871	-44.6		27	15.3
300	28	8,888	-50.9		27	16.0
250	28	10,058	-56.6		26	16.7
200	28	11,470	-56.1		27	17.7
175	28	12,323	-53.9		28	15.0
150	28	13,315	-53.3		27	15.3
125	28	14,487	-53.9		27	14.2
100	28	15,915	-55.3		28	14.4
80	27	17,328	-56.5		27	13.5
70	27	18,174	-57.0		27	11.7
60	25	19,151	-58.1		28	11.3
50	25	20,301	-58.5		28	12.4
40	25	21,704	-58.0		28	10.9
30	24	23,523	-57.7		28	9.9
25	23	24,683	-56.5		27	8.9
20	21	26,097	-55.0		27	9.4
15	21	27,943	-52.8		27	11.7
10	15	30,577	-48.7		27	16.3
7						
5						

ALBUQUERQUE, N. MEX. — 836 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	1,619	-1.1	-8.2	05	.7
1000	28	160				
950	28	579				
900	28	1,020				
850	28	[illegible]				
800	28	[illegible]	1.3	-11.3	29	2.9
750	28	2,486	-1.6	-13.0	28	4.9
700	28	3,032	-4.9	-15.6	27	7.6
650	28	3,610	-8.5	-18.8	27	10.5
600	28	4,229	-12.0	-23.8	27	12.0
550	28	4,885	-16.1	-28.7	27	13.0
500	28	5,602	-20.6	-33.9	27	16.5
450	28	6,369	-26.3	-38.9	27	19.3
400	28	7,216	-32.8	-44.6	26	21.3
350	28	8,143	-39.8	-49.2	26	25.3
300	28	9,182	-46.7		26	30.1
250	28	10,373	-53.1		26	35.6
200	28	11,795	-57.3		26	43.1
175	28	12,640	-57.1		26	41.1
150	28	13,614	-57.9		26	37.7
125	28	14,759	-60.2		26	32.8
100	28	16,143	-62.8		26	27.9
80	27	17,516	-64.3		26	22.3
70	26	18,335	-63.0		27	16.0
60	25	19,287	-62.3		27	12.5
50	25	20,418	-61.0		27	9.5
40	25	21,804	-61.5		28	8.3
30	23	23,598	-59.0		29	6.6
25	22	24,742	-58.7		29	5.4
20	20	26,156	-56.0		30	6.0
15	18	28,006	-52.2		31	4.8
10	8	30,672	-46.3			

AMARILLO, TEXAS — 889 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	1,095	-.4	-6.9	21	1.7
1000	28	141				
950	28	557				
900	28	999				
850	28	1,458	2.8	-6.6	25	5.3
800	28	1,948	2.3	-9.9	26	6.7
750	28	2,467	-.1	-13.5	27	8.3
700	28	3,017	-3.2	-16.9	27	9.3
650	28	3,596	-6.5	-21.4	27	10.4
600	28	4,221	-10.5	-25.0	27	11.8
550	28	4,879	-15.1	-29.0	27	14.7
500	28	5,599	-20.1	-33.3	26	17.0
450	28	6,361	-25.9	-39.0	27	19.5
400	28	7,213	-32.5	-44.4	26	23.6
350	28	8,140	-39.3	-49.2	26	26.6
300	28	9,178	-46.9		26	31.5
250	28	10,367	-53.8		26	38.1
200	28	11,786	-57.1		27	44.6
175	28	12,629	-57.4		27	43.3
150	28	13,601	-58.2		27	39.0
125	28	14,743	-60.0		27	36.1
100	28	16,127	-62.8		27	31.0
80	27	17,496	-63.4		27	26.7
70	26	18,316	-63.2		27	22.2
60	26	19,265	-62.5		27	18.6
50	25	20,394	-61.7		27	14.1
40	24	21,774	-61.5		28	11.9
30	22	23,571	-60.0		28	8.1
25	21	24,711	-58.8		28	10.1
20	21	26,119	-56.7		28	8.5
15	19	27,970	-53.3		28	10.8
10	12	30,621	-47.6			

* ANCHORAGE, ALASKA — 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	45	-7.6	-11.7	08	.6
1000	28	10			17	.6
950	28	418	-6.3	-11.6	06	2.1
900	28	834	-6.4	-12.2	12	3.7
850	28	1,280	-8.1	-14.1	15	4.2
800	28	1,748	-11.1	-17.1	16	5.4
750	28	2,245	-14.3	-19.8	14	5.6
700	28	2,761	-17.3	-23.3	18	5.8
650	28	3,310	-20.9	-26.9	18	6.3
600	28	3,899	-24.7	-30.3	18	6.7
550	28	4,524	-29.0	-34.6	19	7.7
500	28	5,202	-33.6	-39.8	19	8.1
450	28	5,933	-38.7	-42.1	19	8.2
400	28	6,733	-43.9	-41.1	20	9.8
350	28	7,619	-49.3		20	10.1
300	28	8,619	-53.0		22	10.5
250	28	9,792	-53.6		23	9.6
200	28	11,233	-51.5		24	8.2
175	27	12,105	-50.3		24	7.9
150	27	13,114	-49.6		25	7.6
125	26	14,317	-49.6		25	7.1
100	26	15,773	-50.8		26	6.9
80	26	17,224	-51.3		27	7.5
70	26	18,091	-51.4		27	6.4
60	26	19,089	-52.2		28	6.0
50	26	20,267	-52.8		29	7.2
40	25	21,700	-53.3		29	7.4
30	25	23,549	-53.7		29	7.4
25	25	24,719	-54.0		29	9.4
20	24	26,149	-54.3		31	9.4
15	21	27,996	-53.6		31	11.6
10	10	30,798	-46.4			

* ANNETTE, ALASKA — 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	37	.8	-2.7	09	2.4
1000	28	37			09	2.1
950	28	447	-.4	-5.6	12	5.9
900	28	880	-3.0	-8.0	14	7.9
850	28	1,331	-5.8	-10.8	16	7.4
800	29	1,804	-8.7	-14.7	16	6.6
750	28	2,299	-11.6	-17.8	17	6.6
700	28	2,827	-15.0	-21.4	17	6.8
650	28	3,381	-18.7	-25.5	17	6.4
600	28	3,977	-22.4	-29.7	17	7.0
550	28	4,608	-26.4	-34.2	18	7.5
500	29	5,294	-31.2	-39.6	18	7.7
450	28	6,032	-36.1	-42.7	18	8.6
400	28	6,843	-42.0	-46.0	19	9.2
350	28	7,736	-47.6		19	9.3
300	28	8,742	-52.4		19	8.3
250	28	9,913	-55.0		20	7.7
200	28	11,339	-53.9		22	7.3
175	28	12,199	-52.3		23	6.5
150	28	13,198	-51.9		24	6.0
125	28	14,378	-52.1		25	5.6
100	28	15,820	-52.9		26	6.2
80	28	17,256	-53.8		28	5.8
70	26	18,124	-54.0		28	5.6
60	25	19,109	-53.8		29	5.5
50	25	20,280	-54.3		30	4.4
40	25	21,709	-54.7		31	5.1
30	25	23,548	-54.9		33	5.0
25	25	24,715	-54.7		33	5.8
20	23	26,155	-54.9		34	6.7
15	21	28,014	-54.4		35	8.1
10	17	30,631	-51.7		36	9.3
7	11	33,017	-46.1			
5	5	35,471	-40.8			

ATHENS, GEORGIA — 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	246	2.4	-1.7	32	.9
1000	28	147				
950	28	567	3.4	-3.1	32	2.4
900	28	1,001	2.0	-6.3	31	4.5
850	28	1,462	1.6	-9.2	29	7.2
800	28	1,949	.2	-12.1	29	9.5
750	28	2,4[illegible]	-1.5	-14.8	28	12.3
700	28	3,013	-3.6	-16.3	29	14.6
650	28	3,594	-6.7	-20.3	29	16.4
600	28	4,217	-10.7	-24.6	29	18.3
550	28	4,876	-15.1	-28.3	28	20.3
500	28	5,595	-19.7	-32.3	28	23.5
450	28	6,365	-24.9	-37.1	28	26.8
400	28	7,216	-31.2	-41.4	28	29.7
350	28	8,149	-38.0	-47.5	28	34.9
300	28	9,194	-45.4		28	41.4
250	28	10,389	-53.0		28	47.9
200	28	11,810	-57.4		29	48.9
175	28	12,653	-57.7		28	48.3
150	28	13,624	-58.4		28	43.7
125	28	14,767	-60.2		28	36.2
100	27	16,143	-63.8		28	29.8
80	27	17,506	-64.6		28	23.7
70	27	18,322	-64.4		28	19.9
60	26	19,262	-64.0		28	16.2
50	26	20,384	-62.3		28	12.0
40	24	21,766	-60.6		28	11.6
30	24	23,567	-57.5		28	11.1
25	23	24,718	-56.1		27	11.8
20	21	26,145	-53.9		26	12.2
15	20	28,004	-50.3		26	12.4
10	16	30,682	-43.5		26	15.4
7	6	33,102	-39.4			

BARROW, ALASKA — 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	6	-28.7	-31.7	05	3.4
1000	28	135	-27.7	-30.4	06	5.4
950	28	514	-23.9	-25.4	07	8.0
900	28	904	-21.1	-24.1	07	8.4
850	28	1,327	-20.0	-24.6	07	7.5
800	28	1,776	-20.5	-25.8	08	6.2
750	28	2,255	-21.9	-27.3	07	4.2
700	28	2,758	-24.0	-29.3	08	2.6
650	28	3,295	-26.9	-31.8	07	1.0
600	28	3,869	-30.4	-36.0	26	1.2
550	28	4,482	-34.4	-39.9	24	2.2
500	28	5,143	-38.6	-42.8	24	4.1
450	28	5,862	-43.2	-44.3	24	6.1
400	28	6,645	-48.4		24	6.7
350	28	7,515	-52.8		24	8.3
300	28	8,503	-54.8		24	7.5
250	28	9,669	-54.0		24	7.3
200	28	11,109	-51.3		26	6.7
175	28	11,977	-50.9		26	7.1
150	28	12,981	-50.9		26	7.8
125	27	14,166	-51.4		26	9.6
100	27	15,612	-52.4		27	11.0
80	25	17,049	-53.5		28	12.4
70	25	17,907	-53.9		27	13.5
60	24	18,898	-54.4		28	15.8
50	23	20,057	-55.1		28	18.5
40	19	21,461	-55.3		28	21.1
30	13	23,237	-55.5		28	26.8
25	10	24,380	-54.3			
20	5	25,815	-47.6			

BARTER IS., ALASKA — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	15	-32.0	-34.5	16	1.0
1000	28	121	-30.1	-33.5	08	1.2
950	28	493	-25.0	-26.3	10	4.4
900	28	887	-19.9	-22.2	10	4.7
850	28	1,313	-17.9	-21.8	10	3.3
800	28	1,766	-18.3	-23.3	11	1.1
750	28	2,244	-20.2	-25.0	27	.9
700	28	2,754	-22.5	-27.5	26	2.5
650	28	3,291	-25.3	-30.2	26	3.8
600	28	3,873	-28.3	-34.5	26	4.9
550	28	4,486	-32.0	-38.1	26	6.3
500	28	5,160	-36.2	-40.7	26	7.8
450	28	5,876	-41.2	-42.7	25	9.0
400	28	6,675	-46.5		25	10.5
350	28	7,550	-51.8		25	11.7
300	28	8,539	-55.3		25	12.5
250	28	9,703	-54.6		25	11.2
200	28	11,137	-52.2		26	9.8
175	28	12,002	-51.8		25	8.9
150	28	13,002	-51.2		26	9.9
125	28	14,186	-51.8		27	9.4
100	28	15,630	-52.7		27	11.3
80	28	17,068	-53.4		28	12.7
70	26	17,915	-53.9		28	14.3
60	25	18,913	-54.6		28	15.8
50	25	20,078	-55.4		29	17.7
40	24	21,496	-56.0		29	21.0
30	22	23,324	-57.5		29	23.1
25	20	24,480	-57.5		29	25.2
20	17	25,876	-58.8		29	27.7
15	14	27,705	-58.5		29	29.1
10	8	30,413	-52.9			

BETHEL, ALASKA — 994 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	27	39	-14.1	-16.5	04	3.0
1000	27	-6				
950	27	391	-11.4	-14.6	07	6.3
900	27	801	-12.3	-15.9	08	4.5
850	27	1,237	-13.1	-17.3	10	2.8
800	27	1,698	-14.8	-19.8	14	2.4
750	27	2,183	-17.0	-23.5	14	2.3
700	27	2,699	-20.0	-27.4	16	2.5
650	27	3,241	-23.3	-30.6	16	3.5
600	27	3,827	-26.8	-33.8	17	3.0
550	27	4,447	-30.5	-37.3	19	3.2
500	27	5,123	-34.4	-41.0	21	3.4
450	27	5,850	-39.1	-42.1	21	5.7
400	27	6,653	-44.1	-45.9	22	7.6
350	27	7,539	-48.8		22	11.1
300	27	8,546	-51.2		22	13.6
250	27	9,730	-51.6		23	11.8
200	27	11,183	-49.9		23	8.9
175	26	12,058	-49.5		24	9.3
150	26	13,069	-49.0		23	7.7
125	26	14,284	-49.6		22	8.1
100	26	15,722	-50.0		24	7.8
80	26	17,177	-50.9		24	6.7
70	26	18,047	-50.6		24	6.6
60	25	19,051	-51.2		25	7.8
50	25	20,235	-51.7		26	7.0
40	22	21,661	-52.6		27	7.0
30	21	23,514	-52.7		27	6.0
25	21	24,690	-53.2		28	5.9
20	19	26,120	-53.3		29	5.6
15	15	28,029	-49.9		30	5.6

* BISMARCK, N. DAK. — 958 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	503	-10.9	-14.0	10	1.6
1000	28	167				
950	28	560	-10.2	-14.3	11	2.1
900	28	981	-7.9	-10.2	19	3.0
850	28	1,427	-6.4	-11.3	23	2.5
800	28	1,901	-7.0	-14.0	27	3.1
750	28	2,399	-9.1	-16.6	26	4.7
700	28	2,935	-11.5	-19.8	27	5.9
650	28	3,496	-14.8	-23.9	28	7.3
600	28	4,101	-18.7	-28.5	28	8.2
550	28	4,740	-22.8	-32.5	28	9.8
500	28	5,438	-27.7	-36.2	29	10.3
450	28	6,182	-33.2	-40.9	29	13.0
400	28	7,006	-39.3	-44.6	29	15.2
350	28	7,906	-46.3		29	17.7
300	28	8,914	-53.2		28	18.8
250	28	10,072	-58.5		28	18.6
200	28	11,473	-57.7		28	18.5
175	28	12,319	-55.9		28	16.4
150	28	13,301	-55.1		28	15.8
125	28	14,467	-54.9		28	15.0
100	27	15,891	-56.0		28	13.1
80	27	17,307	-56.9		28	12.4
70	27	18,151	-57.7		29	10.9
60	27	19,124	-58.0		28	10.0
50	27	20,273	-58.1		29	9.6
40	26	21,678	-58.5		30	8.2
30	26	23,488	-58.2		30	7.1
25	26	24,637	-57.7		30	7.8
20	24	26,043	-57.2		31	9.1
15	19	27,880	-55.5		32	9.4
10	18	30,486	-52.1		31	10.3
7	5	32,790	-46.8			

BOISE, IDAHO — 912 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	867	.3	-3.8	14	2.3
1000	28	119				
950	28	536				
900	28	970	.0	-4.5	14	3.4
850	28	1,428	-1.3	-6.1	15	4.5
800	28	[illegible]	-4.0	-9.1	18	4.0
750	28	2,416	-6.9	-12.3	22	5.2
700	28	2,952	-9.8	-16.4	23	6.5
650	28	3,519	-13.0	[illegible]	24	8.3
600	28	4,127	-17.2	[illegible]	24	9.2
550	28	4,772	-21.7	-29.9	24	11.4
500	28	5,469	-26.7	-34.6	24	12.1
450	28	6,219	-31.9	-39.0	25	13.3
400	28	7,046	-38.0	-44.3	25	15.1
350	28	7,952	-45.1		26	16.7
300	28	8,965	-52.7		26	18.1
250	27	10,132	-59.3		26	18.6
200	27	11,526	-59.1		26	16.8
175	27	12,369	-56.6		25	16.1
150	27	13,350	-55.4		25	15.9
125	27	14,513	-55.7		26	14.9
100	27	15,930	-56.8		26	12.7
80	27	17,342	-57.5		26	10.9
70	27	18,184	-58.1		27	8.9
60	27	19,155	-58.0		27	7.5
50	25	20,305	-58.6		28	5.5
40	24	21,710	-58.3		29	4.9
30	23	23,519	-58.1		30	4.4
25	19	24,669	-57.4		31	4.5
20	17	26,086	-56.1		32	4.1
15	14	27,937	-53.7		29	4.4
10	[illegible]	30,572	-49.4			

BOOTHVILLE, LA. — 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	1	11.6	9.2	02	1.7
1000	28	141	12.2	7.9	04	2.0
950	28	571	10.0	3.7	31	.8
900	28	1,018	9.2	-3.4	29	3.1
850	28	1,491	7.9	-5.9	29	5.6
800	28	1,989	6.2	-9.3	28	7.8
750	28	2,517	4.4	-12.0	28	10.0
700	28	3,076	1.6	-14.6	27	12.1
650	28	3,668	-1.8	-17.2	27	14.2
600	28	4,302	-5.4	-20.3	27	18.4
550	28	4,975	-9.8	-25.7	27	21.7
500	28	5,709	-14.6	-29.6	27	24.2
450	28	6,495	-20.0	-31.9	27	28.5
400	28	7,364	-25.5	-35.3	27	31.3
350	28	8,320	-31.9	-43.0	27	36.6
300	28	9,393	-39.5	-47.5	27	42.7
250	28	10,617	-48.4		27	50.8
200	28	12,056	-56.6		27	54.5
175	28	12,897	-59.7		27	52.2
150	28	13,855	-61.7		27	48.2
125	28	14,976	-64.7		27	40.4
100	28	16,327	-68.0		27	31.5
80	27	17,661	-69.9		27	23.0
70	27	18,456	-69.2		27	18.9
60	26	19,378	-66.8		28	14.7
50	24	[illegible]	-64.6		28	11.3
40	24	21,854	-61.3		28	11.5
30	24	23,653	-58.3		27	11.8
25	23	24,808	-56.2		28	12.4
20	23	26,236	-53.4		27	12.1
15	21	28,103	-50.6		26	13.9
10	15	30,761	-44.1		26	16.5
7	[illegible]	33,210	-38.7			

* BROWNSVILLE, TEXAS — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	7	16.2	13.8	08	1.0
1000	28	125	16.3	13.7	09	2.5
950	28	563	14.9	11.4	14	5.2
900	28	1,019	13.6	5.3	16	4.3
850	28	1,499	11.9	.8	19	4.4
800	28	2,005	10.0	-2.2	23	4.7
750	28	2,539	7.7	-5.4	25	6.9
700	28	3,106	4.6	-7.5	26	10.2
650	28	3,704	.9	-12.9	26	12.3
600	28	4,345	-3.4	-16.2	26	15.5
550	28	5,023	-7.8	-21.6	26	18.0
500	28	5,764	-12.2	-25.0	26	20.5
450	28	6,558	-16.8	-29.1	27	26.0
400	28	7,439	-22.6	-32.6	27	30.8
350	28	8,406	-29.6	-37.7	27	35.7
300	28	9,488	-37.6	-44.9	27	39.5
250	28	10,721	-46.8		27	42.4
200	28	12,167	-57.0		27	43.2
175	28	13,003	-61.7		27	43.4
150	27	13,949	-64.5		27	37.5
125	27	15,053	-68.6		26	33.6
100	27	16,379	-71.4		26	26.5
80	[illegible]	17,684	-73.3		26	18.0
70	[illegible]	[illegible]	-72.2		26	14.1
60	20	19,380	-69.2		27	7.4
50	19	20,475	-65.2		28	8.1
40	19	21,844	-62.2		27	10.2
30	18	[illegible]	-59.9		27	11.3
25	17	[illegible]	-58.0		27	10.5
20	16	26,191	-55.5		27	10.7
15	[illegible]	28,040	[illegible]		27	14.0
10	[illegible]	30,724	-45.3		27	13.4
7	[illegible]	33,162	-36.3			

BUFFALO, N. Y. — 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	27	218	-6.3	-8.3	26	2.4
1000	27	145				
950	27	550	-6.1	-9.7	29	3.5
900	27	969	-7.7	-12.3	30	5.3
850	27	1,412	-9.2	-14.2	31	6.4
800	27	1,881	-9.7	-18.0	31	6.5
750	27	2,378	-11.3	-16.2	31	7.7
700	27	2,906	-13.1	-20.7	30	7.9
650	27	3,469	-15.8	-24.5	30	8.3
600	27	4,068	-19.3	-28.4	29	9.5
550	27	4,710	-23.5	-32.3	29	11.0
500	27	5,401	[illegible]	-36.8	28	11.9
450	27	6,149	-33.3	-40.9	28	13.3
400	27	6,968	-38.6	-45.4	28	16.4
350	27	7,873	-44.9		27	16.9
300	27	8,868	-51.4		27	19.0
250	27	10,057	-56.4		27	22.4
200	27	11,472	-56.3		27	20.6
175	27	12,323	-54.8		27	20.4
150	27	13,311	-54.0		27	20.8
125	27	14,480	-54.8		27	16.7
100	26	15,907	-56.4		28	16.8
80	26	17,318	-57.8		28	15.6
70	26	18,158	-58.3		28	14.1
60	25	19,127	-58.7		28	12.7
50	25	20,270	-59.4		28	10.9
40	24	21,665	-59.3		28	10.0
30	24	23,472	-58.0		28	8.4
25	[illegible]	24,624	-56.8		28	9.3
20	[illegible]	26,042	-55.6		27	9.7
15	[illegible]	27,883	[illegible]		27	10.6
10	[illegible]	30,575	-47.2			

CAPE HATTERAS, N. C. — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed M.p.s.
SURFACE	28	4	4.9	.7	35	4.7
1000	28	111	4.9	-1.5	34	5.8
950	28	526	2.9	-2.8	33	9.0
900	28	965	1.2	-5.1	33	8.8
850	28	1,424	.0	-7.8	30	8.5
800	28	1,909	-1.6	-11.8	29	10.5
750	28	2,422	-3.3	-15.7	29	13.1
700	28	2,965	-5.7	-18.0	28	14.7
650	28	3,540	-8.8	-21.0	28	17.1
600	28	4,159	-12.4	-24.5	28	18.8
550	28	4,816	-16.6	-28.2	28	20.0
500	28	5,530	-21.1	-33.4	28	22.2
450	25	6,294	-26.5	-39.5	28	25.6
400	28	7,142	-32.5	-42.6	28	28.3
350	28	8,070	-39.2	-46.4	28	30.2
300	28	9,111	-45.9		28	36.7
250	28	10,308	-51.9		28	40.7
200	28	11,742	-54.5		28	43.5
175	28	12,598	-54.4		28	42.8
150	28	13,585	-54.9		28	38.3
125	27	14,746	-57.4		28	33.0
100	27	16,147	-60.1		28	28.8
80	26	17,534	-62.1		28	24.1
70	26	18,352	-61.4		28	20.2
60	25	19,316	-61.3		28	16.0
50	25	20,448	-60.6		27	12.6
40	24	21,844	-58.6		27	12.0
30	21	23,658	-56.3		27	10.4
25	19	24,818	-54.5		26	10.5
20	18	26,260	-52.3		25	13.6
15	12	28,124	-49.9			
10	8	30,826	-45.4			
7	6	33,264	[illegible]			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

*** CARIBOU, MAINE — 990 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	191	-10.1	-12.0	34	1.7
1000	28	115				
950	28	515	-9.7	[illegible]	01	3.0
900	28	928	-10.5	-14.1	01	3.2
850	28	1,368	-10.2	-17.5	03	2.9
800	28	1,835	-10.5	-18.4	01	1.3
750	28	2,330	-12.1	-19.2	29	1.6
700	28	2,857	-14.4	-21.7	27	3.1
650	28	3,417	-17.3	-24.3	26	4.3
600	28	4,012	-20.6	-28.4	26	5.9
550	28	4,651	-24.6	-32.7	25	7.0
500	28	5,338	-29.2	-37.2	25	8.1
450	28	6,091	-34.3	-40.7	25	9.0
400	28	6,899	-39.7	-44.7	25	10.3
350	28	7,800	-45.6		25	11.9
300	28	8,816	-51.3		26	14.5
250	28	9,986	-56.4		25	13.0
200	28	11,398	-55.9		25	13.3
175	28	12,252	-54.0		25	11.4
150	28	13,243	-53.8		26	11.1
125	27	14,409	-54.0		25	11.3
100	27	15,839	-54.9		26	11.9
80	26	17,268	-56.[illegible]		26	10.4
70	26	18,116	-56.5		25	9.9
60	26	19,093	-57.1		26	9.8
50	26	20,245	-57.6		27	9.8
40	26	21,650	-58.4		25	9.0
30	25	23,461	-58.2		27	10.1
25	25	24,609	-58.0		27	10.9
20	24	26,021	-56.8		27	12.1
15	24	27,851	-54.9		27	15.5
10	22	30,466	-49.7		27	20.0
7	17	32,923	-43.1			
5						
4						

CHARLESTON, S. C. — 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	13	3.5	-.3	32	1.7
1000	28	137	5.5	-.5	32	3.5
950	28	558	5.4	-3.1	33	5.2
900	28	998	3.7	-5.3	30	5.9
850	28	1,461	2.6	-7.6	29	7.1
800	28	1,951	1.5	-12.1	29	9.6
750	28	2,468	-.6	-13.7	28	11.2
700	28	3,018	-2.9	-18.3	28	13.6
650	28	3,601	-5.6	-21.7	28	17.4
600	28	4,227	-9.3	-25.3	28	20.1
550	28	4,891	-13.8	-28.8	28	22.3
500	28	5,612	-18.0	-33.5	28	25.6
450	28	6,382	-23.8	-37.9	28	29.8
400	28	7,240	-29.9	-42.6	28	32.5
350	28	8,177	-36.7	-46.7	28	36.7
300	28	9,229	-43.9	-48.9	28	42.5
250	28	10,432	-51.3		28	50.5
200	27	11,867	-55.8		28	53.[illegible]
175	27	12,716	-56.3		28	50.8
150	27	13,691	-57.4		28	45.9
125	26	14,835	-60.1		28	38.3
100	26	16,217	-63.4		28	31.8
80	26	17,580	-65.3		27	25.3
70	26	18,394	-64.6		28	20.6
60	26	19,337	-63.8		28	16.8
50	26	20,460	-61.9		28	13.8
40	25	21,848	-59.6		28	12.6
30	25	23,660	-56.8		27	10.0
25	24	24,820	-54.9		27	11.3
20	22	26,257	-52.2		26	12.1
15	20	28,133	-49.8		25	14.5
10	19	30,817	-42.6		25	16.7
7	6	33,191	-38.8			

CHIHUAHUA, MEXICO — 855 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	1,428	5.5	-3.3	23	1.8
1000	28	122				
950	28	545				
900	28	998				
850	28	1,474	5.0	-3.2	23	1.8
800	28	1,974	6.0	-6.0	23	4.3
750	28	2,498	5.2	-8.8	24	6.5
700	28	3,064	2.2	-12.9	25	10.0
650	28	3,652	-1.6	-15.2	25	11.8
600	28	4,291	-5.7	-19.2	26	13.9
550	28	4,960	-10.1	-23.7	25	16.5
500	28	5,695	-15.3	-27.9	25	19.9
450	28	6,474	-20.4	-33.0	25	23.7
400	28	7,346	-26.2	-37.5	25	27.3
350	28	8,300	-32.8	-42.0	26	32.4
300	28	9,369	-39.4	-47.0	26	36.2
250	28	10,596	-47.3		27	39.4
200	28	12,044	-55.6		26	39.8
175	28	12,886	-59.9		26	38.[illegible]
150	28	13,842	-62.8			
125	27	14,954	-65.4			
100	25	16,303	-68.0			
80	23	17,647	-68.7			
70	19	18,454	-67.3			
60	18	19,392	-65.8			
50	15	20,503	-64.6			
40	16	21,879	-62.6			
30	14	23,666	-60.1			
25	13	24,811	-58.6			
20	13	26,222	-55.9			
15	9	28,055	-52.7			

*** COLD BAY, ALASKA — 990 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	27	[illegible]	-2.3	-5.2	27	1.9
1000	27	-48				
950	27	357	-4.2	-7.2	28	2.6
900	27	782	-6.6	-9.4	28	3.2
850	27	1,227	-9.[illegible]	-13.1	27	4.5
800	27	1,694	-11.0	-16.1	28	5.3
750	27	2,183	-13.6	-19.6	28	6.6
700	27	2,710	-16.2	-22.5	27	7.3
650	27	3,259	-19.4	-26.4	26	7.6
600	27	3,855	-23.0	-30.4	26	7.8
550	27	4,479	-26.9	-33.4	26	9.8
500	27	5,169	-31.4	-37.2	25	11.0
450	27	5,900	-36.1	-40.1	26	12.4
400	27	6,716	-41.1	-42.5	24	13.8
350	27	7,613	-46.3		23	13.1
300	27	8,628	-49.9		23	14.1
250	27	9,814	-52.0		24	14.1
200	27	11,264	-49.9		23	11.8
175	27	12,139	-49.0		22	11.2
150	27	13,150	-49.1		22	10.4
125	27	14,346	-49.4		22	10.3
100	27	15,805	-50.3		22	8.3
80	27	17,260	-50.8		21	6.4
70	27	18,130	-50.8		21	6.5
60	27	19,131	-51.8		23	4.9
50	27	20,311	-52.4		22	3.5
40	27	21,752	-53.0		23	3.0
30	26	23,609	-53.8		22	2.1
25	26	24,781	-53.4		26	1.6
20	25	26,210	-52.7		25	1.7
15	24	28,070	-51.7		04	1.5
10	23	30,708	-49.7		03	2.4
7	18	33,069	-48.0		32	3.1
5	10	35,274	-46.1			
4	7	36,979	-40.8			

COLUMBIA, MO. — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	236	[illegible]	-3.7	[illegible]	[illegible]
1000	28	157				
950	28	545	-1.5	-5.7	[illegible]	[illegible]
900	28	997	-1.4	-9.9	30	2.4
850	28	1,452	-2.6	[illegible]	30	4.2
800	28	1,932	-3.5	-12.4	30	5.9
750	28	2,438	-5.6	-15.2	29	7.4
700	28	2,979	-8.3	-19.5	29	9.7
650	28	3,548	-11.[illegible]	-22.0	29	[illegible]
600	28	4,164	-14.6	-25.2	28	12.3
550	28	4,813	-18.9	-29.7	28	13.4
500	28	5,521	-23.[illegible]	-33.7	28	14.7
450	28	6,275	-29.3	-38.8	28	16.5
400	28	7,115	-35.5	-44.8	28	19.6
350	28	8,031	-42.4	-47.2	28	22.6
300	28	9,056	-49.6		27	27.3
250	28	10,231	-55.[illegible]		27	32.[illegible]
200	28	11,642	-57.6		27	35.5
175	27	12,487	-56.1		28	33.9
150	27	13,466	-56.5		27	31.8
125	27	14,622	-57.5		28	28.5
100	27	16,023	-59.[illegible]		28	23.9
80	27	17,416	-60.5		28	[illegible]
70	27	18,246	-61.[illegible]		28	17.[illegible]
60	27	19,204	-61.1		28	14.4
50	27	20,334	-61.7		28	12.7
40	26	21,717	-61.0		28	11.5
30	23	23,520	-58.8		29	9.2
25	21	24,664	-58.4		29	7.9
20	19	26,074	-57.1		29	8.8
15	18	27,906	-54.2		28	9.4
10	12	30,564	-47.8			

DAYTON, OHIO — 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	297	-3.2	-5.6	36	1.9
1000	28	157				
950	28	565	-3.5	-7.2	34	2.5
900	28	991	-4.3	-11.6	33	4.3
850	28	1,441	-5.2	-14.5	32	5.3
800	28	1,916	-6.6	-17.0	32	6.6
750	28	2,418	-8.3	-19.0	31	7.9
700	28	2,953	-10.4	-20.6	30	8.9
650	28	3,516	-13.1	-24.3	30	10.8
600	28	4,126	-16.6	-27.9	30	13.5
550	28	4,771	-20.5	-31.0	29	15.4
500	28	5,474	-25.2	-35.0	29	17.1
450	28	6,229	-30.2	-39.7	29	20.6
400	28	7,061	-36.0	-44.0	28	23.9
350	28	7,975	-43.0	-47.8	28	26.3
300	28	8,997	-50.3		28	28.0
250	28	10,168	-56.7		28	31.4
200	28	11,579	-57.0		27	32.8
175	28	12,426	-55.3		28	31.1
150	28	13,412	-55.4		28	29.4
125	28	14,573	-56.5		28	25.8
100	28	15,985	-58.0		28	22.3
80	25	17,383	-60.2		28	18.5
70	25	18,215	-60.8		28	16.3
60	25	19,174	-61.0		28	15.0
50	25	20,306	-61.1		28	11.8
40	24	21,693	-60.1		29	10.1
30	23	23,490	-58.7		28	8.5
25	22	24,638	-57.5		28	9.4
20	22	26,053	-56.0		28	9.2
15	21	27,899	-52.2		27	9.5
10	13	30,569	-45.8		27	15.1
7	5	33,014	-38.8			

DEL RIO, TEXAS — 979 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	314	10.0	5.1	11	2.1
1000	28	126				
950	28	564	10.4	4.0	14	4.6
900	28	1,014	9.4	1.8	18	5.0
850	28	1,487	8.4	-2.4	21	5.0
800	28	1,988	7.1	-7.6	24	6.5
750	28	2,513	5.0	-10.0	26	9.1
700	28	3,077	1.5	-13.1	26	10.0
650	28	3,668	-2.5	-17.2	26	11.7
600	28	4,301	-6.4	-21.3	26	14.7
550	28	4,972	-10.4	-26.2	26	17.2
500	28	5,704	-15.7	-29.6	26	20.7
450	28	6,483	-21.1	-32.2	26	24.6
400	28	7,352	-26.7	-37.3	26	30.4
350	28	8,304	-32.9	-43.3	26	37.1
300	28	9,374	-40.0	-47.3	26	44.7
250	28	10,596	-48.4		26	52.2
200	28	12,037	-56.8		26	55.3
175	28	12,875	-60.7		27	53.0
150	28	13,828	-63.3		27	46.2
125	28	14,942	-65.8		27	38.7
100	28	16,286	-69.1		27	31.5
80	28	17,619	-69.1		27	22.8
70	27	18,418	-68.5		27	18.6
60	26	19,346	-66.7		27	15.4
50	25	20,453	-64.9		28	10.9
40	21	21,820	-62.3		28	7.8
30	21	23,609	-59.0		27	9.1
25	21	24,757	-57.4		28	10.9
20	20	26,178	-55.3		28	9.8
15	18	28,033	-51.0		27	10.5
10	14	30,719	-43.8		27	12.4

DENVER, COLO. — 833 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	1,611	-3.6	-9.3	23	1.2
1000	28	138				
950	28	548				
900	28	987				
850	28	1,445				
800	28	1,928	-.8	-11.7	27	3.0
750	28	2,443	-2.1	-15.2	28	4.3
700	28	2,988	-5.7	-18.9	29	5.5
650	28	3,561	-9.8	-21.8	29	7.5
600	28	4,177	-14.2	-25.1	29	10.4
550	28	4,826	-18.5	-29.7	28	10.6
500	28	5,536	-23.6	-35.5	28	11.5
450	28	6,291	-29.3	-40.6	28	13.2
400	28	7,127	-36.2	-46.0	28	15.2
350	28	8,039	-43.6		27	17.6
300	28	9,059	-51.1		27	20.2
250	28	10,227	-56.8		27	24.7
200	28	11,628	-59.1		27	29.0
175	28	12,469	-57.4		27	27.8
150	27	13,449	-56.4		27	28.5
125	27	14,606	-56.6		27	24.4
100	27	16,009	-60.1		27	21.2
80	27	17,398	-60.8		27	18.4
70	27	18,231	-60.0		27	13.8
60	26	19,190	-60.4		27	11.0
50	23	20,332	-60.3		27	9.2
40	23	21,722	-60.2		29	7.1
30	19	23,524	-60.1		31	4.8
25	18	24,665	-59.0		30	5.4
20	17	26,067	-57.7		31	5.3
15	11	27,883	-54.0			

DODGE CITY, KANS. — 923 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	791	-2.0	-4.7	20	.9
1000	28	148				
950	28	561				
900	28	992	.1	-6.0	21	1.6
850	28	1,451	.7	-9.0	25	3.1
800	28	1,937	.1	-11.5	26	5.8
750	28	2,452	-2.1	-15.2	28	6.9
700	28	2,999	-5.3	-17.7	28	8.4
650	28	3,576	-8.8	-21.2	28	9.8
600	28	4,193	-12.9	-26.0	28	11.7
550	28	4,851	-17.5	-30.2	27	13.5
500	28	5,559	-22.4	-34.6	27	15.8
450	28	6,321	-28.2	-39.9	27	18.9
400	28	7,162	-34.7	-46.0	27	21.2
350	27	8,077	-41.9	-48.8	27	24.9
300	27	9,104	-49.4		26	28.7
250	27	10,283	-55.5		26	33.1
200	26	11,697	-58.4		27	35.[illegible]
175	25	12,539	-57.2		27	37.7
150	26	13,515	-57.3		27	34.6
125	26	14,663	-59.0		27	29.6
100	26	16,058	-60.7		27	24.5
80	25	17,439	-61.9		28	18.9
70	25	18,272	-62.4		28	16.1
60	24	19,218	-61.7		28	14.5
50	24	20,347	-61.6		28	12.1
40	23	21,737	-60.8		28	9.3
30	22	23,532	-59.5		29	8.3
25	22	24,676	-58.4		29	7.4
20	21	26,090	-56.4		29	8.3
15	17	27,925	-53.0		30	8.6
10	11	30,586	-48.1			

EL PASO, TEXAS — 88[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	1,193	3.5	-8.5	29	1.4
1000	28	139				
950	28	561				
900	28	1,007				
850	28	1,478	7.3	-6.4	29	2.1
800	28	1,975	4.5	-8.8	27	4.8
750	28	2,494	1.8	-11.8	26	7.7
700	28	3,051	-1.7	-15.4	26	9.9
650	28	3,635	-5.4	-19.4	26	12.3
600	28	4,261	-9.4	-23.4	26	15.0
550	28	4,925	-13.2	-27.5	26	17.1
500	28	5,650	-18.1	-32.1	26	19.5
450	28	6,422	-23.9	-35.8	26	22.0
400	28	7,279	-30.0	-41.2	26	26.5
350	28	8,217	-36.8	-46.4	26	30.9
300	28	9,269	-43.4	-46.6	27	36.3
250	28	10,477	-50.8		27	42.2
200	28	11,909	-56.5		26	48.[illegible]
175	28	12,752	-58.6		26	46.5
150	28	13,718	-60.2		27	42.4
125	28	14,848	-63.2		26	36.5
100	28	16,212	-66.1		27	26.[illegible]
80	28	17,559	-67.4		27	22.3
70	28	18,368	-64.9		27	17.3
60	28	19,312	-63.6		27	11.5
50	28	20,433	-63.4		27	10.4
40	26	21,812	-61.7		28	8.0
30	26	23,603	-59.6		28	8.3
25	26	24,748	-58.1		28	11.[illegible]
20	25	26,159	-56.1		30	7.9
15	23	28,006	-52.0		29	8.5
10	17	30,676	-44.7		28	12.4

ELY, NEV. — 803 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	1,908	-6.3	-10.5	20	3.0
1000	28	156				
950	28	563				
900	28	999				
850	28	1,455				
800	28	1,934			20	3.2
750	28	2,442	-5.0	-10.7	19	5.1
700	28	2,982	-7.9	-14.0	22	6.4
650	28	3,551	-10.8	-18.2	23	8.5
600	28	4,167	-14.2	-22.6	25	9.5
550	28	4,816	-18.6	-26.6	25	11.[illegible]
500	28	5,575	-23.8	-31.1	25	13.3
450	28	6,283	-29.4	-37.1	25	14.3
400	28	7,117	-35.3	-42.6	25	16.2
350	28	8,033	-42.6	-44.6	25	17.7
300	28	9,056	-50.7		26	21.1
250	28	10,225	-57.4		26	25.3
200	28	11,625	-58.7		26	27.4
175	28	12,468	-56.7		26	24.4
150	28	13,447	-56.0		26	22.8
125	28	14,605	-57.3		26	21.[illegible]
100	27	16,010	-58.6		26	18.1
80	26	17,414	-59.3		26	14.3
70	26	18,248	-60.0		26	12.8
60	26	19,205	-59.4		26	[illegible]
50	26	20,349	-58.6		26	7.1
40	21	21,752	-58.7		27	[illegible]
30	[illegible]	23,553	-58.4		28	4.2
25	[illegible]	24,690	-58.4		30	4.2
20	17	26,109	-55.8		30	4.3
15	16	27,955	-52.8		31	6.4
10	13	30,620	-46.7		29	8.4
7						

EMPALME, MEXICO — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	12	11.7	6.2	31	1.8
1000	28	130	15.3	4.9	32	3.0
950	28	564	15.1	.1	33	3.1
900	28	1,020	12.7	-4.0	30	1.8
850	28	1,498	10.3	-6.7	23	2.7
800	28	1,999	7.9	-10.9	23	4.6
750	28	2,529	5.7	-15.1	25	6.2
700	28	3,089	2.6	-17.2	26	8.4
650	28	3,681	-1.0	-20.1	26	10.2
600	28	4,318	-5.2	-23.2	26	12.7
550	28	4,990	-9.8	-26.2	26	15.8
500	28	5,724	-15.1	-30.0	26	18.9
450	28	6,509	-20.6	-34.0	26	21.6
400	27	7,377	-26.5	-37.5	26	25.3
350	27	8,329	-32.9	-43.8	26	33.3
300	27	9,398	-39.8	-46.4	26	41.8
250	27	10,621	-47.9		26	48.2
200	27	12,065	-56.3		26	50.8
175	27	12,905	-60.3		26	49.7
150	27	13,859	-62.7		26	41.9
125	27	14,975	-65.6		26	36.3
100	27	16,320	-68.6		26	27.6
80	26	17,654	-69.6		26	20.1
70	26	18,452	-66.4		26	17.1
60	26	19,382	-66.4		27	13.2
50	25	20,491	-64.[illegible]		28	12.8
40	24	[illegible]	[illegible]		29	9.3
30	[illegible]	23,646	[illegible]		29	9.3
25	21	24,793	-58.3		27	11.1
20	17	26,208	-55.5		27	12.8
15	15	28,054	-52.4		27	14.8
10	8	30,595	-46.3			

*** FAIRBANKS, ALASKA — 990 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	135	-24.0	-28.1	01	1.6
1000	28	57				
950	28	444	-13.8	-19.0	07	3.0
900	28	851	-12.8	-18.6	10	4.4
850	28	1,288	-12.0	-18.0	12	4.2
800	28	1,751	-13.5	-19.7	14	3.7
750	28	2,239	-16.0	-22.5	17	3.4
700	28	2,758	-18.5	-25.3	19	3.4
650	28	3,305	-21.8	-28.3	20	4.1
600	28	3,892	-25.7	-31.8	21	5.0
550	28	4,515	-29.7	-35.4	21	6.4
500	28	5,191	-34.4	-38.9	21	7.6
450	28	5,918	-39.3	-41.3	22	9.2
400	28	6,719	-44.3	-45.4	23	10.6
350	28	7,603	-50.5		23	11.5
300	28	8,596	-54.6		23	11.1
250	28	9,759	-55.2		23	11.4
200	28	11,192	-52.5		24	8.5
175	28	12,058	-50.7		25	8.7
150	28	13,063	-50.2		25	8.7
125	28	14,252	-50.6		26	8.1
100	27	15,699	-51.5		27	8.7
80	27	17,148	-51.9		27	9.6
70	27	18,013	-52.0		28	9.3
60	27	19,011	-52.2		28	9.2
50	27	20,190	-52.7		29	11.7
40	27	21,628	-53.6		29	11.4
30	27	23,476	-54.4		30	13.7
25	26	24,653	-54.5		30	15.1
20	25	26,079	-54.6		30	16.7
15	21	27,952	-53.5		31	16.7
10	18	30,671	-48.1			

FLINT, MICH. — 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	236	-5.8	-9.4	31	1.5
1000	28	161				
950	28	561	-6.3	-9.9	35	3.0
900	28	985	-7.5	-14.1	34	4.6
850	28	1,429	-8.4	-17.0	33	5.8
800	28	1,899	-9.3	-18.5	32	7.1
750	28	2,395	-10.8	-21.1	32	8.2
700	28	2,925	-13.3	-24.6	31	9.2
650	28	3,484	-16.0	-27.6	31	9.4
600	28	4,086	-19.4	-30.6	30	10.6
550	28	4,721	-23.2	-33.2	30	12.3
500	28	5,419	-28.0	-37.3	30	14.1
450	28	6,163	-33.4	-41.4	29	15.4
400	28	6,986	-39.2	-44.3	29	16.9
350	28	7,889	-45.1		28	18.8
300	28	8,904	-51.2		28	21.7
250	28	10,076	-55.7		28	24.7
200	28	11,491	-56.0		28	24.4
175	28	12,342	-54.9		28	22.7
150	27	13,332	-54.6		28	22.[illegible]
125	27	14,499	-54.8		28	20.7
100	27	15,920	-56.6		28	18.9
80	27	17,329	-58.3		28	16.[illegible]
70	27	18,169	-58.7		28	15.1
60	27	19,136	-59.0		28	12.[illegible]
50	27	20,279	-59.1		28	10.9
40	26	21,680	-59.0		28	10.5
30	25	23,487	-58.2		28	10.4
25	19	24,633	-57.5		29	10.8
20	18	26,032	-56.2		28	9.3
15	16	27,868	-53.2		28	11.9
10	14	30,530	-48.2		27	14.3
7	[illegible]	32,907	-43.0			

FORT WORTH, TEXAS — 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	180	5.7	1.6	33	.6
1000	28	148				
950	28	571	6.3	-.9	21	1.[illegible]
900	28	1,012	5.9	-3.6	25	2.6
850	28	1,480	5.5	-6.3	27	4.5
800	28	1,974	4.0	-9.1	28	6.8
750	28	[illegible]	2.9	-11.9	27	8.6
700	28	3,052	[illegible]	-14.6	27	10.3
650	28	3,635	-4.8	-18.4	27	12.9
600	28	4,264	-8.6	-22.9	27	[illegible]
550	28	4,928	-13.0	[illegible]	27	17.6
500	28	5,653	-18.0	-31.2	27	19.8
450	28	6,426	-23.5	-35.3	27	23.5
400	28	7,284	-29.6	-40.4	27	27.0
350	28	8,224	-36.2	-46.0	27	32.0
300	28	9,277	-43.7	[illegible]	27	37.7
250	28	[illegible]	-51.6		26	47.5
200	28	[illegible]	[illegible]		26	54.7
175	28	[illegible]	-58.5		27	[illegible]
150	27	13,713	[illegible]		27	[illegible]
125	27	14,844	-62.4		27	39.9
100	27	16,212	-65.5		27	29.2
80	25	17,562	-65.3		27	22.2
70	25	18,370	-65.9		27	[illegible]
60	24	[illegible]	-65.3		27	[illegible]
50	[illegible]	[illegible]	[illegible]		28	[illegible]
40	[illegible]	21,792	-62.4		28	8.4
30	21	23,576	[illegible]		29	8.6
25	[illegible]	24,724	-58.1		28	[illegible]
20	19	26,135	-56.2		28	[illegible]
15	15	27,974	-52.6		28	[illegible]
10	9	30,557	-44.2			
7	5	33,087	[illegible]			

See reference notes at end of table.

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT. 932 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	696	-14.4	-16.4	19	2.3
1000	28	180				
950	28	552				
900	28	965	-8.0	-10.2	17	1.8
850	28	1,414	-5.0	-11.0	27	3.0
800	28	1,890	-6.3	-13.8	28	4.7
750	28	2,393	-8.3	-16.3	28	6.3
700	28	2,926	-11.2	-19.6	28	6.9
650	28	3,491	-14.8	-22.1	29	7.8
600	28	4,092	-18.8	-26.8	27	9.6
550	28	4,733	-23.3	-31.6	27	11.3
500	28	5,426	-28.3	-36.3	27	12.7
450	28	6,166	-34.2	-40.9	27	13.9
400	28	6,986	-40.3	-44.3	27	15.2
350	28	7,883	-46.8		28	16.3
300	28	8,888	-53.8		27	17.5
250	28	10,044	-58.4		27	17.1
200	28	11,446	-57.9		27	15.8
175	28	12,291	-56.1		27	14.6
150	28	13,273	-54.8		27	13.3
125	28	14,439	-55.0		28	11.6
100	28	15,863	-55.4		28	11.6
80	28	17,282	-56.6		28	9.7
70	28	18,126	-57.2		29	8.4
60	28	19,099	-57.8		29	8.7
50	28	20,248	-57.8		29	7.7
40	28	21,655	-57.9		31	7.6
30	24	23,465	-57.6		31	5.8
25	23	24,624	-57.4		31	6.8
20	22	26,030	-57.0		33	7.1
15	18	27,863	-55.1		33	8.2
10	8	30,449	-52.1			
7						

GRAND JUNCTION, COLO. 850 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	1,472	-2.4	-6.3	13	2.7
1000	28	140				
950	28	572				
900	28	1,012				
850	28	1,469			12	3.2
800	28	1,953	-1.8	-9.2	15	4.0
750	28	2,461	-4.1	-11.3	19	4.2
700	28	3,005	-7.3	-14.4	23	6.7
650	28	3,577	-10.7	-17.9	24	8.7
600	28	4,191	-14.3	-21.8	25	10.0
550	28	4,845	-18.7	-27.0	26	11.4
500	28	5,549	-23.5	-31.7	26	13.2
450	28	6,307	-29.1	-38.0	26	14.1
400	28	7,143	-35.5	-43.2	26	15.6
350	28	8,058	-42.7	-45.0	27	17.9
300	28	9,080	-50.7		27	20.7
250	28	10,250	-56.8		27	23.8
200	28	11,653	-58.4		27	25.6
175	28	12,496	-56.9		27	24.7
150	28	13,474	-56.5		26	24.2
125	28	14,629	-57.4		26	22.2
100	28	16,030	-59.7		26	18.8
80	28	17,421	-60.9		27	16.3
70	28	18,251	-60.6		27	13.3
60	28	19,212	-60.1		27	10.3
50	28	20,350	-59.9		27	8.8
40	28	21,743	-60.0		28	7.2
30	27	23,539	-59.4		28	5.9
25	27	24,683	-58.4		29	5.7
20	25	26,097	-56.6		30	5.6
15	14	27,935	-54.8		30	6.2
10	5	30,562	-47.0			
7						

* GREAT FALLS, MONT. 883 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	1,118	-10.4	-13.9	22	3.1
1000	28	145				
950	28	549				
900	28	975				
850	28	1,412	-5.3	-12.4	23	6.8
800	28	1,889	-5.1	-12.3	24	7.1
750	28	2,398	-7.5	-14.7	26	6.9
700	28	2,929	-10.4	-18.2	26	7.8
650	28	3,498	-14.0	-22.2	26	8.8
600	28	4,099	-18.0	-26.5	27	10.3
550	28	4,740	-22.5	-31.4	27	11.6
500	28	5,437	-27.8	-36.3	27	12.6
450	28	6,179	-33.7	-40.2	27	13.9
400	28	7,001	-40.2	-44.8	27	15.3
350	28	7,899	-47.0		27	16.8
300	28	8,905	-53.2		27	18.0
250	28	10,064	-58.2		27	17.9
200	28	11,466	-58.0		27	16.7
175	28	12,311	-55.7		27	15.7
150	28	13,296	-54.6		27	14.0
125	28	14,463	-54.2		27	13.0
100	28	15,891	-55.3		27	10.3
80	28	17,312	-56.7		27	9.2
70	28	18,158	-56.7		27	8.6
60	28	19,136	-56.6		28	7.7
50	28	20,290	-57.5		29	6.9
40	28	21,700	-57.4		30	6.5
30	28	23,519	-57.2		32	5.1
25	28	24,674	-56.9		31	5.6
20	26	26,091	-56.9		32	6.2
15	25	27,921	-55.9		32	8.4
10	19	30,511	-53.2		31	10.3
7	15	32,817	-48.8		30	16.9

GREEN BAY, WIS. 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	210	-8.9	-12.1	34	2.0
1000	28	174				
950	28	570	-7.5	-12.4	02	1.9
900	28	993	-8.4	-15.3	36	2.1
850	28	1,436	-8.6	-17.8	34	2.5
800	28	1,905	-9.7	-18.9	32	3.7
750	28	2,398	-11.6	-20.0	32	5.2
700	28	2,929	-13.8	-22.7	31	7.3
650	28	3,483	-16.5	-25.6	30	8.8
600	28	4,087	-19.9	-28.5	30	10.7
550	28	4,724	-23.7	-32.2	30	12.4
500	28	5,418	-28.5	-37.4	30	14.1
450	28	6,159	-33.9	-41.6	30	15.9
400	28	6,979	-40.1	-45.1	29	16.9
350	28	7,878	-46.6		29	19.5
300	28	8,887	-52.8		29	22.1
250	28	10,050	-57.7		28	22.1
200	28	11,458	-56.9		28	21.1
175	28	12,307	-55.3		28	19.3
150	28	13,292	-54.7		28	18.5
125	28	14,458	-55.0		28	17.9
100	28	15,879	-56.6		28	15.6
80	28	17,289	-58.1		28	14.7
70	28	18,129	-58.5		28	13.8
60	27	19,101	-59.2		29	12.5
50	27	20,243	-59.3		29	10.1
40	27	21,639	-59.8		29	8.4
30	26	23,444	-59.0		29	8.2
25	25	24,585	-58.2		30	9.2
20	25	25,994	-56.7		30	10.7
15	25	27,827	-54.6		29	10.9
10	17	30,471	-48.1		28	12.2
7	6	32,910	-41.2			

GREENSBORO, N. C. 984 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	273	.7	-3.9	34	1.8
1000	28	140				
950	28	551	.8	-7.5	35	4.5
900	28	986	-1.0	-8.7	34	7.3
850	28	1,442	-1.8	-10.4	33	8.5
800	28	1,924	-2.9	-13.8	32	8.9
750	28	2,434	-4.4	-15.4	31	10.3
700	28	2,975	-6.5	-18.6	30	12.8
650	28	3,550	-9.5	-22.4	30	14.6
600	28	4,166	-13.2	-26.3	30	16.0
550	28	4,821	-17.0	-30.2	29	19.3
500	28	5,532	-21.7	-34.0	29	22.3
450	28	6,297	-27.0	-39.0	29	23.9
400	28	7,138	-33.6	-45.0	29	25.3
350	28	8,062	-40.5	-46.2	28	28.6
300	28	9,096	-47.8		28	31.4
250	28	10,282	-53.5		28	37.5
200	28	11,707	-55.7		28	38.7
175	28	12,557	-55.7		28	38.3
150	28	13,540	-55.5		28	36.6
125	28	14,697	-57.9		28	31.2
100	28	16,096	-60.3		28	26.4
80	28	17,480	-62.3		28	20.3
70	28	18,304	-62.5		28	18.2
60	28	19,258	-61.3		29	15.1
50	28	20,390	-61.2		28	10.7
40	28	21,780	-60.1		28	9.6
30	28	23,588	-57.1		29	9.3
25	28	24,745	-56.1		28	11.1
20	24	26,166	-54.3		27	10.9
15	24	28,022	-51.4		27	14.6
10	17	30,694	-45.1		26	13.3
7	8	33,109	-40.5			

* GUAM, MARIANA IS. 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	111	23.4	20.4	07	4.0
1000	28	108			06	4.4
950	28	556	21.1	18.7	07	10.2
900	28	1,023	18.2	14.3	07	10.4
850	28	1,511	15.9	8.4	07	9.5
800	28	2,025	13.7	2.4	07	7.8
750	28	2,570	13.0	-6.6	07	5.7
700	28	3,145	11.4	-11.6	07	4.9
650	28	3,765	8.9	-14.8	06	4.5
600	28	4,419	5.3	-18.1	07	4.8
550	28	5,123	1.0	-22.0	08	6.2
500	28	5,882	-3.6	-26.2	08	6.9
450	28	6,700	-9.2	-30.9	08	6.8
400	28	7,605	-15.4	-35.8	08	5.7
350	28	8,599	-22.5	-41.5	08	3.9
300	28	9,711	-31.1	-47.9	05	2.0
250	28	10,977	-40.7	-54.7	13	.3
200	28	12,456	-52.9		22	2.9
175	28	13,303	-59.9		20	5.1
150	26	14,249	-67.4		18	5.3
125	28	15,323	-75.7		16	4.3
100	28	16,585	-82.8		12	6.4
80	26	17,830	-82.6		10	7.9
70	26	18,578	-80.9		09	8.8
60	26	19,463	-73.6		09	9.1
50	26	20,548	-68.1		10	11.3
40	25	21,903	-64.3		10	12.7
30	24	23,692	-57.1		10	5.3
25	24	24,858	-53.3		26	2.7
20	23	26,308	-49.3		28	8.8
15	22	28,207	-45.8		29	13.4
10	18	30,935	-43.0		28	13.1
7	15	33,365	-38.9		25	10.3
5	7	35,668	-37.2			

HILO, HAWAII 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	11	20.1	18.0	22	.7
1000	28	148	20.2	17.5	13	.6
950	28	589	17.2	15.4	09	4.0
900	28	1,050	14.2	12.8	09	5.3
850	28	1,532	11.5	9.9	09	4.7
800	28	2,038	9.3	5.6	08	4.2
750	28	2,576	7.6	-.8	07	2.9
700	28	3,139	5.4	-5.0	07	2.1
650	28	3,739	2.2	-7.5	02	.6
600	28	4,384	-1.7	-10.4	28	3.0
550	28	5,064	-6.0	-16.5	28	5.9
500	28	5,813	-10.5	-22.4	28	8.1
450	28	6,608	-15.6	-27.2	28	10.8
400	28	7,496	-21.4	-33.3	28	14.3
350	28	8,468	-28.0	-39.8	27	18.2
300	28	9,559	-35.2	-46.5	27	25.7
250	28	10,806	-43.9		27	33.0
200	27	12,275	-53.9		28	36.3
175	27	13,122	-59.7		29	34.7
150	27	14,072	-65.7		29	29.4
125	26	15,164	-71.4		29	23.1
100	25	16,468	-76.3		28	16.8
80	24	17,750	-76.7		29	9.3
70	23	18,526	-73.9		30	5.8
60	21	19,441	-69.3		30	2.8
50	21	20,544	-64.5		30	3.5
40	21	21,917	-61.9		28	2.4
30	21	23,708	-59.0		26	.8
25	21	24,858	-56.6		27	3.3
20	21	26,284	-53.2		27	7.5
15	20	28,157	-49.3		27	12.7
10	17	30,847	-44.0		28	18.7
7	6	33,296	-40.6			
5						

HUNTINGTON, W. VA. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	246	-.7	-4.9	30	1.5
1000	28	154				
950	28	564	-1.7	-6.3	31	3.4
900	28	994	-3.2	-8.4	32	5.0
850	28	1,445	-4.5	-10.9	31	6.1
800	28	1,922	-6.0	-13.8	30	6.7
750	28	2,423	-7.5	-16.1	30	8.8
700	28	2,961	-9.4	-19.7	30	10.7
650	28	3,528	-12.3	-22.9	30	12.7
600	28	4,140	-15.7	-26.0	29	15.0
550	28	4,791	-19.6	-29.7	29	17.4
500	28	5,494	-23.7	-33.8	29	20.4
450	28	6,252	-28.9	-38.5	29	21.8
400	28	7,087	-35.1	-42.8	28	24.7
350	28	8,003	-42.2	-46.3	28	26.8
300	28	9,029	-49.6		28	30.2
250	28	10,205	-55.1		28	35.4
200	28	11,673	-56.1		28	36.5
175	28	12,473	-55.4		28	36.3
150	28	13,457	-55.3		28	34.2
125	27	14,611	-56.5		28	28.4
100	26	16,014	-58.5		28	23.7
80	25	17,413	-60.3		28	19.9
70	24	18,252	-60.0		27	17.6
60	24	19,214	-59.7		28	14.7
50	23	20,359	-59.5		28	11.2
40	23	21,757	-59.4		28	9.3
30	22	23,570	-56.4		28	8.7
25	20	24,733	-55.5		27	7.8
20	15	26,157	-53.6		27	8.3
15	11	27,994	-51.4		27	11.2
10	10	30,656	-44.3			
7						
5						

* INTERNATIONAL FALLS, MINN. 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	360	-14.8	-18.9	07	.5
1000	28	185				
950	28	578	-11.7	-14.4	15	2.2
900	28	990	-11.4	-15.3	21	2.0
850	28	1,429	-11.3	-15.8	29	1.7
800	28	1,894	-11.5	-18.0	29	2.9
750	28	2,384	-13.1	-19.7	29	4.5
700	28	2,911	-15.2	-22.7	29	5.3
650	28	3,465	-17.8	-26.2	30	6.8
600	28	4,063	-20.9	-29.9	30	9.0
550	28	4,695	-24.9	-33.6	29	11.0
500	28	5,388	-29.5	-37.3	29	12.5
450	28	6,128	-34.9	-41.4	29	13.4
400	28	6,945	-40.8	-44.3	29	14.9
350	28	7,840	-47.7		29	15.2
300	28	8,844	-53.8		29	17.8
250	28	10,003	-58.0		29	16.3
200	28	11,409	-56.8		29	14.2
175	28	12,258	-55.3		29	13.5
150	28	13,244	-54.2		29	13.5
125	28	14,412	-54.5		29	13.2
100	28	15,836	-55.8		29	12.8
80	28	17,253	-57.0		29	13.1
70	28	18,098	-57.2		29	11.5
60	28	19,072	-57.7		30	10.6
50	27	20,221	-58.1		29	9.0
40	27	21,624	-58.8		30	8.5
30	27	23,430	-58.5		30	7.9
25	27	24,576	-58.5		31	8.9
20	26	25,978	-57.9		30	10.3
15	26	27,798	-56.2		31	13.0
10	23	30,405	-52.3		30	15.7
7	14	32,803	-46.0		28	18.5
5						

JACKSON, MISS. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	100	5.3	2.5	07	.3
1000	28	145			04	1.3
950	28	567	6.6	.6	26	1.9
900	28	1,011	5.5	-2.7	27	5.5
850	28	1,478	4.7	-6.1	28	7.2
800	28	1,971	3.1	-9.6	29	8.2
750	28	2,489	.7	-12.1	28	10.0
700	28	3,044	-2.0	-14.8	28	12.0
650	28	3,627	-5.0	-19.0	28	14.6
600	28	4,256	-8.5	-23.0	28	17.9
550	26	4,919	-12.8	-29.1	27	20.6
500	26	5,647	-17.6	-32.6	27	23.3
450	28	6,422	-22.9	-37.0	27	27.6
400	28	7,283	-28.9	-41.5	27	31.9
350	28	8,226	-35.4	-46.2	27	36.4
300	28	9,283	-42.8	-47.4	27	42.6
250	28	10,492	-50.7		27	50.3
200	28	11,922	-57.1		27	55.6
175	28	12,763	-59.0		27	52.9
150	28	13,728	-59.9		27	48.2
125	28	14,860	-62.4		27	41.0
100	28	16,226	-65.9		27	32.0
80	28	17,576	-67.3		27	24.0
70	28	18,381	-66.8		27	20.2
60	27	19,315	-65.7		27	15.7
50	27	20,425	-64.3		28	12.7
40	25	21,797	-62.1		28	11.7
30	24	23,585	-59.5		28	10.9
25	24	24,730	-58.0		27	11.7
20	24	26,143	-55.6		27	11.2
15	21	27,986	-52.2		26	12.9
10	15	30,647	-44.0		26	12.0
7	7	33,067	-40.9			
5						

JACKSONVILLE, FLA. 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	5	7.2	4.8	32	1.6
1000	28	148	8.8	3.5	32	2.8
950	28	570	8.1	-.2	31	4.0
900	28	1,018	6.9	-5.5	29	4.8
850	28	1,487	5.6	-8.3	28	7.1
800	28	1,982	4.2	-11.7	28	9.9
750	28	2,501	2.7	-15.2	28	11.8
700	28	3,061	.1	-17.6	28	14.5
650	28	3,645	-3.2	-19.4	29	17.1
600	28	4,281	-6.9	-22.1	28	20.1
550	28	4,946	-11.1	-25.9	28	22.8
500	28	5,680	-16.1	-29.5	28	25.7
450	28	6,457	-21.1	-33.6	28	30.5
400	28	7,327	-27.0	-38.3	28	35.4
350	28	8,277	-33.5	-44.3	29	40.8
300	28	9,342	-41.1	-47.9	28	45.6
250	28	10,558	-49.6		28	51.9
200	27	11,991	-56.0		28	53.0
175	27	12,835	-58.2		28	51.6
150	27	13,804	-59.6		27	45.0
125	26	14,923	-62.8		27	41.5
100	25	16,296	-66.2		28	33.8
80	25	17,641	-66.3		27	23.7
70	25	18,443	-67.7		27	18.6
60	24	19,377	-65.5		28	15.6
50	23	20,495	-63.5		28	12.9
40	23	21,875	-60.2		27	11.3
30	22	23,688	-56.3		28	12.4
25	22	24,850	-54.4		27	10.0
20	22	26,265	-52.0		26	11.9
15	19	28,168	-48.9		26	14.6
10	13	30,872	-42.1		25	19.8
7	7	33,335	-37.4			
5						

JOHN F. KENNEDY INT. AP NY 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	5	-1.5	-6.8	34	4.6
1000	26	124	-2.1	-8.1	34	5.7
950	26	530	-4.1	-8.6	36	7.1
900	26	956	-4.8	-10.2	36	6.4
850	26	1,406	-5.1	-11.6	34	6.1
800	26	1,882	-6.5	-13.7	32	6.5
750	26	2,384	-8.4	-17.0	31	6.9
700	26	2,919	-10.4	-19.9	30	8.0
650	26	3,482	-13.2	-23.3	29	9.0
600	26	4,092	-16.9	-26.9	29	10.3
550	26	4,741	-21.2	-30.4	28	11.5
500	26	5,438	-25.9	-34.6	28	14.0
450	26	6,188	-31.3	-37.9	28	16.2
400	26	7,017	-37.2	-41.7	28	17.9
350	26	7,927	-43.4	-45.5	27	21.8
300	26	8,951	-49.7		27	24.1
250	26	10,128	-55.3		26	24.4
200	26	11,546	-55.8		27	28.3
175	26	12,399	-54.2		28	26.9
150	26	13,389	-53.2		28	24.2
125	26	14,560	-54.2		27	24.1
100	26	15,986	-56.2		27	20.5
80	26	17,399	-57.8		27	18.1
70	26	18,240	-58.2		28	16.4
60	24	19,211	-58.8		28	15.3
50	23	20,365	-58.5		28	11.4
40	23	21,766	-58.6		29	10.1
30	22	23,576	-57.1		27	9.7
25	22	24,731	-56.2		27	10.7
20	19	26,146	-54.1		27	14.9
15	14	27,967	-51.0			
10	5	30,669	-45.8			
7						
5						

JOHNSTON IS., PACIFIC AREA 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	3	24.3	21.5	09	7.3
1000	28	106	23.5	21.0	09	7.7
950	28	552	20.2	18.4	09	8.9
900	28	1,019	17.6	14.9	09	7.6
850	28	1,508	15.1	11.5	10	6.2
800	28	2,020	12.4	7.9	11	4.8
750	28	2,561	9.4	3.6	12	4.0
700	28	3,130	6.4	-1.6	16	3.2
650	28	3,729	3.0	-8.3	18	4.3
600	28	4,379	-.2	-13.0	21	5.0
550	28	5,066	-4.1	-18.6	23	5.9
500	28	5,818	-8.1	-23.8	24	7.4
450	28	6,623	-12.8	-28.4	25	9.7
400	28	7,518	-18.5	-32.3	26	12.6
350	28	8,501	-25.2	-39.2	26	17.2
300	28	9,603	-32.6	-46.5	26	22.6
250	28	10,864	-41.5	-55.7	27	25.9
200	28	12,340	-52.8		26	30.1
175	28	13,190	-59.0		27	30.3
150	28	14,141	-65.9		27	27.7
125	28	15,229	-72.6		28	21.3
100	26	16,521	-79.1		28	14.5
80	25	17,786	-79.4		30	5.9
70	22	18,545	-76.7		33	3.0
60	21	19,445	-70.4		05	2.9
50	21	20,541	-65.1		09	4.3
40	21	21,906	-63.3		09	5.8
30	21	23,688	-58.7		08	2.7
25	19	24,846	-55.1		29	2.0
20	19	26,260	-51.9		29	6.5
15	19	28,160	-48.0		27	10.4
10	16	30,874	-43.4		26	14.9
7	11	33,272	-41.2			
5	5	35,574	-38.5			

KEY WEST, FLA. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	25	3	18.6	15.0	03	2.1
1000	25	127	18.1	14.5	03	3.0
950	25	564	15.3	10.9	04	2.1
900	25	1,022	13.2	6.4	25	1.7
850	25	1,502	11.7	-.1	27	4.4
800	25	2,009	10.9	-5.9	27	6.4
750	25	2,543	8.6	-8.9	28	9.1
700	25	3,114	6.1	-13.1	28	11.9
650	25	3,711	2.7	-14.6	28	14.0
600	25	4,360	-1.4	-17.4	28	16.7
550	25	5,042	-5.6	-21.6	28	19.8
500	25	5,790	-10.3	-27.3	28	22.4
450	25	6,587	-15.9	-29.9	27	25.4
400	25	7,473	-21.7	-35.5	27	30.2
350	25	8,443	-28.8	-41.1	27	33.3
300	25	9,528	-36.9	-49.2	27	34.4
250	25	10,762	-46.7		27	37.2
200	25	12,210	-56.2		27	39.2
175	25	13,049	-60.2		27	38.8
150	25	14,000	-64.8		27	35.8
125	25	15,100	-68.9		27	33.2
100	25	16,422	-72.7		27	27.8
80	25	17,725	-73.8		27	17.7
70	25	18,506	-71.9		27	13.8
60	25	19,420	-69.0		27	10.0
50	25	20,522	-64.5		27	9.1
40	25	21,902	-60.1		27	8.7
30	24	23,710	-57.6		28	7.3
25	22	24,865	-55.5		27	8.0
20	22	26,297	-52.4		24	9.1
15	20	28,162	-49.4		25	11.2
10	14	30,845	-46.5		24	15.5
7	9	33,253	-41.4			
5						

KING SALMON, ALASKA 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	15	-10.8	-15.3	08	2.4
1000	28	-27				
950	28	373	-9.1	-13.7	10	4.1
900	28	789	-9.0	-12.8	12	4.6
850	26	1,231	-9.6	-13.9	15	5.0
800	28	1,696	-11.6	-16.6	16	5.2
750	28	2,191	-14.2	-20.5	17	6.2
700	28	2,711	-17.6	-24.7	19	6.2
650	28	3,260	-20.9	-28.2	19	6.9
600	26	3,850	-24.7	-32.2	19	7.4
550	28	4,471	-28.9	-36.3	20	7.1
500	28	5,154	-33.2	-39.7	21	6.8
450	28	5,884	-38.1	-41.6	22	7.5
400	28	6,691	-43.4	-44.9	23	8.7
350	28	7,580	-48.0		24	10.1
300	28	8,590	-51.0		24	10.8
250	28	9,771	-51.9		24	10.0
200	28	11,223	-49.7		24	8.7
175	28	12,098	-48.9		25	8.1
150	27	13,109	-48.7		25	8.1
125	27	14,306	-49.2		25	7.5
100	27	15,767	-50.1		25	6.7
80	26	17,225	-50.5		27	7.1
70	26	18,096	-50.7		27	6.4
60	25	19,101	-51.3		27	5.8
50	25	20,283	-51.9		28	6.5
40	25	21,728	-52.4		29	6.1
30	25	23,590	-52.7		30	5.7
25	25	24,767	-52.7		31	4.7
20	25	26,209	-52.5		32	4.4
15	20	28,048	-51.7		32	5.5
10	6	30,675	-51.3			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

KOROR, CAROLINE IS. (10[illegible] MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	2[illegible]	30	27.1	23.3	05	3.4
1000	28	[illegible]	26.1	21.9	05	4.3
950	29	554	22.4	18.1	06	8.5
900	28	1,024	19.4	14.0	06	9.8
850	28	1,515	16.7	10.2	06	8.5
800	28	2,030	14.8	4.3	07	6.6
750	28	2,571	12.8	-1.1	07	5.6
700	28	3,151	10.3	-7.1	07	5.5
650	28	3,762	7.7	-12.5	07	5.8
600	27	4,421	3.7	-15.4	08	6.2
550	27	5,119	-.4	-19.0	09	6.8
500	27	5,878	-4.9	-23.6	10	9.9
450	27	6,697	-9.2	-27.9	09	11.3
400	27	7,603	-14.7	-33.2	09	11.4
350	27	8,600	-21.9	-39.1	09	10.1
300	27	9,716	-30.2	-46.3	09	7.6
250	27	10,985	-40.7	-54.8	11	7.8
200	27	12,464	-52.9		12	10.5
175	27	13,311	-59.7		12	12.4
150	27	14,289	-66.8		11	13.3
125	26	15,340	-74.4		10	11.3
100	26	16,614	-80.8		10	9.9
80	26	17,864	-81.8		09	7.4
70	26	18,619	-77.6		09	6.5
60	25	19,516	-71.9		09	8.8
50	25	20,604	-66.5		09	18.0
40	25	21,975	-60.4		09	21.2
30	25	23,809	-52.3		07	1.7
25	25	24,995	-50.0		27	6.7
20	24	26,463	-47.8		27	13.2
15	24	28,370	-45.9		27	18.7
10	24	31,067	-42.1		26	16.8
7	20	33,519	-38.1		26	10.6
5	9	35,821	-36.9			

KOTZEBUE, ALASKA (100[illegible] MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	5	-17.5	-22.6	08	3.6
1000	28	55			06	3.3
950	28	446	-15.0	-19.6	09	[illegible]
900	28	852	-14.5	-18.6	1[illegible]	5.1
850	28	1,284	-15.2	-20.6	1[illegible]	[illegible]
800	28	1,741	-16.8	-23.1	1[illegible]	3.4
750	28	2,224	-19.4	-25.4	1[illegible]	3.1
700	28	2,733	-22.3	-29.0	14	4.3
650	28	3,274	-25.7	-33.1	15	4.7
600	28	3,850	-29.4	-36.6	16	5.8
550	28	4,463	-33.5	-41.0	16	6.0
500	28	5,130	-37.8	-44.2	17	7.7
450	28	5,851	-42.5	-46.9	18	9.5
400	28	6,638	-47.1		18	10.7
350	28	7,514	-51.1		19	10.8
300	28	8,510	-53.7		19	8.6
250	28	9,683	-52.7		21	8.5
200	28	11,130	-51.0		22	6.1
175	28	12,001	-50.0		21	6.1
150	28	13,010	-49.5		22	7.1
125	27	14,202	-50.3		24	6.7
100	27	15,657	-50.9		24	8.4
80	27	17,108	-51.2		26	10.4
70	27	17,976	-51.4		26	10.6
60	27	18,976	-51.8		27	10.9
50	27	20,158	-52.2		27	11.5
40	27	21,599	-53.3		28	13.3
30	26	23,442	-54.2		28	13.5
25	21	24,600	-54.2		29	14.8
20	15	26,058	-54.0		29	18.0
15	5	27,871	-52.9			

KWAJALEIN, MARSHALL IS. (1009 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	4	26.4	[illegible]	06	[illegible]
1000	28	[illegible]5	25.7	[illegible]	06	7.4
950	28	536	22.1	[illegible]	06	[illegible]
900	28	1,005	19.3	[illegible]	07	7.9
850	28	1,495	16.9	12.[illegible]	08	5.8
800	28	2,012	15.0	[illegible]	08	3.5
750	28	2,557	13.3	-.9	06	1.6
700	28	3,135	10.9	-5.0	05	.7
650	28	3,750	7.5	-8.4	07	.7
600	28	4,405	4.1	-14.5	05	1.8
550	28	5,108	.2	-19.2	04	3.2
500	28	5,866	-3.7	-23.1	05	5.7
450	28	6,690	-8.7	-28.4	05	6.5
400	28	7,593	-14.5	-32.4	04	6.8
350	27	8,584	-21.4	-37.3	03	3.1
300	27	9,707	-29.7	-44.6	24	1.0
250	27	10,980	-39.9	-51.1	23	4.7
200	27	12,464	-52.2	-61.7	21	6.6
175	27	13,314	-59.4	-68.4	20	7.6
150	27	14,261	-67.3		19	8.2
125	27	15,337	-75.9		16	5.5
100	27	16,603	-84.2		08	4.7
80	17	17,837	-85.2		08	3.2
70	16	18,584	-78.8		09	8.2
60	16	19,473	-73.7		09	9.2
50	16	20,552	-68.5		09	16.6
40	16	21,905	-62.6		09	20.6
30	16	23,715	-54.9		07	1.9
25	15	24,894	-51.[illegible]		29	6.2
20	12	26,369	-49.4		27	9.7
15	12	28,671	-45.2		26	10.6
10	10	31,004	-41.7		26	12.0
7	9	33,423	-41.2			
5	7	35,710	-40.4			

LAKE CHARLES, LA. (101[illegible] MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	5	9.3	7.[illegible]	04	[illegible]
1000	28	42	10.1	5.[illegible]	04	[illegible]
950	28	570	9.0	2.5	31	.4
900	28	1,016	8.0	-[illegible]	27	3.2
850	28	1,487	7.4	-6.4	28	4.9
800	28	1,985	5.6	-8.7	27	7.5
750	28	2,510	3.4	-11.9	28	9.5
700	28	3,068	.5	-15.0	28	11.0
650	28	3,659	-2.8	-19.[illegible]	27	13.3
600	28	4,289	-6.4	-23.4	27	16.2
550	28	4,959	-11.0	-27.1	27	17.7
500	28	5,690	-15.8	-31.5	27	20.8
450	28	6,474	-21.0	-34.8	27	25.4
400	28	7,338	-26.6	-39.6	27	3[illegible]
350	28	8,289	-33.4	-44.5	27	36.7
300	28	9,356	-40.2	-48.8	27	45.1
250	28	10,576	-48.8		27	51.1
200	28	12,014	-57.1		27	55.9
175	28	12,852	-60.4		27	51.2
150	28	13,809	-61.7		27	4[illegible]
125	28	14,930	-64.8		26	36.0
100	29	16,280	-68.2		27	31.5
80	28	17,617	-68.8		27	22.5
70	27	18,414	-68.8		27	15.8
60	26	19,339	-67.0		27	13.8
50	25	20,444	-65.2		28	11.0
40	24	21,813	-62.5		27	11.9
30	23	23,602	-59.4		28	14.3
25	22	24,745	-58.2		28	12.2
20	20	26,165	-56.1		27	12.8
15	17	28,005	-52.8		26	12.4
10	13	30,665	-45.3			
7	11	33,082	-38.0			

LANDER, WYO. ([illegible] MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	1,[illegible]	-[illegible]	[illegible]	2[illegible]	[illegible]
1000	[illegible]	[illegible]				
950	[illegible]	[illegible]				
900	[illegible]	[illegible]				
850	28	1,440				
800	[illegible]	1,918	-3.0	-12.3	2[illegible]	[illegible]
750	[illegible]	2,42[illegible]	-5.[illegible]	-14.[illegible]	2[illegible]	[illegible]
700	[illegible]	2,967	-[illegible]	-1[illegible]	2[illegible]	[illegible]
650	28	3,536	-1[illegible]	-20.9	2[illegible]	9.0
600	28	4,1[illegible]	-1[illegible]	-24.7	27	11.3
550	28	4,794	-20.1	-29.2	27	12.3
500	28	5,[illegible]	-25.4	-3[illegible]	2[illegible]	12.3
450	28	6,252	-31.4	-38.7	2[illegible]	[illegible]
400	28	7,081	-38.0	-43.3	26	15.1
350	28	7,986	-45.3		27	17.9
300	28	8,997	-52.9		27	20.2
250	28	10,155	-59.0		27	2[illegible]
200	28	11,552	-59.0		27	21.0
175	28	12,392	-57.2		27	20.8
150	28	13,3[illegible]	-56.1		27	2[illegible]
125	27	14,531	-56.3		27	19.0
100	27	15,941	-58.1		27	[illegible]
80	27	17,342	-59.1		27	[illegible]
70	27	18,179	-59.1		27	[illegible]
60	27	19,145	-59.4		28	[illegible]
50	27	20,287	-59.3		28	8.[illegible]
40	27	21,581	-60.3		28	[illegible]
30	26	23,483	-59.3		31	5.[illegible]
25	25	24,628	-58.5		30	5.[illegible]
20	21	26,026	-57.2		31	5.4
15	18	27,856	-54.3		32	5.[illegible]

• LIHUE KAUAI, HAWAII (1014 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	29	36	20.5	17.7	06	5.3
1000	28	153	21.1	16.6	07	6.8
950	28	591	17.9	15.2	07	8.7
900	28	1,057	14.5	12.7	07	8.5
850	28	1,539	11.9	9.3	08	7.5
800	28	2,045	9.6	2.4	08	5.8
750	28	2,581	7.6	-2.8	08	3.6
700	28	3,147	5.4	-9.0	14	.1
650	28	3,747	2.3	-10.8	26	2.7
600	28	4,391	-1.7	-11.8	26	4.5
550	28	5,071	-5.8	-17.1	27	6.3
500	28	5,820	-10.3	-22.3	27	8.8
450	28	6,619	-15.5	-26.4	28	11.9
400	28	7,504	-21.6	-35.6	27	14.5
350	28	8,474	-28.7	-40.8	27	18.5
300	28	9,561	-36.4	-47.3	27	23.1
250	28	10,804	-44.2		27	30.6
200	27	12,266	-53.5		28	37.1
175	27	13,115	-58.8		28	38.5
150	27	14,070	-64.1		28	34.0
125	26	15,172	-69.9		28	26.9
100	25	16,482	-73.9		29	20.2
80	23	17,774	-76.2		29	10.6
70	22	18,550	-74.1		29	6.4
60	22	19,458	-69.9		29	5.0
50	22	20,555	-65.6		30	4.0
40	22	21,921	-62.5		28	5.1
30	20	23,705	-59.7		28	5.3
25	19	24,848	-57.7		27	5.4
20	17	26,265	-55.4		27	7.4
15	17	28,[illegible]17	-51.3		27	12.6
10	15	30,785	-46.8		26	18.5
7	13	33,186	-41.1		26	19.2
5	9	35,529	-35.4			

LITTLE ROCK, ARK. (1009 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	79	2.7	.0	01	1.6
1000	28	150	3.2	-2.0	01	2.4
950	28	564	3.2	-3.8	36	1.7
900	28	1,004	2.4	-6.4	30	3.3
850	28	1,466	2.1	-9.2	30	6.1
800	28	1,954	.7	-12.0	29	8.1
750	28	2,468	-1.4	-14.8	29	10.2
700	28	3,018	-4.1	-17.3	28	12.0
650	28	3,592	-7.2	-20.8	28	13.7
600	28	4,219	-10.9	-26.2	28	16.2
550	28	4,875	-15.3	-30.5	28	18.2
500	28	5,597	-20.2	-34.6	28	21.4
450	28	6,363	-25.2	-39.2	28	24.9
400	28	7,217	-31.3	-45.2	28	28.9
350	28	8,149	-38.2	-49.5	27	33.6
300	28	9,194	-45.4		27	38.4
250	28	10,391	-52.4		27	44.3
200	27	11,815	-57.2		27	49.9
175	27	12,659	-57.5		27	48.1
150	27	13,631	-58.3		27	45.4
125	27	14,773	-60.4		27	39.2
100	27	16,154	-63.2		28	32.2
80	24	17,529	-64.5		27	25.8
70	22	18,347	-64.0		27	20.5
60	22	19,292	-63.8		27	17.2
50	21	20,409	-63.1		27	15.6
40	21	21,787	-61.4		28	11.4
30	16	23,571	-59.9		29	10.9
25	15	24,712	-58.1		28	10.3
20	13	26,115	-56.2		28	11.7
15	13	27,956	-53.1		28	13.7
10	9	30,623	-45.1			

MCGRATH, ALASKA (991 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	103	-21.1	-23.0	34	.4
1000	28	35				
950	28	425	-15.7	-19.0	07	4.1
900	29	830	-13.2	-17.6	09	5.3
850	28	1,266	-12.1	-17.9	11	3.9
800	28	1,730	-13.1	-18.4	13	4.0
750	28	2,216	-16.0	-21.0	14	4.0
700	28	2,735	-19.1	-24.7	15	4.2
650	28	3,277	-22.5	-28.8	17	6.2
600	28	3,866	-26.2	-32.8	19	7.0
550	28	4,483	-30.2	-35.5	19	8.8
500	28	5,162	-34.8	-40.6	19	10.6
450	28	5,885	-39.7	-41.7	20	11.5
400	28	6,685	-45.2		20	12.4
350	28	7,567	-50.0		21	11.9
300	28	8,565	-53.4		22	10.5
250	28	9,737	-53.2		23	10.1
200	27	11,189	-50.7		25	7.3
175	27	12,061	-49.7		25	5.7
150	27	13,070	-49.4		25	6.3
125	27	14,263	-49.8		25	5.7
100	27	15,720	-50.7		26	6.9
80	27	17,172	-51.1		26	6.9
70	27	18,040	-51.0		26	7.7
60	27	19,042	-51.5		27	8.0
50	27	20,224	-52.1		28	8.5
40	26	21,662	-53.1		29	8.2
30	24	23,524	-53.4		29	9.2
25	22	24,709	-52.8		29	9.9
20	18	26,177	-52.2		29	10.5
15	13	28,084	-52.0		30	12.2

• MAJURO, MARSHALL IS. (1009 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	3	28.2	24.2	05	4.5
1000	28	85	26.9	21.3	06	5.0
950	28	528	22.6	17.6	08	7.8
900	28	1,007	19.6	13.9	06	7.4
850	28	1,499	17.7	9.2	07	5.2
800	28	2,016	15.7	4.6	07	1.3
750	28	2,561	13.4	-.6	12	1.1
700	28	3,161	10.8	-3.9	13	.9
650	28	3,750	7.6	-7.9	18	.5
600	28	4,411	4.0	-12.[illegible]	10	.5
550	28	5,107	.2	-17.[illegible]	07	1.5
500	28	5,873	-3.8	-21.1	06	1.7
450	28	6,695	-8.3	-25.4	06	4.2
400	28	7,605	-14.1	-31.2	04	4.5
350	28	8,606	-20.5	-37.3	03	1.6
300	28	9,729	-28.8	-44.0	22	1.4
250	26	11,008	-38.7	-52.5	21	5.4
200	28	12,501	-51.[illegible]		21	8.2
175	28	13,356	-58.3		20	7.3
150	28	14,308	-65.9		20	7.3
125	28	15,393	-74.1		17	5.6
100	28	16,667	-82.2		06	4.0
80	28	17,911	-81.2		06	5.3
70	27	18,669	-77.0		08	6.5
60	26	19,566	-71.5		09	9.8
50	26	20,655	-66.5		09	18.0
40	26	22,029	-58.7		09	18.9
30	25	23,873	-51.3		19	2.1
25	25	25,064	-49.1		26	7.3
20	23	26,531	-47.3		27	12.2
15	21	28,458	-43.6		27	16.[illegible]
10	18	31,182	-40.0		27	13.8
7	12	33,625	-35.5			

• MEDFORD, OREG. (963 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	[illegible]	3.0	-.7	18	.8
1000	28	93				
950	28	511	3.3	-1.[illegible]	17	1.1
900	28	949	1.9	-3.7	16	3.0
850	28	1,408	-1.3	-6.1	19	4.0
800	28	1,889	-4.4	-9.4	21	6.6
750	28	2,397	-7.1	-12.5	22	9.3
700	28	2,931	-9.9	-16.0	23	11.4
650	28	3,499	-12.9	-21.4	23	12.6
600	28	4,106	-16.6	-24.8	23	13.8
550	28	4,753	-21.0	-29.[illegible]	24	14.2
500	28	5,452	-26.1	-33.8	24	13.2
450	28	6,203	-31.7	-39.5	24	14.1
400	28	7,029	-38.2	-44.7	24	15.6
350	28	7,934	-45.1		24	17.9
300	28	8,948	-51.7		25	20.4
250	28	10,116	-56.7		26	19.6
200	28	11,527	-56.2		26	19.3
175	28	12,378	-55.1		26	17.8
150	28	13,363	-55.1		26	16.0
125	28	14,527	-55.3		26	16.4
100	28	15,948	-56.6		27	13.7
80	28	17,362	-57.4		26	9.9
70	28	18,205	-57.9		26	9.1
60	28	19,177	-57.6		27	7.9
50	28	20,328	-57.7		27	5.4
40	28	21,738	-57.6		27	4.2
30	27	23,556	-57.8		28	2.4
25	26	24,711	-57.2		30	2.9
20	24	26,121	-56.4		30	3.0
15	21	27,948	-54.8		31	3.8
10	17	30,578	-49.1		31	4.7
7	13	32,959	-45.0		29	7.1

MERIDA, MEXICO (1014 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	29	11	18.6	17.2	09	2.9
1000	29	1[illegible]	20.2	17.6	09	4.8
950	29	[illegible]76	19.0	15.3	12	4.[illegible]
900	28	1,039	17.3	10.0	14	3.7
850	28	1,526	15.4	6.1	2[illegible]	1.5
800	28	2,039	13.0	2.2	25	2.7
750	28	2,579	10.6	-2.4	26	3.3
700	28	3,152	8.1	-9.4	27	4.1
650	29	3,757	4.6	-12.2	28	6.2
600	29	4,4[illegible]8	.9	-16.9	28	8.4
550	28	5,098	-2.9	-19.5	28	11.1
500	28	5,853	-7.7	-24.6	27	14.3
450	28	6,681	-13.0	-29.9	27	18.3
400	28	7,555	-19.5	-34.8	27	19.3
350	28	8,533	-26.7	-40.3	27	2[illegible]
300	28	9,628	-35.1	-47.8	27	21.0
250	28	10,873	-44.8		29	27.3
200	29	12,33[illegible]	-55.3		28	27.4
175	27	13,172	-60.2		26	21.9
150	25	14,121	-65.2		26	21.3
125	23	15,220	-69.5		26	1[illegible]
100	23	16,536	-74.3		26	14.[illegible]
80	23	17,[illegible]	-76.0		25	8.5
70	22	18,691	-74.4			
60	22	19,510	-69.3			
50	20	20,615	-63.8			
40	20	[illegible]	-60.2		29	3.9
30	20	[illegible]	[illegible]		34	[illegible]
25	19	[illegible]	-54.1		33	[illegible]
20	18	[illegible]	[illegible]		31	[illegible]
15	17	[illegible]	-46.6		27	[illegible]
10	[illegible]	[illegible]	-43.4			
7						

MIAMI, FLA. (1016 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	4	14.6	11.1	34	2.0
1000	28	135	15.9	10.6	35	2.7
950	28	574	14.0	9.0	34	1.8
900	28	1,026	11.5	6.2	27	2.2
850	28	1,503	10.2	-[illegible].7	28	4.7
800	28	2,008	9.8	-6.7	28	7.4
750	28	2,539	7.2	-8.9	28	9.7
700	28	3,106	4.1	-10.7	28	12.7
650	28	3,702	1.1	-15.2	28	15.3
600	28	4,346	-2.6	-18.2	28	18.7
550	28	5,024	-7.0	-20.4	28	20.8
500	28	5,768	-11.6	-25.6	28	24.3
450	28	6,562	-16.6	-29.0	28	28.0
400	28	7,445	-22.5	-33.7	28	30.5
350	28	8,412	-29.4	-39.6	28	35.1
300	28	9,495	-37.4	-47.9	28	38.1
250	28	10,731	-46.4		28	42.0
200	28	12,182	-55.4		28	43.2
175	28	13,026	-59.6		28	39.7
150	28	13,983	-62.9		27	40.3
125	28	15,096	-66.6		27	35.5
100	28	16,432	-70.6		27	29.4
80	28	17,746	-72.4		27	21.4
70	28	18,533	-71.0		27	16.4
60	28	19,453	-6[illegible]		27	11.4
50	27	20,555	-64.2		28	11.0
40	27	21,939	-59.3		28	10.6
30	26	23,753	-56.7		29	7.4
25	25	24,914	-54.1		27	4.9
20	24	26,356	-51.4		26	4.3
15	23	28,240	-48.2		25	1[illegible]
10	21	30,942	-43.3		28	18.2
7	11	33,325	-38.5			

MIDLAND, TEXAS (915 MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	874	3.6	-[illegible].7	15	.9
1000	28	144				
950	28	564				
900	28	1,007	6.5	-2.0	17	2.2
850	28	1,478	7.2	-5.3	24	4.2
800	28	1,975	5.6	-8.[illegible]	26	6.8
750	28	2,500	2.9	-11.8	27	7.6
700	28	3,056	-.7	-15.3	27	10.2
650	28	3,642	-4.4	-19.0	27	12.0
600	28	4,271	-8.2	-23.2	26	14.9
550	28	4,936	-12.4	-28.4	26	18.9
500	28	5,663	-17.3	-32.5	26	21.2
450	28	6,436	-23.1	-36.6	27	23.7
400	28	7,295	-29.7	-4[illegible]	26	27.0
350	28	8,234	-36.4	-46.[illegible]	26	30.9
300	28	9,288	-43.2	-5[illegible]	26	37.4
250	28	10,496	-50.5		26	44.3
200	28	11,929	-56.9		26	45.1
175	28	12,770	-59.3		26	40.3
150	28	13,732	-61.1		26	37.9
125	28	14,857	-63.6		27	33.6
100	28	16,220	-65.8		27	23.9
80	28	17,570	-66.8		27	19.1
70	28	18,379	-65.7		27	16.5
60	28	19,317	-65.4		28	11.[illegible]
50	28	20,427	-64.0		28	9.7
40	24	21,8[illegible]	-62.0		28	9.0
30	24	23,591	-60.0		28	9.2
25	2[illegible]	24,735	-58.4		29	8.5
20	2[illegible]	26,153	-55.9		28	[illegible]
15	18	28,002	-52.3		27	[illegible]
10	17	30,665	-44.7			

MONTERREY, MEXICO (9[illegible] MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	29	423	12.4	7.6	33	1.1
1000	28	149				
950	28	585	13.1	7.[illegible]	35	.6
900	28	1,035	11.6	5.2	1[illegible]	1.[illegible]
850	29	1,513	11.6	[illegible]	19	2.4
800	28	2,020	10.5	-5.6	22	4.5
750	28	2,556	8.4	-8.[illegible]	2[illegible]	6.7
700	28	3,123	4.9	-1[illegible]	2[illegible]	9.[illegible]
650	28	3,720	.5	-14.0	26	12.2
600	29	4,360	-3.6	-17.6	25	14.8
550	28	5,039	-7.9	-20.5	25	17.9
500	28	5,779	-12.1	-24.5	25	2[illegible]
450	28	6,573	-17.1	-27.2	25	25.7
400	28	7,454	-22.9	-32.2	26	29.[illegible]
350	28	8,418	-29.6	-37.2	26	3[illegible]
300	28	9,498	-37.9	-45.8	26	39.4
250	28	10,728	-4[illegible]		27	41.[illegible]
200	28	12,170	-5[illegible]		27	4[illegible]
175	28	13,004	-62.0		27	43.4
150	28	13,949	-65.1		27	37.8
125	28	15,052	-68.4		27	33.1
100	27	16,378	-71.6		27	28.8
80	25	17,692	-72.4		27	2[illegible]
70	25	18,478	-70.8		27	18.3
60	23	19,401	-6[illegible]		27	1[illegible]
50	23	20,509	-6[illegible]		27	7.2
40	21	21,885	-6[illegible]		27	9.2
30	2[illegible]	[illegible]	[illegible]		27	9.3
25	[illegible]	24,[illegible]	[illegible]		27	4.7
20	18	26,236	-54.6		27	11.[illegible]
15	16	28,195	-50.2			
10	12	[illegible]	-4[illegible]			

MONTGOMERY, ALA. (101[illegible] MB)

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant wind Direction	Speed
SURFACE	28	61	5.0	2.[illegible]	35	.7
1000	28	149	5.9	1.5	35	1.8
950	28	569	5.5	-1.[illegible]	33	2.6
900	28	1,011	4.[illegible]	-3.3	29	4.1
850	28	1,477	3.8	-6.4	29	6.6
800	28	1,97[illegible]	3.0	-9.9	28	8.5
750	28	2,490	[illegible]	-12.[illegible]	28	11.2
700	28	3,043	[illegible]	-15.[illegible]	28	13.4
650	28	3,629	-5.[illegible]	-17.[illegible]	28	15.6
600	28	4,253	-8.[illegible]	-20.9	28	18.5
550	28	[illegible]	-12.[illegible]	-25.[illegible]	28	22.2
500	28	5,643	-1[illegible]	-29.[illegible]	28	2[illegible]
450	28	6,423	-23.[illegible]	-34.4	27	27.8
400	28	7,278	-28.8	-39.2	27	31.3
350	28	8,220	-35.6	-44.5	27	35.4
300	28	9,276	-43.0	-45.7	27	41.5
250	28	10,484	-5[illegible]		27	4[illegible]
200	28	11,913	-56.8		27	51.3
175	27	12,756	-5[illegible]		27	51.3
150	27	13,722	-59.4		27	4[illegible]
125	27	14,856	-62.2		27	4[illegible]
100	26	16,228	-6[illegible]		27	3[illegible]
80	25	17,583	-6[illegible]		27	2[illegible]
70	25	18,392	-6[illegible]		27	20.7
60	25	19,329	-6[illegible]		28	[illegible]
50	2[illegible]	20,441	-6[illegible]		28	[illegible]
40	2[illegible]	21,820	-6[illegible]		28	[illegible]
30	2[illegible]	23,627	-5[illegible]		28	11.7
25	2[illegible]	24,784	-5[illegible]		27	[illegible]
20	2[illegible]	26,211	-53.9		26	[illegible]
15	2[illegible]	28,077	-50.[illegible]		26	[illegible]
10	2[illegible]	30,762	-4[illegible]		26	15.1
7	[illegible]	[illegible]	-3[illegible]			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

* NANTUCKET, MASS. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	14	-.5	-3.4	36	4.9
1000	26	99	-1.1	-4.5	02	5.1
950	26	505	-3.5	-6.4	01	6.2
900	26	934	-4.3	-9.7	01	4.0
850	26	1,384	-4.7	-12.6	33	3.3
800	26	1,861	-5.5	-15.2	31	4.0
750	26	2,366	-7.6	-17.7	30	4.6
700	26	2,900	-10.3	-21.3	29	5.8
650	26	3,465	-13.4	-24.0	29	6.7
600	26	4,073	-17.0	-27.7	28	8.7
550	26	4,714	-21.2	-31.0	28	10.5
500	26	5,417	-26.2	-35.2	28	12.0
450	26	6,164	-31.6	-38.6	28	13.5
400	26	6,994	-37.1	-44.4	27	17.0
350	26	7,905	-43.2		27	18.9
300	26	8,929	-49.4		27	22.8
250	26	10,107	-55.4		27	25.4
200	26	11,520	-56.2		27	23.8
175	26	12,372	-54.2		27	22.1
150	26	13,362	-53.7		27	22.3
125	25	14,527	-54.9		27	21.3
100	25	15,948	-56.1		27	19.0
80	25	17,361	-57.8		27	17.6
70	25	18,202	-58.5		27	15.3
60	25	19,169	-58.8		27	14.1
50	25	20,313	-59.1		27	12.8
40	25	21,713	-58.6		27	10.9
30	24	23,519	-58.3		27	11.5
25	23	24,667	-56.6		27	12.7
20	21	26,082	-54.9		26	14.2
15	18	27,932	-52.6		26	16.4
10	16	30,571	-48.4		26	23.0
7	10	32,965	-39.7			

NASHVILLE, TENN. 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	180	1.9	-1.5	35	1.5
1000	28	155				
950	28	568	1.1	-3.7	02	1.3
900	28	1,002	-.2	-5.9	31	2.3
850	28	1,459	-1.7	-8.1	29	4.5
800	28	1,941	-2.3	-10.4	30	6.9
750	28	2,452	-3.8	-13.0	29	9.4
700	28	2,996	-6.2	-16.6	29	12.3
650	28	3,572	-9.2	-19.9	29	14.8
600	28	4,189	-12.7	-22.6	28	16.9
550	28	4,846	-16.6	-26.9	28	17.9
500	28	5,558	-21.3	-31.8	28	20.0
450	28	6,320	-27.0	-37.1	28	23.1
400	28	7,166	-33.1	-42.7	28	25.3
350	28	8,091	-39.9	-45.1	27	29.9
300	28	9,128	-47.0		27	35.7
250	28	10,316	-54.1		27	40.7
200	28	11,733	-57.6		27	45.3
175	28	12,578	-56.8		27	42.8
150	28	13,555	-56.9		28	38.2
125	28	14,707	-58.2		28	34.6
100	28	16,102	-61.4		29	27.6
80	28	17,481	-62.4		28	22.4
70	28	18,304	-62.6		28	18.5
60	28	19,254	-62.3		28	15.3
50	28	20,381	-61.9		29	12.3
40	26	21,771	-60.1		29	11.6
30	26	23,570	-58.8		28	9.0
25	25	24,721	-56.8		28	10.0
20	25	26,141	-54.6		28	9.5
15	19	27,989	-51.5		27	10.4
10	18	30,662	-44.3		26	14.6
7	10	33,055	-39.3			

* NOME, ALASKA 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	5	-13.9	-17.2	07	3.1
1000	28	24			04	2.7
950	28	419	-13.3	-17.4	09	5.9
900	28	827	-14.0	-17.9	10	5.4
850	28	1,261	-14.3	-19.5	10	4.8
800	28	1,720	-15.9	-22.1	10	4.3
750	28	2,203	-18.4	-25.2	10	3.7
700	28	2,717	-21.6	-28.5	12	3.4
650	28	3,259	-25.0	-33.2	17	3.3
600	28	3,838	-28.6	-37.1	13	3.5
550	28	4,453	-32.6	-41.0	15	2.9
500	28	5,124	-36.5	-43.9	16	3.0
450	28	5,845	-40.7	-44.7	18	3.0
400	28	6,643	-45.7		21	3.7
350	28	7,525	-49.6		22	5.2
300	28	8,528	-51.8		23	3.9
250	28	9,708	-51.6		23	4.4
200	27	11,161	-49.8		24	4.6
175	27	12,036	-49.4		25	5.2
150	27	13,047	-48.9		25	5.4
125	27	14,244	-48.9		25	5.6
100	27	15,707	-49.8		26	6.2
80	27	17,165	-50.3		27	7.5
70	27	18,037	-50.0		27	7.4
60	27	19,043	-50.5		27	7.6
50	27	20,231	-50.9		27	8.8
40	27	21,682	-51.5		28	8.8
30	27	23,543	-52.6		28	10.2
25	27	24,720	-52.8		29	10.2
20	27	26,158	-53.2		29	11.7
15	24	28,011	-52.4		29	12.5
10	20	30,633	-51.3		30	11.8
7	7	33,130	-46.7			

NORTH PLATTE, NEBR. 916 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	847	-6.1	-8.0	13	.9
1000	28	156				
950	28	563				
900	28	986	-4.2	-7.7	24	.5
850	28	1,439	-2.5	-8.1	25	3.1
800	28	1,919	-3.1	-11.9	27	4.6
750	28	2,430	-4.6	-14.5	29	5.7
700	28	2,970	-7.5	-17.6	28	8.0
650	28	3,542	-11.2	-20.7	28	9.4
600	28	4,153	-15.0	-25.0	28	10.6
550	28	4,804	-19.6	-29.4	28	12.0
500	28	5,507	-24.5	-34.5	27	13.0
450	28	6,260	-30.1	-39.3	28	15.0
400	28	7,095	-36.5	-45.2	28	16.6
350	28	8,007	-43.7		28	18.2
300	28	9,026	-51.3		27	20.8
250	28	10,193	-57.7		27	24.0
200	28	11,592	-59.1		27	25.3
175	28	12,433	-57.0		27	26.9
150	28	13,413	-55.7		27	26.8
125	28	14,570	-57.1		27	23.7
100	28	15,979	-58.2		27	21.1
80	28	17,378	-59.8		28	16.7
70	28	18,212	-60.1		28	14.2
60	28	19,173	-60.4		28	11.9
50	28	20,309	-60.4		28	10.7
40	26	21,699	-60.0		29	9.0
30	24	23,499	-59.2		29	6.6
25	24	24,644	-58.1		31	6.3
20	22	26,060	-56.8		31	5.7
15	19	27,900	-53.4		32	5.5
10	8	30,535	-48.6			

OAKLAND, CALIF. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	6	7.8	6.2	17	1.4
1000	28	109	8.1	5.1	17	1.6
950	28	526	5.8	2.7	22	3.4
900	28	972	3.2	-.5	22	5.5
850	28	1,434	.5	-5.1	23	7.1
800	28	1,919	-1.7	-8.7	23	7.7
750	28	2,426	-4.0	-13.0	24	8.3
700	28	2,973	-6.9	-17.1	24	8.7
650	28	3,542	-10.3	-21.4	25	9.3
600	28	4,159	-14.4	-25.7	25	10.9
550	28	4,807	-18.8	-29.9	25	12.4
500	28	5,517	-23.9	-34.2	25	15.1
450	28	6,275	-29.6	-39.6	25	16.1
400	28	7,109	-35.7	-46.0	25	18.5
350	28	8,024	-42.7	-45.8	26	21.1
300	28	9,049	-49.8		26	24.4
250	28	10,224	-56.0		27	25.9
200	28	11,638	-57.4		27	27.0
175	28	12,484	-55.9		27	24.0
150	28	13,466	-56.0		26	24.0
125	28	14,622	-57.4		27	22.8
100	28	16,026	-59.3		27	19.5
80	26	17,418	-60.4		26	16.3
70	26	18,241	-59.7		26	13.2
60	26	19,204	-59.7		26	10.2
50	26	20,344	-59.6		26	9.3
40	25	21,749	-58.8		26	6.6
30	24	23,557	-58.3		27	5.5
25	20	24,706	-58.1		28	5.0
20	20	26,115	-56.8		29	4.1
15	17	27,952	-53.5		27	5.2
10	10	30,564	-48.4			

OMAHA, NEBR. 970 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	403	-5.3	-7.8	09	1.2
1000	28	160				
950	28	562	-4.0	-7.1	13	.9
900	28	991	-3.4	-8.2	23	1.8
850	28	1,444	-3.0	-10.9	26	2.9
800	28	1,924	-4.2	-14.1	27	4.8
750	28	2,428	-6.3	-16.1	27	6.7
700	28	2,968	-8.7	-19.0	28	8.6
650	28	3,535	-12.0	-22.7	28	9.3
600	28	4,148	-15.8	-27.8	29	10.2
550	28	4,795	-20.0	-31.6	29	12.0
500	28	5,500	-25.0	-35.9	29	12.9
450	28	6,252	-30.6	-40.5	28	14.1
400	28	7,086	-37.0	-46.8	28	15.6
350	28	7,996	-44.0	-45.6	28	17.2
300	28	9,014	-51.2		28	20.3
250	28	10,183	-57.0		27	23.1
200	28	11,586	-58.6		28	26.0
175	28	12,429	-56.7		27	25.9
150	28	13,410	-55.4		27	24.9
125	28	14,570	-56.3		27	22.7
100	27	15,980	-58.1		28	20.2
80	27	17,382	-59.5		28	17.1
70	27	18,217	-59.7		28	15.8
60	27	19,180	-60.1		28	12.8
50	27	20,319	-59.8		28	11.5
40	26	21,710	-60.3		29	9.1
30	24	23,497	-60.1		29	8.2
25	22	24,640	-58.5		29	8.8
20	21	26,045	-57.3		30	8.4
15	19	27,874	-54.7		29	8.9
10	10	30,490	-49.5			
7						
5						

+ PAGO PAGO, AMERICAN SAMOA 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	5	29.0	25.2	06	1.8
1000	28	68	28.0	23.3	05	2.0
950	28	512	24.4	19.2	03	3.0
900	28	995	21.4	16.4	02	3.6
850	28	1,490	18.8	12.7	03	3.8
800	28	2,009	16.5	9.1	02	4.1
750	28	2,555	13.9	5.5	02	3.7
700	28	3,136	10.9	1.2	03	3.2
650	28	3,749	7.3	-3.5	03	2.9
600	28	4,407	3.9	-7.2	06	3.2
550	28	5,104	.4	-11.2	08	3.3
500	28	5,870	-3.7	-16.1	08	3.1
450	28	6,690	-8.4	-23.3	09	3.7
400	28	7,602	-13.8	-28.4	11	4.3
350	28	8,604	-20.3	-35.4	12	4.3
300	28	9,727	-28.6	-43.4	14	4.2
250	28	11,006	-38.9	-52.5	15	7.0
200	28	12,498	-51.2		17	7.8
175	28	13,352	-58.2		17	8.7
150	28	14,305	-66.0		16	9.6
125	28	15,390	-73.8		16	10.5
100	28	16,669	-80.8		13	8.9
80	28	17,919	-80.1		10	10.4
70	28	18,684	-75.3		10	13.3
60	28	19,589	-70.4		09	16.5
50	27	20,685	-65.6		09	22.4
40	26	22,060	-60.1		09	24.9
30	25	23,873	-55.3		09	23.4
25	24	25,045	-51.6		09	20.5
20	21	26,504	-47.3		09	16.5
15	18	28,433	-43.6		09	12.7
10	13	31,174	-39.2			
7	5	33,610	-36.3			

* PEORIA, ILL. 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	200	-3.3	-6.1	04	1.1
1000	28	165				
950	28	569	-3.8	-7.9	03	1.7
900	28	997	-3.8	-11.7	33	2.5
850	28	1,448	-4.5	-14.4	32	4.0
800	28	1,925	-5.6	-16.6	30	4.6
750	28	2,428	-7.7	-18.8	30	5.7
700	28	2,964	-9.9	-21.1	29	7.5
650	28	3,532	-12.7	-22.9	29	9.2
600	28	4,141	-16.0	-25.8	29	11.0
550	28	4,791	-20.0	-30.1	29	12.8
500	28	5,491	-24.9	-33.9	29	14.3
450	28	6,243	-30.7	-39.1	28	15.9
400	28	7,073	-36.9	-43.8	28	18.3
350	28	7,984	-43.8	-45.9	28	21.0
300	27	9,004	-51.0		28	25.2
250	27	10,174	-56.6		28	29.0
200	27	11,582	-57.7		28	30.5
175	27	12,429	-55.7		28	30.7
150	27	13,412	-55.7		28	27.7
125	26	14,576	-56.3		28	25.8
100	26	15,987	-58.0		28	21.2
80	26	17,387	-59.7		28	17.3
70	26	18,219	-60.7		28	15.9
60	26	19,176	-60.8		28	13.8
50	26	20,310	-60.8		29	11.6
40	24	21,698	-60.1		29	9.5
30	22	23,495	-57.8		29	8.5
25	22	24,646	-57.3		29	8.4
20	22	26,061	-56.0		28	9.2
15	19	27,898	-53.1		29	9.8
10	17	30,532	-47.7		28	13.8
7	15	32,905	-41.8		27	17.8

* PITTSBURGH, PA. 974 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	359	-3.8	-8.3	30	1.8
1000	28	147				
950	28	553	-4.1	-8.1	32	2.6
900	28	978	-5.4	-10.4	32	4.4
850	28	1,426	-6.9	-13.0	32	5.8
800	28	1,898	-8.0	-16.3	31	7.1
750	28	2,398	-9.3	-17.5	31	8.6
700	28	2,930	-11.3	-21.4	31	9.9
650	28	3,493	-13.9	-25.5	30	11.0
600	28	4,100	-17.1	-29.2	30	12.0
550	28	4,749	-21.1	-32.2	30	13.5
500	28	5,446	-25.5	-36.6	29	15.6
450	28	6,199	-30.8	-41.3	29	17.6
400	28	7,030	-36.9	-44.6	28	19.7
350	28	7,941	-43.4	-47.3	28	22.8
300	28	8,964	-50.0		28	23.8
250	28	10,141	-55.2		28	28.1
200	28	11,560	-55.9		28	28.0
175	28	12,412	-54.8		28	27.9
150	28	13,399	-54.3		28	26.9
125	28	14,566	-55.0		28	24.8
100	26	15,980	-56.9		28	20.9
80	26	17,389	-58.2		28	18.9
70	26	18,230	-58.3		28	16.3
60	26	19,199	-59.1		28	14.1
50	26	20,341	-59.4		28	12.0
40	26	21,741	-58.4		28	11.4
30	25	23,553	-57.4		28	9.3
25	24	24,714	-56.0		28	8.9
20	24	26,138	-54.6		27	9.7
15	23	27,993	-51.6		27	12.4
10	21	30,669	-45.7		27	13.9
7	17	33,088	-38.8		26	22.3
5	5	35,225	-37.6			

+ PONAPE, CAROLINE IS. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	39	27.6	23.0	05	5.0
1000	28	80	27.0	22.0	05	6.1
950	28	527	22.9	17.8	06	9.2
900	28	1,001	19.7	14.6	06	9.1
850	28	1,493	17.3	10.7	07	7.4
800	28	2,010	15.4	5.1	06	3.8
750	28	2,552	13.1	-1.2	08	2.2
700	28	3,133	11.1	-6.3	08	1.8
650	28	3,747	8.4	-10.2	08	3.1
600	28	4,405	4.7	-14.2	08	5.0
550	28	5,106	.6	-18.5	07	7.1
500	28	5,869	-3.4	-23.0	07	9.5
450	28	6,694	-8.2	-28.2	07	10.9
400	28	7,602	-13.6	-33.1	07	9.5
350	28	8,604	-20.6	-38.8	08	7.3
300	28	9,727	-29.0	-45.2	09	4.0
250	27	11,001	-39.3	-54.2	13	3.6
200	27	12,488	-51.7		14	5.3
175	27	13,340	-58.8		15	6.1
150	27	14,290	-66.6		14	7.0
125	27	15,370	-75.2		11	9.4
100	27	16,640	-82.3		09	9.7
80	27	17,884	-81.6		08	9.8
70	27	18,640	-77.6		09	7.0
60	27	19,536	-72.0		09	8.8
50	27	20,622	-67.2		09	17.2
40	26	21,989	-59.6		09	21.6
30	26	23,821	-52.0		06	1.5
25	26	25,008	-50.0		26	7.3
20	25	26,465	-48.4		26	12.5
15	25	28,367	-46.1		27	16.2
10	24	31,086	-41.1		26	12.7
7	16	33,550	-36.7		26	1.0
5	6	35,810	-33.7			

PORTLAND, MAINE 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	20	-6.6	-11.5	36	2.8
1000	28	108	-5.4	-9.8	01	4.0
950	28	507	-6.7	-9.8	02	6.1
900	28	931	-8.1	-11.8	04	5.8
850	28	1,375	-8.1	-13.9	05	4.0
800	28	1,846	-8.6	-16.2	03	2.1
750	28	2,340	-9.6	-17.6	31	3.0
700	28	2,877	-12.0	-19.9	29	4.3
650	28	3,435	-15.1	-23.0	28	5.3
600	28	4,042	-18.9	-27.0	27	6.9
550	28	4,676	-23.2	-30.6	27	8.0
500	28	5,375	-28.1	-34.8	27	8.6
450	28	6,113	-33.3	-40.1	27	10.2
400	28	6,940	-39.1	-43.6	27	11.7
350	28	7,844	-45.1		27	14.1
300	28	8,860	-51.3		27	17.5
250	28	10,030	-56.3		26	19.9
200	28	11,443	-56.2		27	15.8
175	28	12,297	-54.0		27	15.4
150	28	13,287	-53.6		27	16.0
125	28	14,459	-53.8		27	15.0
100	28	15,888	-55.3		27	14.1
80	28	17,309	-56.3		27	12.3
70	28	18,155	-57.3		27	11.3
60	28	19,129	-57.6		27	10.7
50	28	20,278	-58.1		27	10.4
40	26	21,689	-58.3		27	8.8
30	24	23,501	-57.7		26	9.0
25	21	24,659	-56.5		27	9.1
20	20	26,077	-55.3		27	11.0
15	18	27,919	-53.4		27	15.3
10	13	30,590	-47.3		27	20.9
7	12	32,968	-41.8			

* QUILLAYUTE, WASH. 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	58	1.8	.9	11	1.7
1000	28	66			11	1.6
950	28	485	2.8	-2.4	16	5.4
900	28	918	-.1	-4.7	19	7.2
850	28	1,373	-3.1	-7.2	19	7.8
800	28	1,851	-6.0	-10.7	20	7.7
750	28	2,353	-8.9	-16.1	20	8.5
700	28	2,885	-11.9	-19.5	20	8.3
650	28	3,446	-15.4	-23.8	21	9.0
600	28	4,048	-19.5	-27.0	21	9.7
550	28	4,685	-24.0	-31.8	22	9.4
500	28	5,378	-29.0	-36.7	23	9.6
450	28	6,117	-34.6	-40.9	23	10.1
400	28	6,936	-40.7	-46.1	23	11.9
350	28	7,831	-47.7		23	13.6
300	28	8,835	-53.7		25	13.7
250	28	9,995	-57.1		26	11.9
200	28	11,409	-55.8		26	9.6
175	28	12,263	-54.2		26	9.7
150	28	13,254	-53.2		27	8.9
125	28	14,428	-53.5		27	8.4
100	28	15,861	-54.6		27	6.6
80	28	17,287	-55.3		27	5.0
70	27	18,138	-56.2		28	4.8
60	26	19,117	-56.1		28	4.1
50	26	20,276	-56.3		29	3.7
40	26	21,693	-56.4		29	2.7
30	26	23,519	-56.6		33	4.1
25	26	24,675	-56.5		36	3.9
20	25	26,095	-55.8		01	3.5
15	22	27,927	-54.9		01	4.0
10	16	30,514	-53.1		32	6.5
7	9	32,820	-50.4			

RAPID CITY, S. DAK. 902 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	966	-6.4	-10.2	36	.7
1000	27	152				
950	27	559				
900	27	983			02	.5
850	27	1,434	-3.2	-9.5	26	3.1
800	27	1,914	-3.9	-11.5	28	4.7
750	27	2,418	-6.2	-13.4	28	6.1
700	27	2,958	-9.7	-16.3	29	7.6
650	27	3,520	-12.9	-21.1	29	9.3
600	27	4,133	-16.6	-25.4	29	10.7
550	27	4,777	-20.9	-29.8	28	11.2
500	27	5,479	-26.0	-34.4	28	12.2
450	27	6,228	-31.9	-39.0	28	13.6
400	27	7,055	-38.3	-44.0	28	14.7
350	27	7,960	-45.5		28	16.3
300	27	8,971	-53.0		28	17.9
250	27	10,129	-59.1		27	20.4
200	27	11,573	-59.5		27	21.1
175	27	12,364	-56.8		27	19.5
150	27	13,343	-55.9		27	18.3
125	27	14,503	-56.0		27	18.2
100	27	15,920	-57.0		27	16.6
80	27	17,328	-58.3		27	13.7
70	27	18,168	-58.8		28	11.9
60	27	19,135	-58.8		28	10.3
50	27	20,279	-59.3		28	8.7
40	26	21,677	-59.6		29	8.4
30	23	23,481	-58.9		30	6.5
25	21	24,620	-58.4		31	5.9
20	20	26,025	-57.3		32	5.5
15	17	27,862	-53.6		31	6.2
10	8	30,472	-49.7			

ST CLOUD, MINN. 982 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	316	-11.2	-14.5	15	1.0
1000	28	179				
950	28	575	-9.0	-11.6	13	2.0
900	28	994	-7.8	-12.1	18	1.0
850	28	1,440	-7.2	-13.3	28	1.5
800	28	1,911	-8.5	-14.9	29	2.7
750	28	2,408	-10.0	-16.5	29	4.7
700	28	2,941	-12.2	-19.6	29	6.0
650	28	3,501	-15.1	-22.7	29	8.5
600	28	4,106	-18.7	-26.3	29	9.8
550	28	4,743	-22.8	-30.8	29	10.5
500	28	5,442	-27.6	-35.5	29	12.7
450	28	6,186	-33.3	-40.5	29	14.7
400	28	7,008	-39.7	-43.7	29	16.2
350	28	7,908	-46.5		29	17.1
300	28	8,915	-53.2		28	19.8
250	28	10,076	-58.2		28	21.5
200	28	11,480	-57.3		28	19.6
175	28	12,328	-55.8		28	18.9
150	28	13,312	-54.6		28	18.4
125	28	14,478	-54.9		28	16.7
100	28	15,901	-56.1		28	14.7
80	28	17,315	-57.4		28	13.8
70	28	18,158	-57.5		29	11.9
60	28	19,129	-58.3		28	10.6
50	28	20,273	-59.1		29	9.9
40	26	21,671	-58.7		29	7.7
30	26	23,477	-58.6		30	7.3
25	23	24,617	-58.1		31	7.2
20	23	26,025	-57.0		31	7.5
15	20	27,851	-54.4		32	8.0
10	8	30,517	-48.0			

* ST PAUL IS., ALASKA 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	10	-4.3	-6.6	04	2.8
1000	26	-27			02	4.6
950	26	377	-6.6	-8.5	05	2.0
900	26	797	-9.3	-10.9	04	1.2
850	26	1,237	-11.1	-15.9	04	.2
800	26	1,701	-13.1	-19.4	30	.9
750	26	2,193	-15.4	-23.8	31	2.0
700	26	2,710	-18.1	-26.2	29	3.3
650	26	3,259	-21.1	-29.8	28	4.1
600	26	3,847	-25.0	-33.6	27	4.3
550	25	4,475	-28.7	-36.3	27	5.7
500	25	5,153	-32.8	-38.8	27	7.8
450	25	5,887	-37.3	-41.0	27	8.0
400	25	6,693	-42.5	-43.9	26	8.9
350	25	7,564	-48.0		24	8.4
300	25	8,592	-51.5		25	10.4
250	25	9,772	-52.4		26	9.5
200	24	11,213	-50.2		25	8.8
175	24	12,088	-48.5		24	8.8
150	23	13,097	-48.2		24	8.3
125	23	14,297	-48.2		22	7.4
100	23	15,763	-49.5		23	8.1
80	23	17,224	-49.3		22	6.8
70	23	18,099	-49.2		21	5.7
60	23	19,109	-49.8		21	5.7
50	22	20,294	-50.4		21	4.7
40	22	21,747	-51.2		20	3.7
30	22	23,614	-52.1		21	2.0
25	22	24,794	-51.6		26	1.7
20	22	26,241	-51.6		07	.4
15	19	28,107	-50.6		36	2.3
10	18	30,76[illegible]	-47.9		03	3.1
7	13	33,215	-43.7		03	5.6

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1969

SALEM, OREG. 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	61	2.7	.6	19	2.4
1000	28	81			19	3.4
950	28	496	3.2	-1.3	19	4.7
900	28	933	.9	-3.9	20	6.8
850	28	1,390	-2.3	-6.5	20	7.7
800	28	1,849	-5.4	-10.0	21	4.9
750	28	2,349	-8.0	-15.4	22	9.5
700	28	2,906	-11.1	-19.4	22	9.6
650	28	3,468	-14.7	-22.1	22	10.1
600	28	4,073	-18.3	-24.7	22	10.1
550	28	4,713	-22.8	-30.8	22	10.6
500	28	5,408	-27.9	-35.7	23	11.8
450	28	6,150	-33.4	-40.2	23	12.8
400	28	6,972	-39.7	-44.7	23	14.9
350	28	7,872	-46.4		23	17.1
300	28	8,880	-53.0		24	16.8
250	28	10,042	-57.0		24	16.9
200	28	11,453	-56.8		25	14.5
175	28	12,303	-54.7		25	14.1
150	27	13,240	-54.1		25	13.0
125	27	14,459	-54.5		26	11.6
100	27	15,883	-55.4		26	9.2
80	27	17,303	-56.7		26	6.9
70	27	18,148	-57.2		26	6.9
60	27	19,124	-56.7		27	7.0
50	26	20,282	-57.1		28	4.7
40	25	21,686	-57.1		29	3.2
30	25	23,506	-57.2		29	2.8
25	23	24,661	-57.3		32	2.2
20	22	26,077	-56.1		31	2.3
15	16	27,908	-54.1		29	3.5
10	13	30,535	-48.5			
7						

SALT LAKE CITY, UTAH 866 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	1,288	-2.9	-6.6	17	2.3
1000	28	150				
950	28	559				
900	28	999				
850	28	1,452	-.1	-5.9	17	4.3
800	28	1,937	-1.4	-8.0	18	7.4
750	28	2,449	-4.7	-11.2	20	6.8
700	28	2,988	-8.1	-14.7	22	7.5
650	28	3,560	-11.6	-18.9	24	8.9
600	28	4,169	-15.5	-23.0	25	9.6
550	28	4,820	-19.9	-27.2	25	11.6
500	28	5,521	-24.6	-31.4	26	13.8
450	28	6,277	-30.3	-37.5	26	15.3
400	28	7,107	-36.5	-43.3	26	16.1
350	28	8,019	-43.8	-45.7	26	17.7
300	28	9,036	-51.7		26	20.5
250	28	10,198	-58.6		27	24.4
200	28	11,596	-58.7		27	24.0
175	28	12,440	-56.9		26	23.7
150	28	13,417	-56.5		26	21.9
125	28	14,574	-56.9		26	21.4
100	28	15,983	-58.2		26	17.9
80	28	17,384	-59.4		26	14.5
70	28	18,219	-59.4		26	12.0
60	28	19,183	-59.6		27	9.8
50	28	20,324	-59.1		27	8.5
40	26	21,724	-59.2		28	7.7
30	23	23,529	-59.2		30	4.8
25	19	24,667	-58.0		31	4.8
20	18	26,080	-56.3		30	5.6
15	14	27,927	-53.3		30	7.2
10						
7						

SAN DIEGO, CALIF. 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	124	8.9	7.3	12	1.5
1000	28	124			12	1.4
950	28	545	9.1	3.2	27	2.4
900	28	997	6.9	-1.3	22	3.4
850	28	1,465	4.5	-4.3	23	5.0
800	28	1,958	2.5	-10.0	25	6.3
750	28	2,478	-.2	-13.5	25	8.4
700	28	3,027	-2.8	-18.2	25	11.1
650	28	3,609	-5.8	-21.9	25	12.6
600	28	4,235	-9.9	-23.7	25	14.6
550	28	4,896	-14.7	-26.9	25	16.0
500	28	5,617	-19.6	-31.5	25	17.2
450	28	6,390	-25.1	-36.7	25	19.0
400	28	7,237	-31.7	-42.6	26	21.4
350	28	8,168	-38.5	-47.7	26	24.5
300	28	9,213	-45.5		26	28.0
250	28	10,410	-52.0		26	32.7
200	28	11,839	-56.7		26	37.2
175	28	12,684	-57.2		26	38.6
150	28	13,656	-58.3		26	37.6
125	28	14,799	-60.5		26	31.3
100	28	16,179	-63.0		26	27.5
80	27	17,547	-63.5		26	21.2
70	27	18,367	-63.0		26	18.5
60	27	19,316	-62.3		26	13.7
50	26	20,448	-60.7		27	11.0
40	26	21,837	-60.3		26	10.5
30	25	23,639	-58.5		27	8.0
25	23	24,794	-56.8		28	7.6
20	20	26,206	-55.7		27	10.0
15	18	28,057	-52.2		27	10.9
10	13	30,730	-45.8			
7	6	33,164	-40.7			

SAN JUAN, P. R. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	6	21.4	18.2	19	1.2
1000	28	124	21.6	17.9	13	1.3
950	28	566	19.1	15.3	05	3.5
900	28	1,032	16.0	11.5	05	2.2
850	28	1,516	13.5	6.1	31	2.2
800	28	2,025	11.5	.4	33	1.9
750	28	2,561	9.2	-5.9	31	2.5
700	28	3,132	7.5	-12.5	29	3.9
650	28	3,737	5.0	-16.4	27	6.0
600	28	4,388	1.6	-19.0	28	7.8
550	28	5,074	-2.7	-22.5	28	10.3
500	28	5,832	-7.3	-26.9	28	12.1
450	28	6,638	-13.0	-31.9	29	14.8
400	28	7,534	-18.6	-36.8	29	18.5
350	28	8,515	-25.6	-42.8	28	21.2
300	28	9,614	-34.0	-50.0	28	24.2
250	28	10,866	-43.4		27	29.6
200	28	12,331	-54.3		26	33.7
175	28	13,176	-59.6		26	34.0
150	28	14,127	-65.3		27	31.6
125	28	15,222	-70.3		27	26.4
100	27	16,530	-75.3		27	19.1
80	27	17,813	-77.2		27	9.7
70	27	18,583	-74.8		27	4.9
60	27	19,490	-69.3		26	2.6
50	27	20,595	-63.3		06	2.4
40	26	21,981	-60.2		07	4.1
30	26	23,789	-56.9		08	6.2
25	26	24,953	-53.6		07	6.0
20	26	26,402	-49.3		09	3.6
15	23	28,303	-46.2		23	4.4
10	19	31,020	-41.9		26	2.7
7	7	33,452	-36.0			

SAN NICOLAS, CALIF. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	[illegible]	9.8	6.7	29	2.9
1000	28	[illegible]				
950	28	547	8.5	2.6	28	4.9
900	28	992	6.5	-3.3	27	4.4
850	28	1,460	4.3	-5.8	26	5.1
800	28	1,951	2.2	-11.2	25	6.8
750	28	2,470	-.4	-15.8	26	8.2
700	28	3,018	-3.5	-17.1	26	9.9
650	28	3,601	-6.8	-20.2	26	11.8
600	28	4,220	-10.9	-23.6	26	[illegible]
550	28	4,883	-15.7	-27.3	26	15.7
500	28	[illegible]	-20.7	[illegible]	26	17.7
450	28	6,366	-26.4	-38.0	26	[illegible]
400	28	[illegible]	-32.5	-44.5	27	22.1
350	28	8,135	-39.3	-51.6	27	24.9
300	28	9,173	-47.0	-57.7	26	27.8
250	28	10,362	-53.5	[illegible]	26	31.2
200	28	11,784	-57.4	-66.9	26	38.9
175	28	12,626	-57.7	-68.3	26	[illegible]
150	28	13,598	-58.2		26	35.9
125	28	14,740	-60.3		27	29.9
100	28	16,119	-63.3		26	24.5
80	28	17,490	-63.9		26	21.2
70	26	18,309	-63.6		26	17.5
60	28	19,258	-62.3		27	10.7
50	28	20,386	-61.5		26	8.8
40	28	21,775	-60.0		26	8.8
30	27	23,577	-58.5		27	5.8
25	26	24,726	-57.3		28	7.8
20	25	26,142	-55.5		27	8.4
15	21	27,994	-52.0		28	10.8
10	18	30,683	-43.3		28	8.3
7	13	33,119	-37.3			

* SAULT STE MARIE, MICH. 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	221	-10.1	-13.8	35	1.8
1000	28	166				
950	28	564	-8.1	-12.8	01	2.5
900	28	983	-9.1	-15.1	34	3.7
850	28	1,425	-10.4	-17.5	33	4.6
800	28	1,891	-11.3	-20.4	33	5.4
750	28	2,384	-13.4	-22.1	32	6.1
700	28	2,908	-15.7	-23.7	32	7.0
650	28	3,463	-18.3	-26.0	31	7.7
600	28	4,058	-21.8	-29.6	30	8.8
550	28	4,690	-25.5	-32.8	29	10.8
500	28	5,380	-29.9	-37.2	30	12.7
450	28	6,117	-35.1	-41.0	29	13.8
400	28	6,934	-41.2	-43.6	29	13.4
350	28	7,829	-47.5		29	14.9
300	28	8,835	-53.0		29	16.6
250	28	10,000	-56.3		29	18.3
200	28	11,417	-55.7		28	16.5
175	27	12,276	-54.4		28	15.6
150	27	13,265	-53.9		28	15.1
125	27	14,435	-54.4		29	15.0
100	27	15,861	-55.6		29	14.2
80	27	17,279	-56.6		28	12.6
70	27	18,125	-57.1		29	12.3
60	27	19,099	-57.6		29	10.7
50	27	20,248	-58.2		29	11.2
40	27	21,653	-58.2		29	8.7
30	27	23,466	-57.9		29	8.5
25	27	24,617	-57.2		29	9.9
20	26	26,026	-56.4		29	10.7
15	26	27,862	-54.4		29	11.9
10	21	30,451	-50.7		28	16.5
7	15	32,775	-45.6		28	23.4
5						

* SHEMYA, ALASKA 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	38	-1.2	-4.8	34	3.2
1000	28	-36				
950	28	371	-4.1	-8.1	34	5.9
900	28	795	-7.6	-9.9	34	5.8
850	28	1,237	-10.7	-12.8	33	3.7
800	28	1,701	-13.3	-16.9	31	4.4
750	28	2,188	-16.0	-21.1	29	5.0
700	28	2,707	-19.0	-25.1	28	4.9
650	28	3,256	-21.6	-28.0	26	5.7
600	28	3,842	-25.1	-31.9	26	6.8
550	28	4,465	-29.0	-35.8	27	6.8
500	28	5,147	-33.2	-39.4	25	8.4
450	28	5,884	-37.9	-40.0	26	11.0
400	28	6,684	-43.0	-41.2	25	10.2
350	27	7,576	-48.2		24	10.8
300	27	8,582	-51.8		25	12.7
250	27	9,759	-53.1		24	10.0
200	26	11,184	-51.6		25	10.6
175	26	12,052	-50.7		24	9.0
150	26	13,058	-49.5		24	11.0
125	26	14,253	-49.1		24	9.1
100	25	15,717	-49.5		23	9.6
80	25	17,177	-49.8		22	7.7
70	25	18,051	-50.1		21	7.2
60	25	19,056	-50.9		20	5.7
50	25	20,242	-51.1		19	5.5
40	25	21,692	-51.6		18	5.2
30	24	23,555	-52.7		17	4.3
25	23	24,727	-52.3		14	3.6
20	22	26,169	-52.0		12	2.2
15	21	28,034	-50.1		12	2.7
10	17	30,699	-47.3		08	5.5
7	15	33,071	-44.6			
5	10	35,240	-44.1			

* SHREVEPORT, LA. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	79	6.1	3.1	03	.4
1000	28	145	6.0	1.6	07	1.3
950	28	571	6.9	-.6	27	.6
900	28	1,012	6.3	-3.0	29	3.4
850	28	1,481	5.4	-6.6	29	6.2
800	28	1,975	3.4	-8.6	29	8.1
750	28	2,498	1.3	-11.6	29	9.8
700	28	3,050	-1.3	-15.3	28	12.1
650	28	3,636	-4.4	-18.8	28	14.5
600	28	4,265	-8.1	-23.0	27	18.0
550	28	4,935	-12.4	-26.3	27	20.3
500	28	5,659	-17.2	-30.1	27	23.6
450	28	6,441	-22.9	-35.7	27	26.8
400	28	7,296	-28.9	-40.7	27	31.0
350	28	8,238	-35.6	-46.1	27	36.5
300	28	9,294	-43.0	-46.7	27	41.3
250	28	10,503	-50.7		27	46.6
200	27	11,932	-56.5		27	53.2
175	26	12,776	-57.9		27	50.9
150	26	13,745	-59.3		27	45.3
125	26	14,879	-62.5		27	37.4
100	26	16,246	-65.9		28	30.5
80	26	17,598	-66.5		27	22.9
70	26	18,408	-65.7		28	18.7
60	25	19,346	-64.1		28	14.0
50	25	20,464	-63.3		27	9.8
40	23	21,840	-61.6		28	10.8
30	22	23,639	-59.3		29	6.9
25	19	24,791	-57.3		28	8.8
20	19	26,209	-55.2		28	9.1
15	19	28,060	-51.4		27	10.7
10	17	30,743	-43.8		27	14.7
7	12	33,167	-36.3		27	19.3
5						

SPOKANE, WASH. 927 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	720	-4.3	-5.5	13	1.0
1000	28	113				
950	28	518				
900	28	949	-2.5	-4.5	18	2.7
850	28	1,403	-3.0	-6.9	20	4.5
800	28	1,881	-5.5	-10.1	22	5.1
750	28	2,381	-8.2	-14.6	22	6.1
700	28	2,918	-11.3	-18.5	23	7.0
650	28	3,479	-14.7	-23.9	24	7.7
600	28	4,085	-18.8	-27.8	24	9.5
550	28	4,723	-23.2	-31.4	24	11.2
500	28	5,419	-28.2	-36.3	24	12.5
450	28	6,159	-33.8	-41.2	25	12.9
400	28	6,982	-40.2	-44.1	25	14.2
350	28	7,880	-46.9		25	15.3
300	28	8,887	-53.4		26	16.9
250	28	10,047	-58.3		26	17.4
200	28	11,452	-55.5		26	15.6
175	28	12,304	-55.0		26	13.5
150	28	13,292	-53.5		26	11.9
125	28	14,464	-53.7		26	11.2
100	26	15,895	-54.7		27	9.9
80	28	17,322	-55.1		27	7.8
70	28	18,172	-56.0		26	7.2
60	28	19,152	-56.3		28	6.6
50	28	20,309	-56.5		29	6.0
40	27	21,720	-56.4		30	4.6
30	26	23,546	-56.5		31	3.6
25	26	24,704	-56.2		32	3.6
20	26	26,125	-55.3		36	3.5
15	25	27,968	-53.7		34	5.5
10	21	30,633	-48.6		33	7.8
7						
5						

* SWAN ISLAND, W. I. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	10	24.4	19.5	08	3.0
1000	28	113	23.8	19.0	08	4.2
950	28	560	20.2	16.5	09	5.0
900	28	1,026	17.4	11.3	09	3.8
850	28	1,512	14.2	8.3	08	2.7
800	28	2,023	13.2	.1	08	1.7
750	28	2,568	11.7	-7.2	09	1.7
700	28	3,139	9.3	-9.4	31	.9
650	28	3,751	6.4	-11.9	30	1.8
600	28	4,402	2.7	-15.8	29	3.9
550	28	5,097	-1.6	-19.8	29	5.8
500	28	5,853	-6.5	-23.7	28	7.1
450	28	6,668	-12.0	-29.0	28	9.2
400	28	7,559	-18.3	-34.8	28	11.5
350	28	8,541	-25.6	-40.9	28	12.8
300	28	9,640	-34.2	-47.7	28	15.0
250	28	10,888	-44.2		28	16.2
200	28	12,347	-55.1		27	19.7
175	28	13,188	-60.8		27	21.0
150	28	14,135	-65.7		26	22.5
125	28	15,229	-70.9		26	21.5
100	27	16,529	-76.7		27	15.0
80	27	17,806	-78.1		27	6.9
70	27	18,571	-77.0		28	3.6
60	27	19,467	-71.6		27	.5
50	27	20,561	-65.1		04	.8
40	27	21,936	-61.1		09	4.3
30	27	23,737	-57.6		07	5.9
25	27	24,899	-54.0		07	2.6
20	27	26,346	-49.7		30	1.6
15	26	28,246	-45.9		26	5.7
10	23	30,960	-43.5		25	13.3
7	13	33,353	-39.8		27	20.9
5						

TAMPA, FLA. 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	8	10.7	8.0	04	1.1
1000	28	141	12.1	7.1	04	2.0
950	28	576	11.0	2.9	33	1.4
900	28	1,021	9.6	-.8	28	3.5
850	28	1,495	8.1	-4.5	28	6.5
800	28	1,995	7.3	-8.8	27	8.6
750	28	2,526	5.2	-11.8	28	11.6
700	28	3,084	2.0	-13.1	28	14.2
650	28	3,681	-1.4	-15.8	28	16.5
600	28	4,313	-4.6	-19.6	28	19.4
550	28	4,990	-8.8	-21.7	28	22.3
500	28	5,725	-13.8	-25.6	29	25.6
450	28	6,515	-19.2	-29.1	27	30.3
400	28	7,387	-24.7	-35.7	28	32.9
350	28	8,344	-31.5	-40.7	28	37.3
300	28	9,417	-39.4	-46.0	28	43.2
250	28	10,641	-48.0		28	47.9
200	28	12,083	-56.6		28	51.9
175	28	12,923	-59.7		28	48.3
150	28	13,88[illegible]	-62.3		27	43.8
125	28	14,997	-65.9		27	41.0
100	27	16,347	-68.8		27	33.3
80	27	17,674	-71.1		27	23.2
70	27	18,465	-70.2		27	15.5
60	27	19,388	-67.4		27	12.6
50	27	20,495	-64.1		27	13.5
40	25	21,672	-60.3		28	11.2
30	25	23,682	-56.4		28	12.2
25	24	24,845	-54.9		27	9.0
20	24	26,280	-52.5		26	8.8
15	22	28,151	-49.3		25	14.0
10	15	30,845	-45.0		25	12.3
7						
5						

TOPEKA, KANS. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	268	-1.3	-5.1	05	1.1
1000	28	158				
950	28	566	-1.5	-7.5	13	.5
900	28	999	-.7	-8.7	24	1.8
850	28	1,456	-1.5	-9.8	29	3.8
800	28	1,938	-2.7	-11.9	30	5.1
750	28	2,448	-5.0	-14.9	29	5.8
700	28	2,989	-7.2	-19.2	29	8.9
650	28	3,558	-10.6	-22.7	29	10.9
600	28	4,176	-14.4	-26.4	29	11.6
550	28	4,827	-18.7	-30.9	29	12.7
500	28	5,535	-23.5	-36.0	29	14.4
450	28	6,296	-29.2	-41.8	28	16.4
400	28	7,129	-35.5	-46.0	28	20.2
350	28	8,044	-42.5	-47.1	28	23.6
300	28	9,070	-50.0		28	25.4
250	28	10,244	-56.0		28	30.0
200	28	11,654	-57.8		28	34.9
175	28	12,497	-57.1		27	32.8
150	27	13,475	-55.9		28	31.7
125	27	14,629	-57.6		27	27.2
100	27	16,033	-59.2		27	22.5
80	27	17,424	-61.1		28	18.8
70	27	18,254	-60.8		28	15.5
60	27	19,213	-61.2		28	11.6
50	27	20,344	-61.5		28	11.0
40	27	21,729	-60.9		29	10.2
30	26	23,519	-59.9		29	8.7
25	25	24,665	-58.3		29	8.3
20	23	26,081	-57.0		29	8.3
15	19	27,928	-53.7		28	8.5
10	9	30,596	-47.4			
7						
5						

* TRUK, CAROLINE IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	2	27.9	22.4	04	6.2
1000	28	92	26.7	20.1	04	7.5
950	28	538	22.4	16.7	06	9.3
900	28	1,013	19.3	12.6	06	9.1
850	28	1,504	17.1	7.1	06	7.8
800	28	2,020	14.8	2.5	06	5.3
750	28	2,568	13.5	-3.8	07	3.5
700	28	3,144	11.2	-8.5	07	3.8
650	28	3,759	8.3	-12.8	07	4.9
600	28	4,416	4.5	-15.4	08	6.8
550	28	5,115	.7	-20.8	08	9.0
500	28	5,880	-3.8	-24.9	08	11.0
450	28	6,699	-8.5	-29.5	08	11.9
400	28	7,611	-14.2	-34.1	08	12.4
350	28	8,611	-21.0	-39.3	08	9.4
300	28	9,731	-29.4	-46.0	08	5.4
250	28	11,006	-39.6	-54.5	11	4.8
200	28	12,493	-51.9		13	6.8
175	28	13,344	-59.0		13	7.6
150	28	14,294	-66.5		12	8.9
125	28	15,373	-75.2		11	10.4
100	28	16,642	-82.4		09	9.9
80	28	17,885	-81.9		09	10.4
70	28	18,640	-78.0		08	7.0
60	28	19,535	[illegible]		09	9.6
50	28	20,623	-66.9		09	17.8
40	27	21,996	-59.9		09	19.6
30	27	23,832	-52.4		08	.3
25	26	25,015	[illegible]		26	6.7
20	25	26,475	[illegible]		26	11.9
15	25	28,384	-45.3		27	16.7
10	22	31,111	-40.2		27	12.7
7	15	33,567	-36.9		28	7.3
5	6	35,872	-34.5			

* TUCSON, ARIZ. 924 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	789	6.3	.1	15	2.7
1000	28	130				
950	28	558				
900	28	1,003	9.3	-2.3	16	3.2
850	28	1,476	7.2	-5.2	20	3.4
800	28	1,972	4.1	-9.0	23	5.0
750	28	2,493	.9	-13.8	23	6.2
700	28	3,046	-2.0	[illegible]	24	8.0
650	28	3,628	-5.3	[illegible]	25	9.3
600	28	4,256	-9.2	-26.2	26	11.5
550	28	4,919	-13.5	-29.6	26	14.6
500	28	5,644	-18.3	-33.8	26	16.8
450	28	6,418	-24.0	-37.9	26	20.9
400	28	7,274	-29.8	-42.7	26	24.7
350	28	8,212	-36.8	-48.4	27	28.5
300	28	9,262	-44.4		26	34.1
250	28	10,464	-51.7		26	40.4
200	28	11,891	-56.6		26	49.2
175	27	12,740	-57.6		26	47.9
150	27	13,709	-59.5		26	43.4
125	27	14,844	-62.0		26	36.6
100	27	16,215	-64.6		26	28.2
80	27	17,573	-65.9		26	22.5
70	27	18,385	-65.0		26	19.6
60	27	19,328	-63.9		26	14.7
50	24	20,446	-63.0		26	10.3
40	22	21,822	-61.4		27	8.2
30	22	23,614	-59.4		28	7.4
25	21	24,763	-58.1		28	7.0
20	18	26,171	-56.6		27	8.6
15	17	27,998	-53.0		28	12.1
10	10	30,647	-46.3			
7	5	32,958	-43.4			
5						

* VANDENBERG AFB, CALIF. 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	28	100	7.2	6.2	14	1.4
1000	28	121			11	1.4
950	28	544	7.7	3.2	21	1.3
900	28	990	5.2	-.8	24	3.7
850	28	1,454	2.6	-5.8	24	5.1
800	28	1,943	.5	-10.4	25	5.9
750	28	2,455	-1.7	-13.4	26	8.5
700	28	3,006	-4.3	-16.8	26	10.6
650	28	3,581	-7.6	-20.1	26	11.9
600	28	4,204	-11.8	-23.9	26	13.8
550	28	4,861	-16.6	-27.2	26	16.0
500	28	5,574	-21.8	-32.5	26	17.0
450	28	6,335	-27.5	-36.5	26	17.6
400	28	7,179	-33.8	-43.5	26	20.2
350	28	8,101	-40.7	-47.5	27	21.8
300	28	9,133	-47.9		27	24.7
250	28	10,316	-55.0		27	28.9
200	28	11,729	-55.1		27	31.4
175	28	12,570	-57.7		27	[illegible]
150	28	13,543	-57.9		27	31.3
125	28	14,689	-59.2		27	27.7
100	28	16,078	-61.7		27	22.8
80	28	17,457	-62.7		26	20.8
70	27	18,277	-62.4		27	[illegible]
60	27	19,228	-62.2		26	13.4
50	27	20,357	-61.0		26	[illegible]
40	26	21,748	-60.2		26	8.1
30	24	23,546	-59.0		27	4.9
25	22	24,684	-58.7		27	4.9
20	19	26,093	-57.0		27	10.1
15	19	27,926	-54.1		28	12.9
10	15	30,559	-46.1		27	11.5
7	10	32,957	-43.2			
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1969

VICTORIA, TEXAS — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	33	11.0	9.2	03	2.4
1000	28	136	12.2	8.6	09	3.3
950	28	564	11.2	4.1	10	2.1
900	28	1,017	10.1	-.7	19	1.9
850	28	1,492	9.0	-4.1	25	3.3
800	28	1,993	6.9	-6.7	26	6.3
750	28	2,520	4.7	-9.1	27	8.8
700	28	3,082	2.3	-14.1	27	11.2
650	28	3,676	-1.2	-17.3	27	12.9
600	28	4,312	-5.4	-20.4	27	15.5
550	28	4,985	-9.9	-23.7	26	18.7
500	28	5,719	-14.5	-27.6	26	21.5
450	28	6,508	-19.7	-30.8	27	25.8
400	28	7,377	-25.3	-36.3	27	31.1
350	28	8,334	-31.7	-41.6	27	38.2
300	28	9,408	-39.2	-47.2	27	44.1
250	28	10,634	-48.1		27	52.2
200	28	12,073	-57.5		27	56.1
175	28	12,909	-61.5		27	53.1
150	28	13,859	-63.4		27	45.6
125	28	14,973	-66.1		27	38.8
100	27	16,316	-69.6		27	31.6
80	25	17,644	-70.0		27	23.1
70	25	18,439	-69.7		27	16.7
60	23	19,366	-67.9		27	13.6
50	22	20,468	-65.3		28	11.0
40	21	21,832	-63.6		28	10.8
30	20	23,612	-60.7		27	10.7
25	17	24,751	-58.8		27	10.6
20	15	26,155	-56.7		27	10.7
15	15	27,988	-53.7		27	11.8
10	9	30,660	-45.9			
7						
5						

* WAKE IS., PACIFIC AREA — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	5	23.9	19.5	06	5.6
1000	28	123	22.7	17.0	06	6.5
950	28	564	19.0	15.4	07	7.5
900	28	1,031	15.6	11.9	06	6.8
850	28	1,515	13.3	6.5	06	6.0
800	28	2,024	11.2	1.3	05	4.8
750	28	2,559	9.4	-4.4	03	3.5
700	28	3,132	8.2	-11.3	35	2.7
650	28	3,741	6.2	-15.9	33	4.3
600	28	4,393	2.8	-19.6	33	6.3
550	28	5,089	-.9	-22.8	32	7.5
500	28	5,847	-5.6	-26.9	31	9.3
450	28	6,660	-10.9	-31.9	31	11.8
400	28	7,561	-17.1	-36.8	32	15.1
350	28	8,549	-23.7	-42.2	31	18.0
300	28	9,659	-31.3	-48.4	30	19.1
250	28	10,926	-40.0	-54.8	29	19.7
200	28	12,411	-51.9		28	20.1
175	27	13,254	-58.5		27	18.4
150	27	14,216	-65.9		28	17.8
125	27	15,302	-73.3		28	15.3
100	26	16,584	-79.7		29	9.8
80	23	17,839	-80.9		34	2.5
70	23	18,595	-78.3		07	2.3
60	22	19,487	-72.4		09	3.0
50	22	20,577	-66.2		11	2.5
40	21	21,938	-62.8		10	1.2
30	21	23,728	-58.5		36	1.0
25	21	24,884	-55.4		30	3.8
20	21	26,320	-51.6		29	6.8
15	20	28,200	-48.3		28	10.3
10	17	30,903	-43.2		28	14.0
7	14	33,310	-40.1		26	17.1
5	9	35,584	-36.5			

* WALLOPS IS., VA. NASA — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	3	.6	-3.4	32	4.8
1000	26	107	.4	-4.4	33	5.0
950	26	518	-.3	-5.8	35	6.9
900	26	951	-1.3	-7.0	34	7.7
850	26	1,406	-2.9	-8.7	33	8.5
800	26	1,885	-4.6	-11.0	32	8.8
750	26	2,394	-5.6	-14.4	30	9.4
700	26	2,933	-8.1	-17.2	29	10.6
650	26	3,503	-11.2	-20.9	29	12.0
600	26	4,116	-14.9	-24.1	29	13.2
550	26	4,767	-18.9	-27.6	29	14.6
500	26	5,473	-23.7	-31.5	29	16.7
450	26	6,229	-29.1	-37.3	28	19.3
400	26	7,068	-35.3	-41.4	28	20.2
350	26	7,985	-42.1	-43.6	28	21.4
300	26	9,013	-48.9		28	23.8
250	26	10,196	-53.9		27	27.3
200	26	11,622	-55.6		28	29.6
175	26	12,475	-54.6		28	27.0
150	25	13,468	-54.2		28	26.1
125	25	14,634	-55.5		28	23.0
100	25	16,047	-58.3		27	20.8
80	25	17,445	-60.2		28	18.8
70	25	18,275	-60.8		28	15.8
60	25	19,233	-60.8		28	12.8
50	25	20,367	-60.3		27	10.1
40	24	21,765	-59.4		28	10.4
30	24	23,573	-57.4		27	9.8
25	23	24,724	-56.2		27	10.0
20	23	26,147	-54.7		26	10.0
15	19	27,998	-52.0		27	15.3
10	15	30,646	-47.2		26	18.7
7						
5						

WASHINGTON DULLES INT. AP — 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	85	-1.8	-6.0	32	3.2
1000	28	134	-1.9	-7.1	33	3.9
950	28	543	-2.6	-8.4	33	5.9
900	28	970	-4.4	-9.9	33	6.9
850	28	1,421	-4.6	-11.8	32	7.6
800	28	1,897	-6.2	-15.0	32	8.5
750	28	2,404	-7.8	-17.6	31	9.2
700	28	2,937	-9.7	-21.4	30	10.7
650	28	3,506	-12.4	-24.5	30	11.1
600	28	4,115	-15.9	-27.4	29	11.8
550	28	4,765	-19.9	-30.4	29	13.8
500	28	5,468	-24.4	-34.7	29	15.5
450	28	6,224	-29.9	-39.3	28	16.7
400	28	7,057	-36.1	-43.5	28	17.8
350	28	7,971	-43.1	-46.8	28	20.1
300	28	8,997	-49.1		28	22.8
250	27	10,173	-54.3		28	29.6
200	27	11,594	-56.0		28	31.5
175	27	12,446	-54.7		28	31.1
150	27	13,433	-54.7		28	29.0
125	27	14,598	-55.1		28	24.9
100	27	16,017	-57.2		27	20.6
80	27	17,422	-59.1		27	18.6
70	27	18,256	-60.1		27	16.9
60	27	19,217	-60.1		28	15.0
50	27	20,356	-59.3		28	11.5
40	26	21,752	-59.1		28	9.2
30	25	23,562	-57.2		28	10.4
25	25	24,717	-56.3		28	10.1
20	22	26,140	-54.3		27	12.5
15	20	27,996	-52.4		27	14.1
10	16	30,675	-44.9		27	15.8
7	5	33,105	-37.3			
5						

WINNEMUCCA, NEV. — 863 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	1,312	-2.4	-7.5	10	1.2
1000	28	129				
950	28	545				
900	28	983				
850	28	1,435	-1.5	-6.5	16	1.7
800	28	1,918	-2.6	-8.9	20	4.5
750	28	2,425	-5.5	-12.8	22	6.1
700	28	2,966	-8.8	-15.7	24	8.8
650	28	3,534	-12.4	-20.0	24	9.5
600	28	4,145	-15.9	-23.7	25	10.8
550	28	4,790	-20.2	-28.3	25	11.7
500	28	5,494	-25.0	-32.2	25	12.0
450	28	6,245	-30.6	-38.1	25	13.5
400	28	7,078	-36.9	-43.2	25	14.6
350	28	7,988	-44.1		25	16.0
300	28	9,005	-51.5		25	18.5
250	28	10,169	-58.3		26	21.9
200	28	11,567	-59.2		26	21.7
175	26	12,423	-56.6		26	22.3
150	26	13,405	-55.5		26	19.9
125	26	14,565	-56.7		26	18.5
100	26	15,976	-58.1		26	16.5
80	26	17,377	-59.2		26	13.1
70	26	18,213	-59.4		27	12.2
60	25	19,185	-59.6		27	9.1
50	24	20,324	-58.9		28	7.4
40	24	21,725	-59.0		28	5.0
30	21	23,538	-59.6		30	4.2
25	18	24,665	-58.7		28	5.9
20	15	26,075	-56.8		28	5.9
15	13	27,918	-54.2			
10	6	30,537	-50.6			
7						
5						

WINSLOW, ARIZ. — 849 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	1,487	-2.1	-5.8	21	1.5
1000	28	161				
950	28	576				
900	28	1,014				
850	28	1,475			22	.8
800	28	1,961	.6	-7.4	22	3.9
750	28	2,476	-2.1	-11.4	24	7.6
700	28	3,023	-4.8	-16.4	24	9.6
650	28	3,600	-7.4	-20.1	25	10.2
600	28	4,222	-11.4	-23.6	26	11.6
550	28	4,880	-16.1	-27.8	26	12.3
500	28	5,595	-21.0	-32.4	26	14.1
450	28	6,359	-26.3	-38.2	27	17.0
400	28	7,207	-32.5	-43.0	27	21.2
350	28	8,135	-39.5	-47.4	27	26.2
300	28	9,172	-47.2		27	30.7
250	26	10,358	-54.7		27	36.6
200	28	11,774	-57.7		26	40.8
175	28	12,617	-57.4		26	39.6
150	28	13,591	-57.9		27	35.0
125	28	14,737	-59.6		26	32.1
100	28	16,125	-62.2		26	25.0
80	28	17,497	-63.7		26	19.7
70	28	18,318	-63.1		26	17.1
60	27	19,268	-62.2		26	12.9
50	27	20,395	-62.1		27	9.8
40	27	21,778	-60.8		27	10.7
30	25	23,576	-59.2		28	8.6
25	23	24,721	-58.0		28	8.8
20	23	26,133	-56.1		29	8.5
15	22	27,971	-53.1		28	7.9
10	9	30,602	-46.6			
7						
5						

YAKUTAT, ALASKA — 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	12	-6.3	-10.2	08	2.4
1000	28	19			08	2.0
950	28	429	-1.6	-6.3	10	4.9
900	28	856	-4.3	-7.4	13	5.3
850	28	1,304	-7.3	-9.9	14	6.1
800	28	1,775	-9.7	-15.1	16	6.4
750	28	2,273	-12.2	-18.8	16	6.2
700	28	2,796	-15.2	-22.1	16	5.6
650	28	3,350	-18.9	-25.3	17	5.3
600	28	3,943	-23.0	-30.3	17	6.2
550	28	4,571	-27.4	-34.1	18	7.2
500	28	5,256	-32.4	-37.3	18	7.3
450	28	5,991	-37.6	-40.1	19	6.8
400	28	6,795	-42.8	-41.4	20	7.9
350	28	7,685	-48.2		21	8.2
300	28	8,689	-53.1		23	7.0
250	28	9,858	-54.5		24	6.3
200	28	11,291	-52.7		25	6.3
175	28	12,155	-51.2		25	6.3
150	28	13,159	-50.7		26	7.1
125	28	14,347	-50.6		27	6.5
100	28	15,797	-51.9		27	6.9
80	28	17,242	-52.1		28	6.8
70	28	18,106	-52.1		29	7.2
60	28	19,103	-52.4		29	7.5
50	28	20,280	-52.8		30	8.5
40	27	21,713	-53.1		30	7.5
30	25	23,568	-54.2		31	7.4
25	22	24,726	-54.4		31	9.1
20	20	26,175	-53.2		32	8.6
15	18	28,055	-51.8		33	9.3
10	14	30,749	-49.1		33	10.5
7	7	33,221	-42.7			
5						

+ YAP, CAROLINE IS. — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	14	27.4	22.1	07	4.5
1000	28	100	26.0	20.0	07	5.8
950	28	543	22.1	16.6	07	9.1
900	28	1,018	18.9	12.7	07	9.5
850	28	1,508	16.4	8.0	07	8.5
800	28	2,022	14.5	1.0	07	7.1
750	28	2,561	12.9	-5.5	07	6.7
700	28	3,143	11.0	-11.1	08	5.4
650	28	3,751	8.2	-15.5	08	5.5
600	28	4,413	4.4	-18.7	09	7.2
550	28	5,111	.0	-21.5	09	8.7
500	28	5,873	-4.3	-26.0	09	10.2
450	28	6,690	-9.2	-30.1	09	11.7
400	28	7,598	-14.9	-35.2	09	11.3
350	28	8,594	-21.9	-40.2	09	7.9
300	28	9,709	-30.3	-46.6	09	7.0
250	28	10,979	-40.6	-54.4	10	5.3
200	28	12,458	-53.0		11	7.1
175	28	13,305	-59.9		12	8.4
150	28	14,251	-67.3		12	8.6
125	28	15,329	-75.2		11	8.9
100	28	16,599	-81.4		11	9.2
80	28	17,846	-82.6		09	8.2
70	28	18,598	-78.6		09	7.5
60	28	19,492	-72.1		09	9.7
50	28	20,581	-66.2		09	16.3
40	28	21,953	-60.4		09	19.6
30	28	23,774	-53.9		09	4.4
25	27	24,955	-51.1		26	3.8
20	26	26,412	-48.4		26	11.7
15	26	28,315	-46.5		27	16.1
10	24	31,024	-42.1		26	17.5
7	19	33,454	-37.9		27	15.7
5	5	35,732	-36.7			

YUCCA FLAT, NEV. — 877 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	1,198	-.3	-2.7	21	1.5
1000	28	137				
950	28	553				
900	28	992				
850	28	1,452	1.8	-5.6	20	1.8
800	28	1,939	-.7	-8.4	19	4.9
750	28	2,449	-3.3	-12.0	20	6.9
700	28	2,996	-5.8	-16.7	22	8.4
650	28	3,567	-9.3	-20.3	23	9.9
600	28	4,188	-13.2	-23.3	24	10.6
550	28	4,838	-17.4	-26.3	25	12.0
500	28	5,554	-22.1	-32.6	26	14.1
450	28	6,312	-27.5	-37.7	26	15.5
400	28	7,157	-34.3	-43.6	26	18.8
350	28	8,077	-41.5	-48.9	26	20.2
300	28	9,105	-49.1		26	25.6
250	28	10,281	-55.9		26	28.9
200	28	11,687	-58.8		27	32.1
175	27	12,535	-56.9		27	30.2
150	27	13,513	-56.7		26	28.4
125	27	14,666	-58.0		26	26.6
100	27	16,065	-59.7		27	22.5
80	26	17,450	-61.4		26	16.4
70	26	18,279	-61.0		26	13.9
60	25	19,239	-60.7		26	11.5
50	22	20,365	-60.0		26	9.3
40	20	21,759	-59.3		26	7.1
30	14	23,579	-58.3		27	6.6
25	9	24,735	-57.8			
20	7	26,139	-57.1			
15	6	27,984	-52.8			
10						
7						
5						

YUMA, ARIZ. — 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	19	131	9.6	1.1	04	1.1
1000	19	104				
950	19	530	12.8	-1.7	18	.5
900	19	985	10.0	-3.6	23	1.8
850	19	1,457	7.0	-6.3	23	3.2
800	19	1,953	4.3	-10.7	24	4.6
750	19	2,473	1.6	-15.9	24	6.2
700	19	3,028	-2.1	-19.4	25	7.9
650	19	3,611	-5.7	-23.3	25	9.5
600	19	4,236	-9.5	-25.5	26	12.3
550	19	4,895	-14.5	-29.2	26	14.1
500	19	5,617	-19.5	-33.9	26	14.9
450	19	6,382	-24.9	-38.3	26	16.7
400	19	7,237	-31.8	-42.7	26	19.1
350	19	8,169	-38.3	-47.2	26	22.7
300	19	9,212	-45.4		26	27.6
250	19	10,409	-52.0		27	34.5
200	17	11,851	-56.5		27	41.0
175	15	12,720	-58.4		27	42.8
150	7	13,663	-58.1			
125						
100						
80						
70						
60						
50						
40						
30						
25						
20						
15						
10						
7						
5						

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
BLUE HILL OBS., MASS.									
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Feb.									
5-----	0.76	0.87	1.04	----	----	----	----	----	----
6-----	.88	1.00	1.11	1.32	1.34	1.32	1.15	1.01	0.88
7-----	.91	1.01	1.15	1.29	1.30	1.28	1.10	.94	.81
8-----	.89	.98	1.12	1.29	1.34	1.29	----	----	----
11----	1.01	1.08	1.21	1.37	1.41	----	----	----	----
14----	----	----	----	----	1.32	1.24	1.06	.89	.77
15----	.87	.96	1.08	1.29	1.35	1.28	1.10	.94	.82
16----	.96	1.08	1.22	1.33	1.39	1.30	1.11	.98	.87
17----	.83	.91	1.08	----	----	----	----	----	----
Averages	0.89	0.99	1.13	1.32	1.35	1.29	1.10	0.95	0.83
OMAHA, NEBR.									
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Feb.									
1-----	----	----	1.12	----	HS1.16	1.13	HS0.93	0.81	0.66
3-----	0.92	1.03	1.18	1.35	1.36	HS1.30	----	1.02	----
4-----	.90	HS1.01	HS1.14	HS1.30	HS1.31	HS1.29	HS1.05	HS .94	----
9-----	HM .69	HM .72	HM .84	HM1.08	----	----	----	----	----
11----	HS .96	HS1.05	HS1.16	----	----	----	----	----	----
12----	KM .88	1.07	1.19	----	----	----	----	----	----
17----	----	----	----	----	----	HS1.11	HS .80	HS .64	HS .44
Averages	0.87	0.98	1.11	1.24	1.28	1.21	0.93	0.85	0.55
MADISON, WIS.									
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
	No observations - defective pyranometer								

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
TUCSON, ARIZ.									
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Feb.									
1-----	0.83	0.96	1.13	1.29	1.41	1.30	1.13	1.01	0.92
2-----	.83	.96	1.[illegible]	1.30	1.41	1.30	1.12	.98	.86
3-----	.87	.98	1.1[illegible]	1.32	1.40	1.30	1.15	1.00	----
7-----	.91	1.03	1.17	1.35	----	1.39	1.24	1.13	1.04
9-----	.95	1.05	1.19	1.35	1.44	1.34	1.15	1.00	.91
10----	.88	.98	1.09	1.26	1.40	1.31	1.11	.98	.88
11----	.84	.92	1.09	1.29	1.39	1.31	1.10	.95	.83
14----	----	----	----	1.22	1.28	----	----	----	----
15----	.82	.94	1.08	1.25	1.41	1.27	1.13	1.00	.92
16----	----	----	----	----	1.35	1.31	1.09	.98	.86
17----	----	----	1.12	----	----	----	----	----	----
18----	----	----	----	----	----	----	----	----	.77
19----	.92	1.01	1.16	----	----	----	----	----	----
20----	----	.98	1.15	1.30	----	----	----	----	----
21----	.85	.97	1.10	1.25	----	----	----	.90	----
22----	----	----	----	----	----	1.21	----	----	----
23----	.74	.86	1.06	1.30	1.41	1.30	1.13	1.00	.89
24----	----	----	----	----	----	1.33	1.15	1.05	.94
25----	.91	1.01	1.14	1.28	1.42	1.25	----	----	----
26----	.87	.97	1.11	1.20	1.45	----	----	----	----
27----	.81	.91	1.03	1.24	----	----	----	----	----
Averages	0.86	0.97	1.11	1.28	1.40	1.3[illegible]	1.14	1.0[illegible]	0.89
GUAM, M. I.									
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	Recorder inoperative November 23, 1968 to present No observations taken due to cloudiness								

KM Moderate smoke
* Values corresponding to true solar noon
HS Slight haze
HM Moderate haze

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	376	384	390	289	322	373	390	394	410	408	412	339	247	380	384	258	422	126	160	339	449	366	[illegible]	408	469	479	491	282				[illegible]
AMES IOWA	266	158	299	297	260	27	51	153	296	269	284	317	224	109	195	243	335	234	198	197	86	48	93	108	248	263	53	146				195
ANNETTE ALASKA	69	19	80	76	50	40	84	59	92	29	76	95	79	196	68	97	41	179	215	114	79	218	240	248	250	253	259	255				127
APALACHICOLA FLORIDA	250	319	120	361	426	83	338	28	430	456	191	438	480	190	170	207	193	479	489	454	210	174	241	502	504	489	496	332				320
ARGONNE NAT. LAB.	297	97	290	308	263	46	182	54	339	88	261	353	366	258	96	241	257	338	317	295	239	121	95	149	110	231	349	393				229
ASTORIA OREGON	146	77	109	60	243	261	29	25	131	20	196	162	197	74	124	210	273	286	225	289	163	157	159	108	314	204	159	91				161
ATLANTA GEORGIA	94	57	287	382	334	38	282	36	226	363	241	401	411	166	22	105	75	164	421	389	421	31	249	259	442	426	426	134				246
BARROW ALASKA	---	---	---	---	---	---	---	23	23	24	10	9	14	12	42	34	44	36	46	35	28	29	66	53	77	43	49	60				36
BETHEL ALASKA	61	81	80	120	40	109	149	165	146	156	165	45	72	70	92	67	113	126	122	91	107	---	94	117	79	130	110	139				105
BISMARCK N.DAK.	230	273	258	---	217	276	154	301	261	320	326	319	259	202	192	183	255	348	193	165	207	164	213	156	179	55	199	281				229
BLUE HILL MASS.	51	120	40	246	270	297	299	282	21	109	311	248	115	326	347	352	263	155	53	136	134	80	78	43	104	96	69	114				170
BOISE IDAHO	246	241	276	222	71	200	204	101	109	196	109	25	---	---	---	---	---	---	---	---	---	---	---	---	---	--	251	286				---
BROWNSVILLE TEXAS	253	144	367	259	325	417	236	288	334	362	275	243	35	421	461	296	41	180	50	184	167	338	255	435	169	105	185	354				256
BURLINGTON VERMONT	62	146	47	164	160	247	299	300	97	110	227	171	84	251	258	300	353	283	86	116	148	141	204	113	173	216	288	382				194
CAPE HATTERAS N.C.	111	143	46	406	385	210	269	180	82	433	392	395	427	439	287	28	68	60	423	155	---	404	137	252	377	448	435	481				277
CARIBOU MAINE	180	218	154	159	236	267	294	303	148	112	211	176	207	256	248	280	352	290	151	355	198	324	342	278	167	132	287	406				240
CHARLESTON S.C.	278	205	75	428	394	106	83	142	415	457	325	442	461	357	45	35	155	333	477	483	471	141	178	291	475	487	506	450				310
CLEVELAND OHIO	56	290	193	218	272	106	252	86	264	335	175	189	274	244	197	239	266	322	229	376	311	259	196	212	170	195	312	328				234
COLUMBIA MISSOURI	341	61	360	353	134	61	162	37	118	354	334	400	241	160	79	255	391	420	389	200	71	85	73	114	267	---	132	58				209
DAVIS CALIFORNIA	263	252	316	95	95	269	294	213	126	235	44	326	332	52	240	336	208	108	115	260	226	296	238	170	335	355	112	165				217
DODGE CITY KANSAS	299	317	362	359	356	352	200	378	366	359	305	395	25	---	207	192	320	225	188	168	261	149	123	144	345	454	388	465				285
E. LANSING MICHIGAN	109	225	240	245	267	112	146	123	285	274	127	169	227	365	188	269	266	286	214	359	323	143	73	90	87	406	286	455				227
EL CENTRO CALIF. NPF	372	372	366	366	323	323	388	388	412	416	395	295	295	346	347	435	281	281	281	220	220	564	564	374	447	334	334	334				360
EL PASO TEXAS	438	442	432	303	260	391	457	387	412	458	437	420	316	378	427	480	493	302	439	504	419	499	524	507	511	474	501	349				427
ELY NEVADA	205	319	337	273	128	134	368	354	272	347	198	145	369	289	136	323	397	242	232	203	297	343	184	298	111	477	379	502				281
EPPLEY NEWPORT R.I.	44	140	31	233	274	294	290	266	17	145	307	230	223	314	337	340	331	138	67	67	112	84	125	29	175	126	95	130				177
FAIRBANKS ALASKA	---	---	46	53	53	59	---	---	68	47	49	70	87	79	99	110	107	58	53	52	91	101	49	53	130	106	74	112				75
FLAMING GORGE UTAH	---	---	---	---	63	162	274	338	306	295	318	156	200	241	249	120	369	276	192	186	276	285	255	254	299	171	[illegible]	433				255
FORT WORTH TEXAS	59	403	422	363	94	322	348	388	355	409	395	424	118	53	81	148	214	434	70	48	67	465	260	298	482	256	451	499				283
FRESNO CALIFORNIA	243	198	186	218	70	171	280	302	311	338	99	180	244	241	145	364	303	77	96	243	340	294	98	36	324	337	200	179				218
GAINESVILLE FLORIDA	340	345	215	372	342	68	360	44	389	406	240	377	440	208	66	125	308	358	456	420	409	100	232	292	466	418	372	456				308
GENEVA NEW YORK	26	177	102	197	246	260	267	240	131	314	78	189	181	304	296	314	316	282	190	93	287	292	61	41	76	160	248	252				201
GLASGOW MONTANA	275	278	221	253	224	200	263	236	259	298	295	251	254	303	310	208	274	290	186	213	295	327	252	215	135	232	380	393				261
GRAND JUNCTION COLO.	267	361	---	295	227	94	277	346	381	344	372	238	149	240	109	200	386	326	106	311	184	223	338	150	338	132	484	463				272
GREAT FALLS MONTANA	182	268	185	270	203	187	290	204	257	291	246	184	162	294	275	292	330	325	309	211	320	333	314	319	331	376	406	385				277
GREENSBORO N.C.	52	81	220	357	282	149	222	74	281	380	312	320	396	383	209	46	224	342	412	405	411	98*	170	156	224	383	433	359				264*
INDIANAPOLIS INDIANA	170	77	331	342	306	29	91	20	136	304	261	228	361	344	69	172	158	378	231	357	391	132	66	70	136	316	392	411				224
ITHACA NEW YORK	22	204	50	146	166	302	313	231	96	353	119	182	175	270	319	319	311	375	118	107	241	387	57	55	100	162	374	242				207
LAKELAND FLORIDA	380	394	229	325	442	231	383	155	475	469	228	313	484	412	64	287	276	384	491	466	351	216	397	452	487	506	520	369				364
LANDER WYOMING	285	314	309	277	280	177	265	322	235	314	186	264	338	189	279	150	282	365	237	287	314	364	310	401	317	203	419	357				287
LARAMIE WYOMING	256	270	293	264	170	162	171	311	271	234	248	120	237	324	246	110	319	361	242	224	328	384	355	379	367	168	414	412				273
LAS VEGAS NEVADA	378	390	393	347	295	73	409	408	401	419	325	278	412	303	292	447	411	77	165	253	430	287	206	272	142	478	478	447				329
LITTLE ROCK ARKANSAS	49	230	396	373	48	---	308	196	357	375	385	420	395	87	62	130	251	438	398	222	62	193	138	423	302	262	118	475				263
LOS ANGELES CALIF.	374	357	385	351	269	199	346	396	389	381	186	140	400	209	102	420	412	247	224	450	283	443	---	229	212	490	460	229				318
LEXINGTON KENTUCKY	50	122	292	348	305	28	108	122	100	382	303	232	355	328	86	168	129	358	365	368	378	95	74	115	133	182	433	89				225
MADISON WISCONSIN	307	145	301	318	315	98	125	134	359	194	296	361	381	314	262	327	303	290	316	161	136	130	202	204	313	335	359	380				263
MATANUSKA ALASKA	38	---	---	95	67	35	100	74	96	65	35	74	105	118	159	132	52	97	89	58	177	173	86	62	75	130	156	187				97
MEDFORD OREGON	83	146	74	130	126	96	138	119	121	95	87	183	263	209	202	250	228	254	234	128	319	280	272	304	216	298	175	148				185
MIAMI FLORIDA	369	509	383	449	360	490	348	427	450	514	472	368	538	434	189	486	552	550	607	548	470	367	469	426	476	547	578	467				459
MIDLAND TEXAS	353	386	393	285	141	447	378	363	268	407	426	391	35	147	350	432	111	275	65	390	278	463	476	464	478	407	478	400				339
NASHVILLE TENNESSEE	82	144	349	359	231	31	257	164	69	389	257	316	396	215	24	114	52	276	390	408	371	39	47	132	119	376	100	35				205
NEW YORK N.Y. U	40	131	17	294	332	320	306	195	19	319	315	218	310	369	380	305	334	96	64	88	135	58	87	163	275	150	216	232				206
NORTH OMAHA NEBRASKA	306	218	339	331	306	79	67	231	318	295	333	349	182	105	203	267	381	350	348	125	141	181	144	119	257	45	32	135				221
OAK RIDGE TENNESSEE	62	124	316	378	311	37	258	46	163	416	236	348	420	296	61	139	98	342	435	435	430	38	99	185	257	455	472	115				249
OKLAHOMA CITY OKLA.	69	212	390	373	290	387	347	357	403	391	343	414	157	43	87	110	421	356	181	39	65	148	47	307	363	465	360	485				272

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PAGE ARIZONA	352	366	401	---	327	148	409	414	416	408	423	149	287	260	120	419	454	332	258	222	248*	170	356	379	482*	387*	501	495				330*
PALMER AAES ALASKA	39	33	104	92	61	28	103	67	94	56	31	63	98	112	151	124	36	99	99	59	156	178	110	60	68	140	154	182				93
PHOENIX ARIZONA	382	385	396	254	362	378	390	376	411	413	414	301	259	313	377	442	341	261	307	331	354	158	441	434	483	341	469	277				359
PORTLAND MAINE	54	233	25	165	264	320	325	321	58	182	320	211	163	303	343	345	363	274	94	332	237	173	338	63	120	134	139	393				225
PROSSER WASHINGTON	230	243	261	159	243	178	222	120	132	109	75	149	324	154	138	236	245	240	201	143	138	186	155	226	202	179	300	161				191
RAPID CITY S.DAK.	157	224	285	288	190	251	146	319	263	220	282	194	249	244	82	51	68	175	56	118	241	309	172	205	209	136	387	427				212
RENO NEVADA	235	307	330	328	150	211	329	230	156	257	152	302	344	113	128	351	369	87	95	298	344	366	240	126	275	406	378	307				258
RICHLAND 25 NW WASH.	78	78	72	88	78	78	85	86	68	89	95	82	63	78	85	87	76	82	91	86	85	89	89	83	93	82	73	68				82
RIVERSIDE CALIFORNIA	380	403	422	393	210	176	399	437	412	419	217	189	402	257	106	441	468	110	120	406	210	278	93	139	73	464	509	362				303
RUSTON LOUISIANA	42	364	518	484	151	493	337	490	517	313	435	548	462	23	66	113	225	589	204	83	22	154	279	416	393	397	307	464				321
SAINT CLOUD MINN.	181	300	294	316	306	102	147	268	297	263	314	338	356	169	180	288	301	323	377	242	173	149	186	232	212	319	243	383				259
SALT LAKE CITY	161	330	353	282	189	107	344	406	347	375	338	390	224	211	145	156	433	374	144	362	224	356	237	200	86	379	464	422				287
SAN ANTONIO TEXAS	62	262	305	---	86	379	306	353	253	330	325	246	19	118	398	458	223	465	60	76	282	479	303	454	381	141	429	442				283
SANTA MARIA CALIF.	359	367	373	205	143	154	348	380	369	339	150	288	411	232	287	422	384	290	190	356	325	353	143	50	408	471	405	218				301
SAULT STE MARIE MICH	119	123	---	143	142	248	210	181	---	100	156	205	286	312	301	287	236	220	285	308	246	153	131	177	303	351	351	360				228
SEATTLE TACOMA WASH.	87	59	82	40	195	230	40	27	180	40	98	158	200*	110*	116	214	181	264	279	250	265	108	70	263	298	197	294	243				172*
SPOKANE WASHINGTON	154	150	207	201	159	173	208	86	181	182	---	---	307	166	144	153	253	315	312	236	209	174	226	273	233	202	356	245				212
STATE COLLEGE PENN.	37	61	128	315	324	264	326	62	113	388	191	197	157	367	311	300	377	342	212	105	345	298	81	109	313	148	250	244				227
STERLING VIRGINIA	74	31	110	334	327	227	---	---	150	366	307	298	299	360	308	285	293	215	211	121	124	71	76	283	218	223	204	308				224
TALLAHASSEE FLORIDA	219	267	88	391	391	62	335	40	401	407	207	386	434	86	124	106	256	409	443	372	341	139	209	446	458	446	437	278				292
TAMPA FLORIDA	368	---	---	312	410	163	400	116	418	401	210	304	438	353	59	298	129	232	440	418	259	175	430	386	426	390	441	424				323
TUCSON ARIZONA	423	416	415	236	382	351	445	358	441	440	442	293	253	371	460	445	327	164	316	314	434	379	502	500	508	421	435	209				381
WAKE ISLAND PACIFIC	393	492	466	422	526	363	348	517	512	524	429	463	498	339	293	470	539	530	547	569	497	383	393	524	556	500	570	635				475

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-34	-66	-39	-36	-20	-34	-49	-40	-30	-19	-6	-34	-50	-55	-51	-58	-15	-39	-4	-32	-58	-31	-39	-15	-22	-47	-53	-59				-37

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	11.84	8.98	12.53	13.22	10.85	1.97	3.09	8.09	12.14	12.33	11.54	13.12	10.85	6.11	10.65	13.02	14.50	11.84	8.88	9.87	4.63	2.86	5.62	6.71	11.25	11.35	3.45	7.50				9.24

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

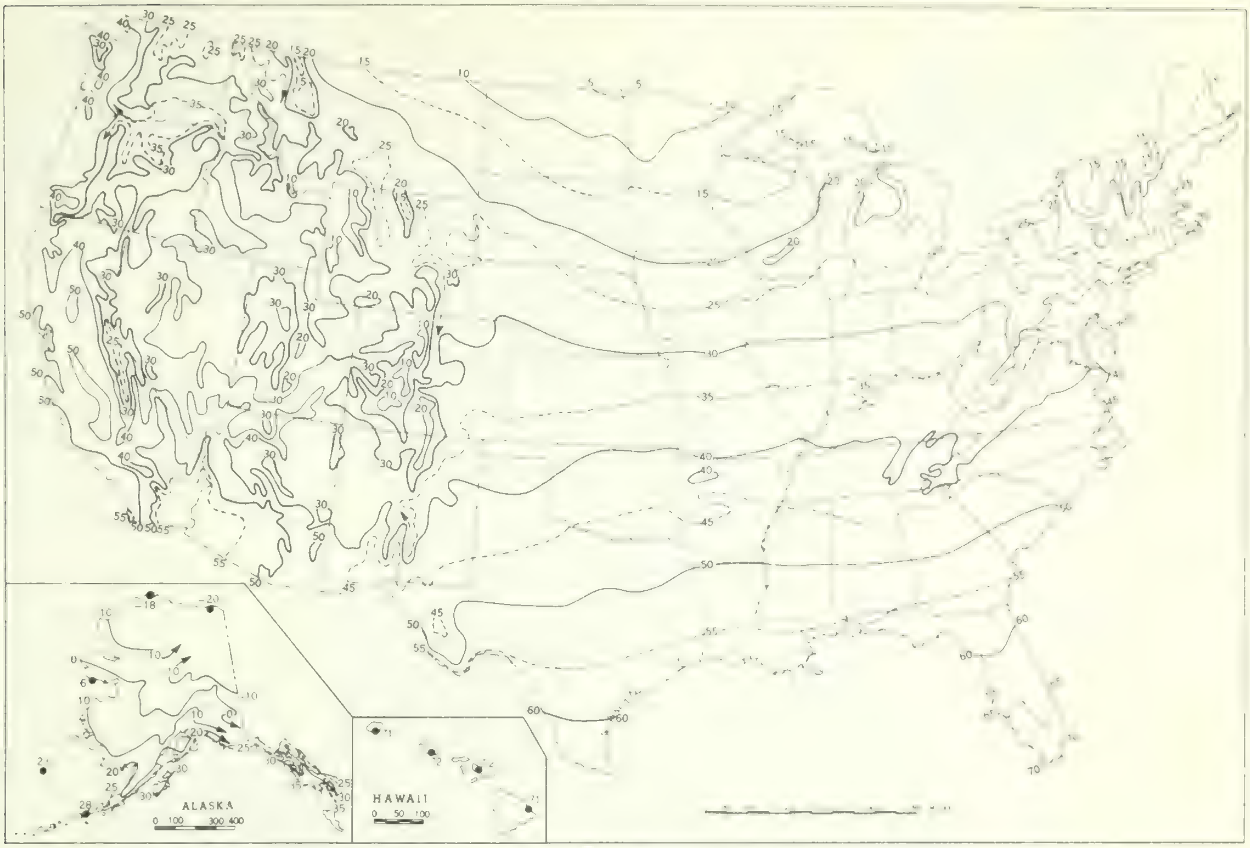
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λs Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), February



B. Temperature Departure from 30 - Year Mean (°F 1931-60), February 1969.

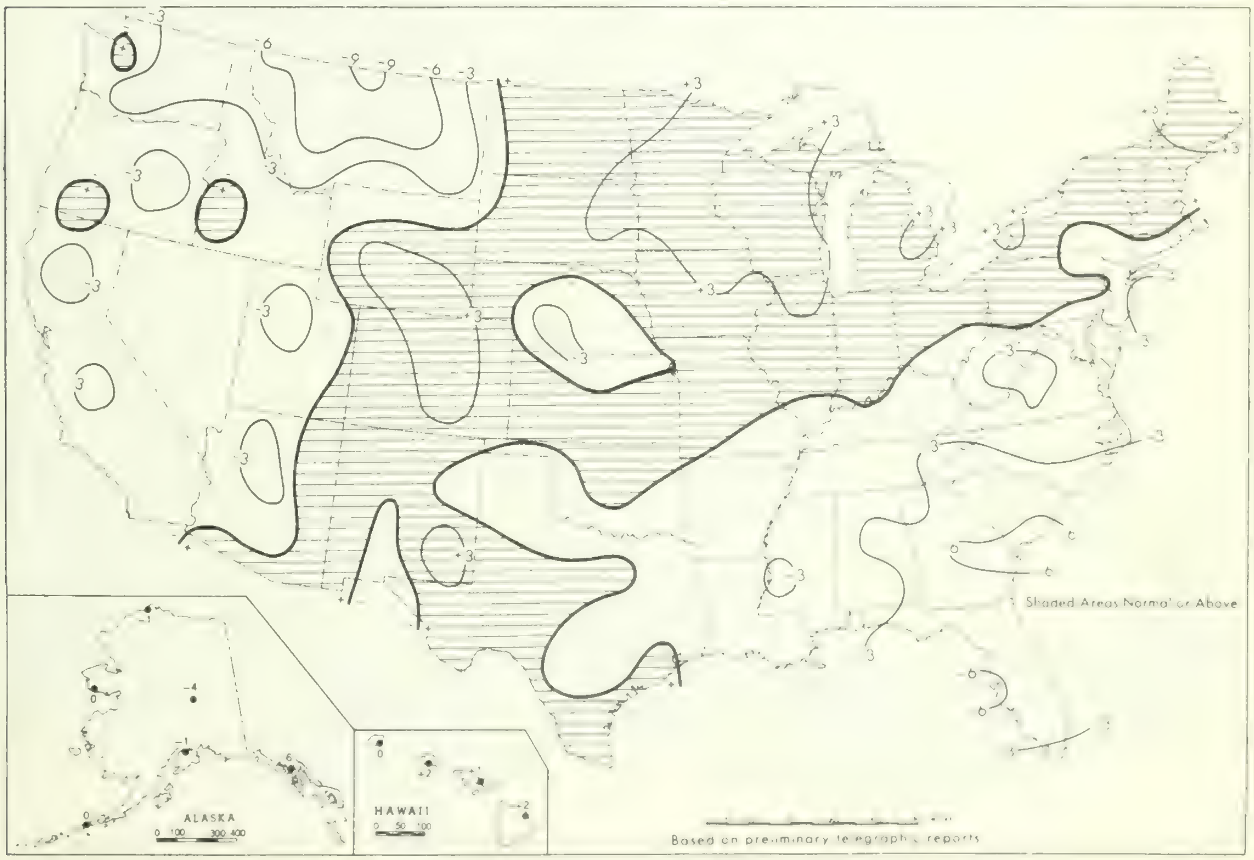


Chart II. Total Precipitation (Inches), February 1969.

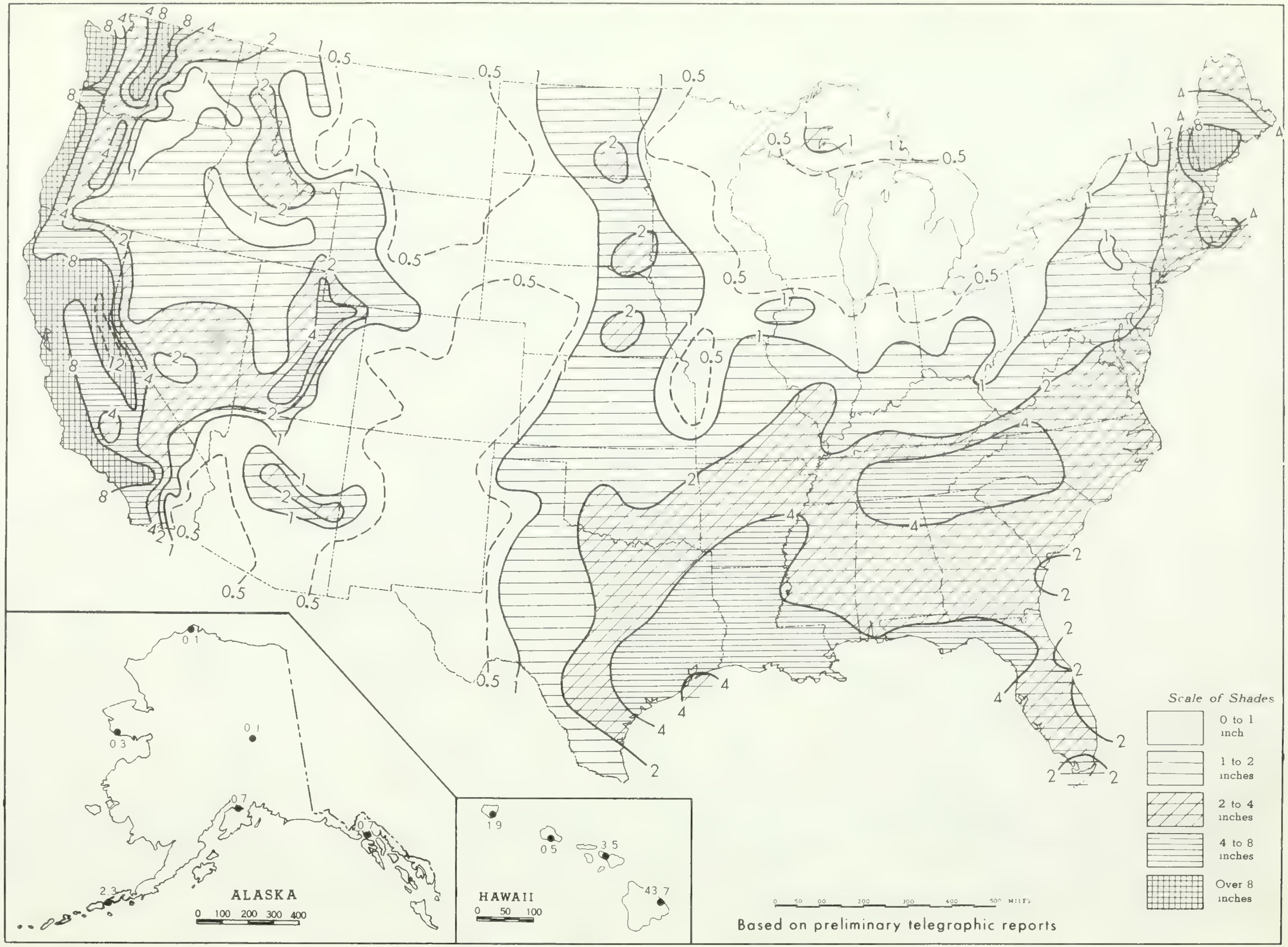


Chart III. Percentage of Normal Precipitation, February 1969.

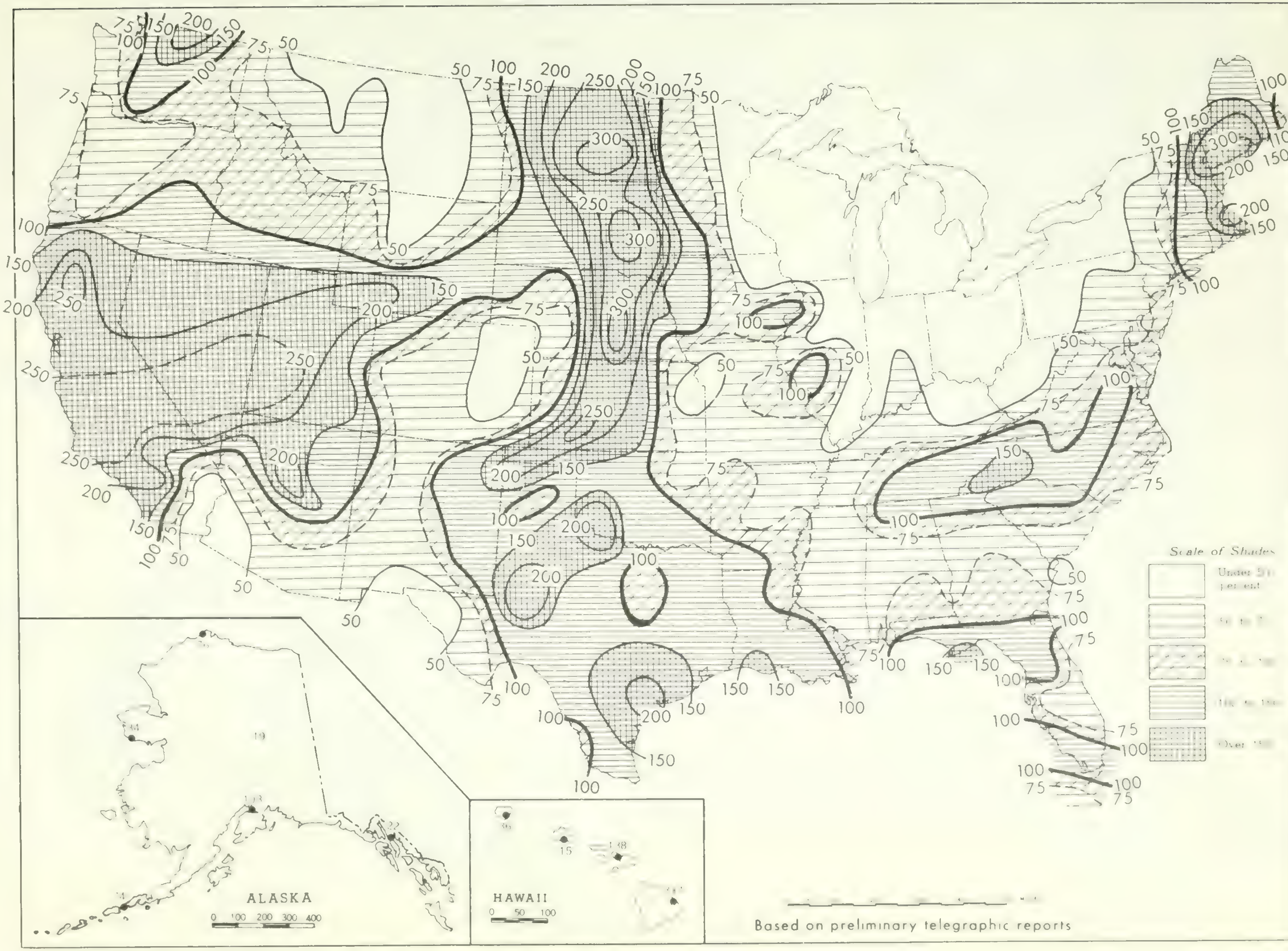
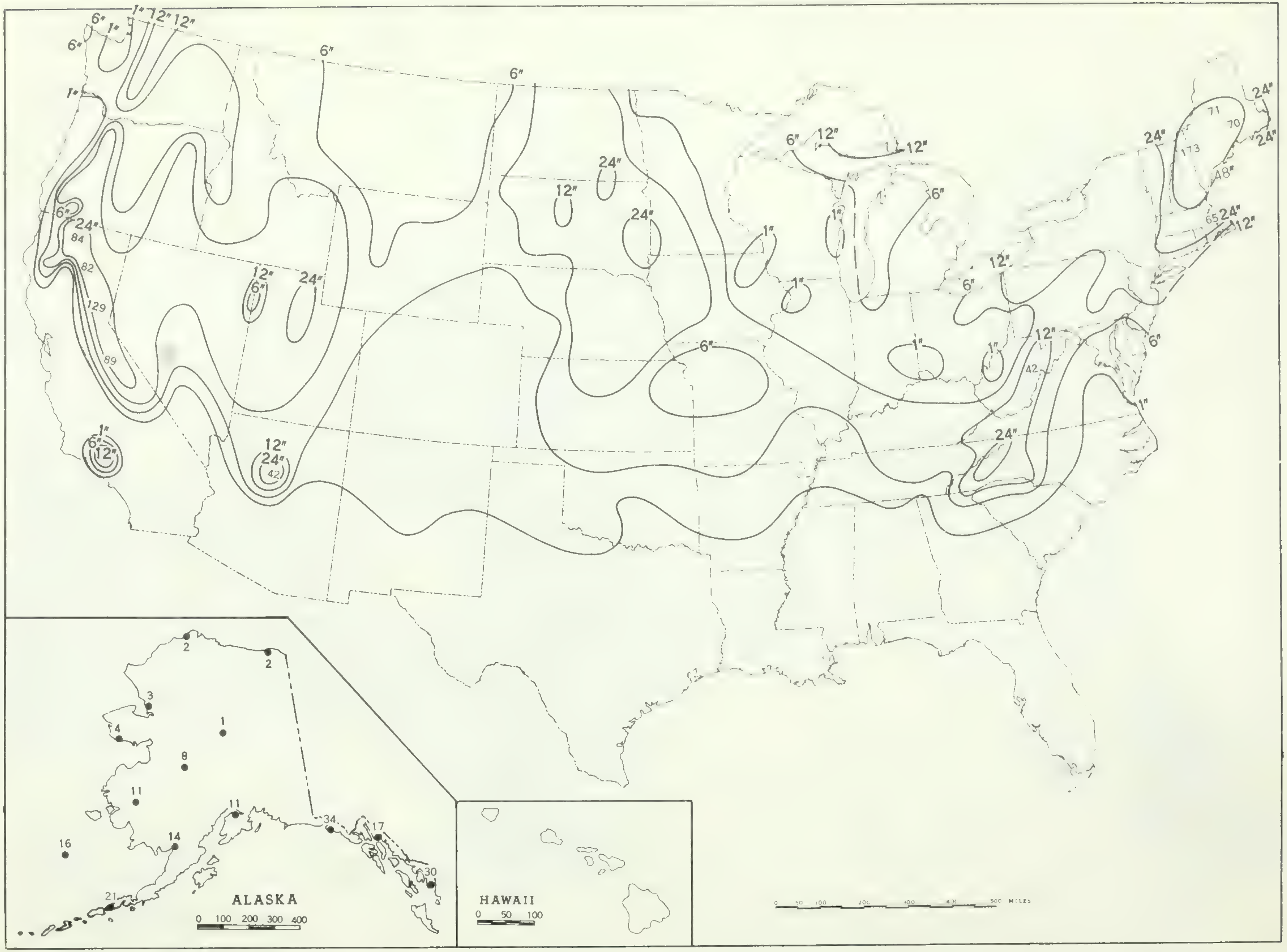
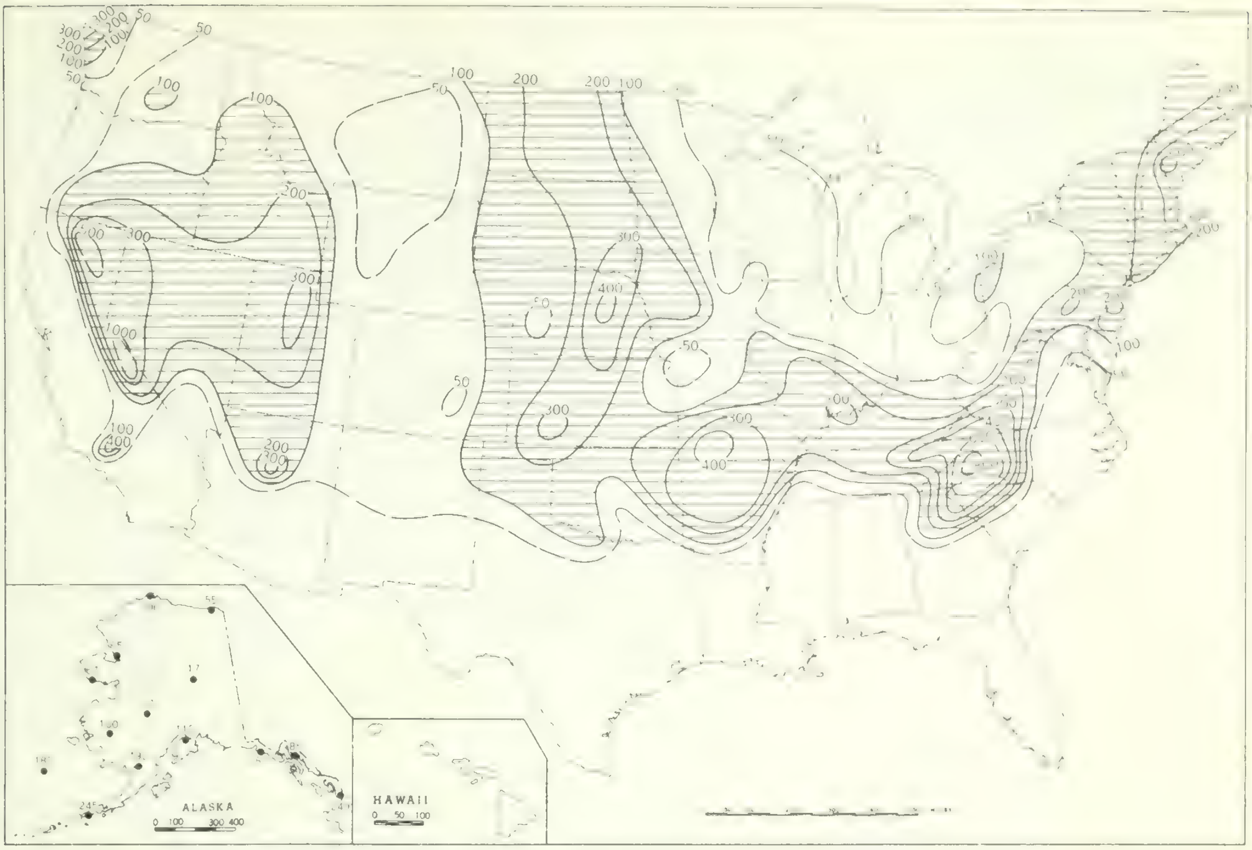


Chart IV. Total Snowfall (Inches), February 1969.

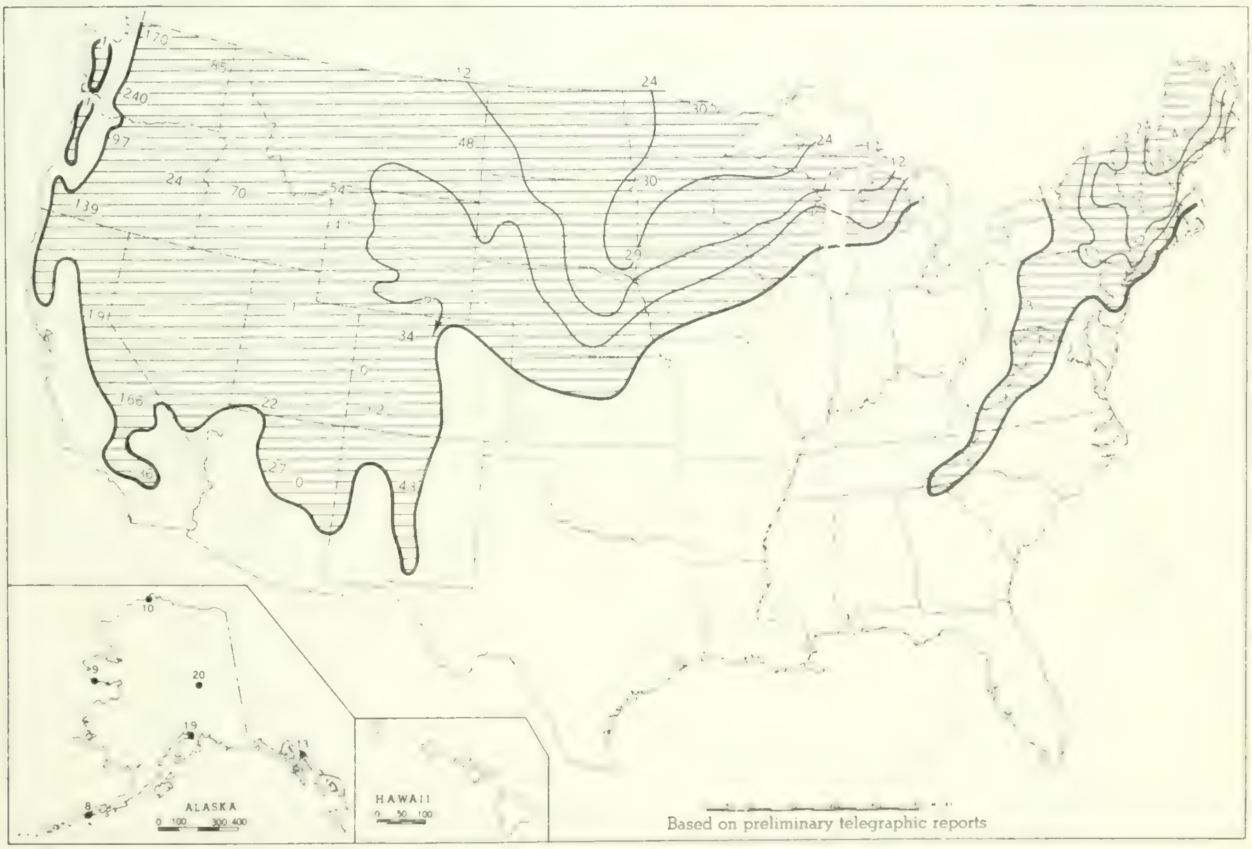


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, February 1969.

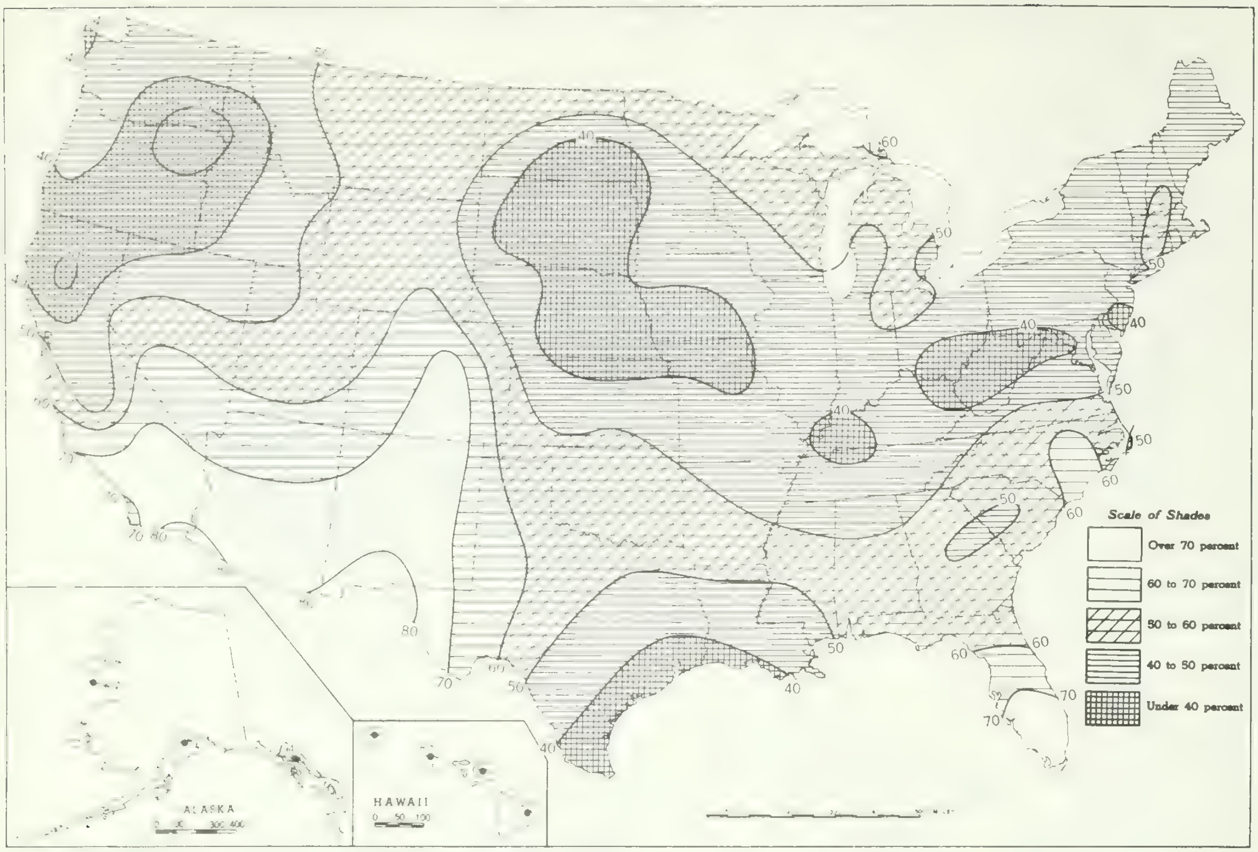


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., February 24, 1969.



A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

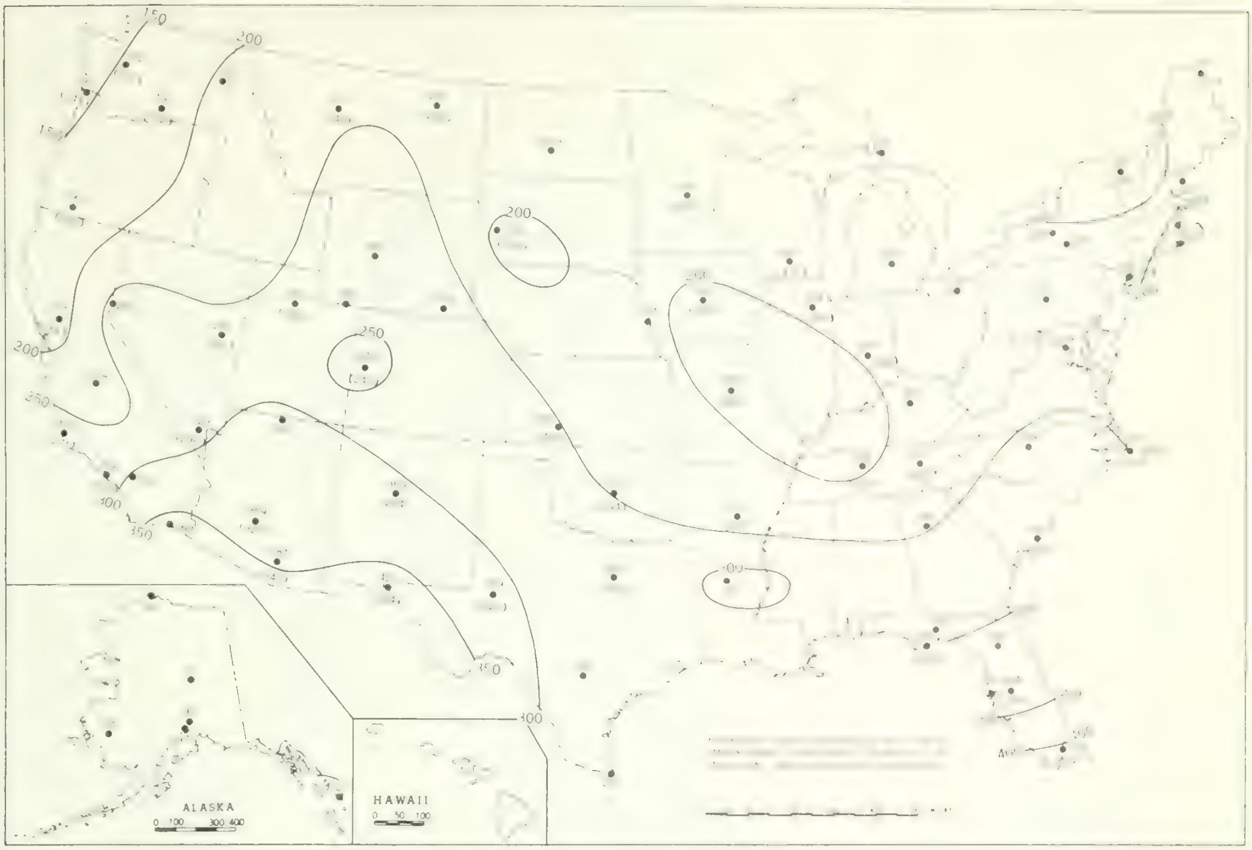
Chart VI. A. Percentage of Possible Sunshine, February 1969.



B. Percentage of Mean Monthly Sunshine, February 1969.

A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

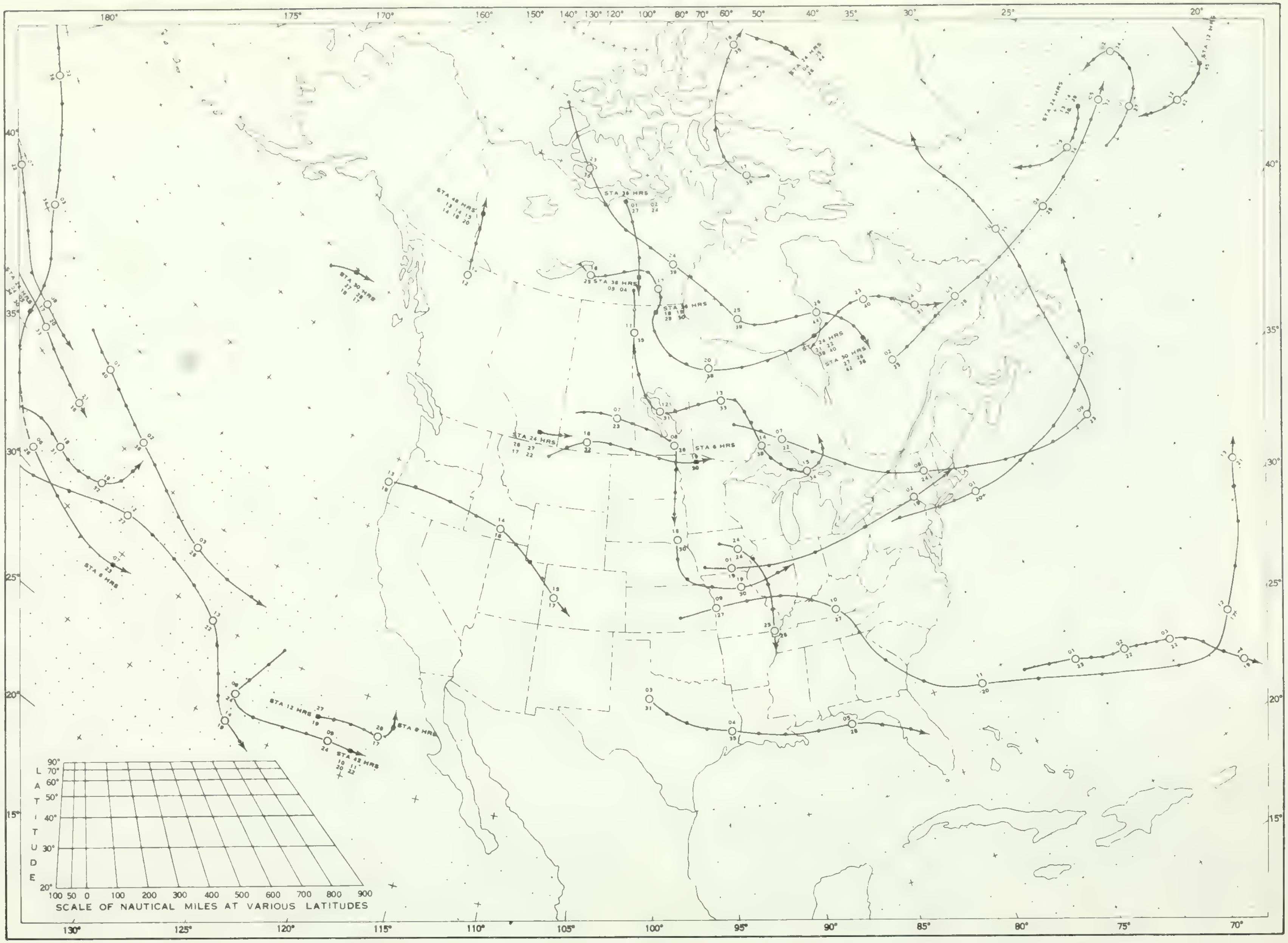
Chart VII. A. Average Daily Values of Solar Radiation, Langleys, February 1969.



B. Percentage of Mean Daily Solar Radiation, February 1969.

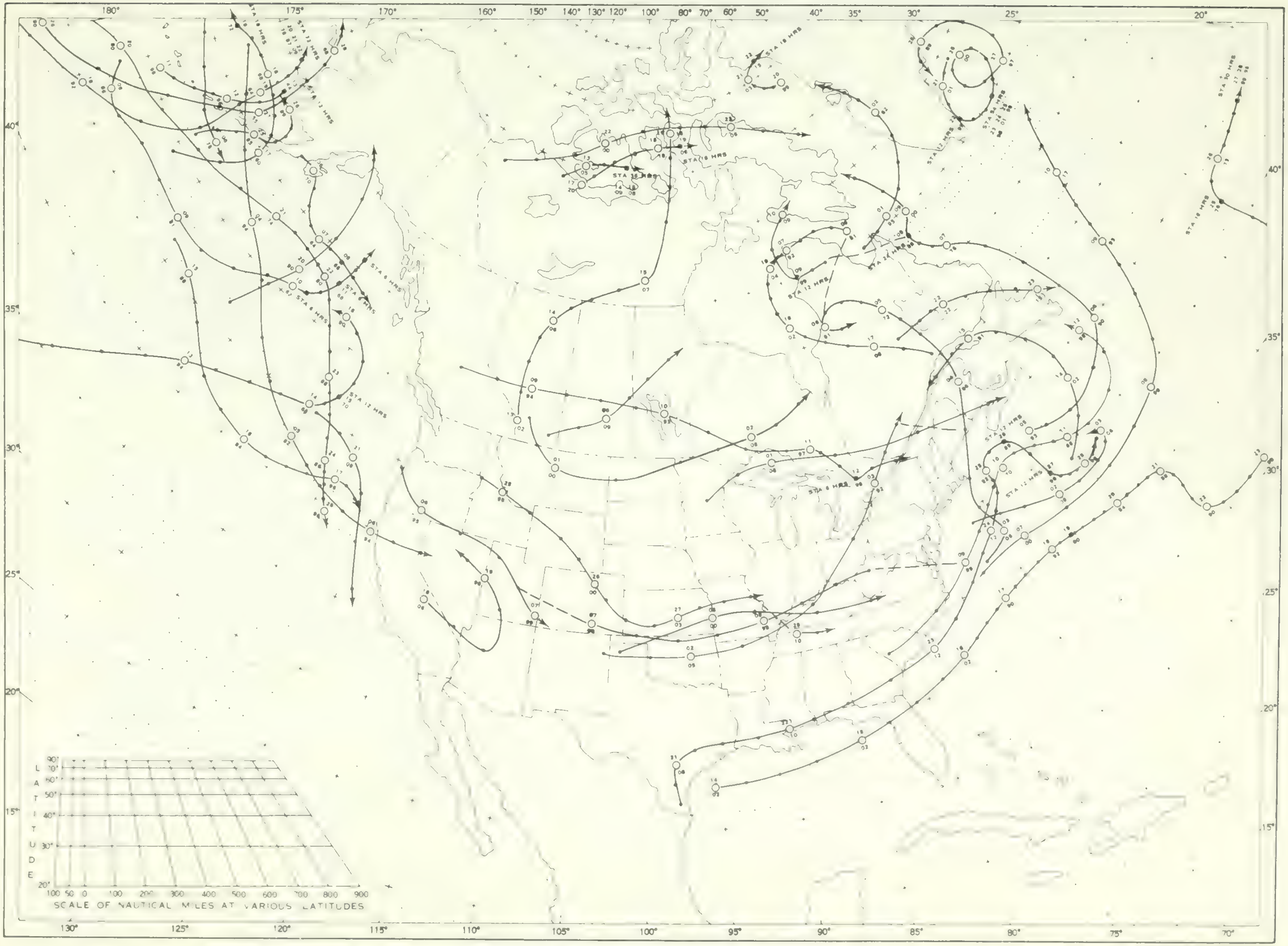
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII Tracks of Centers of Anticyclones at Sea Level, February 1969.



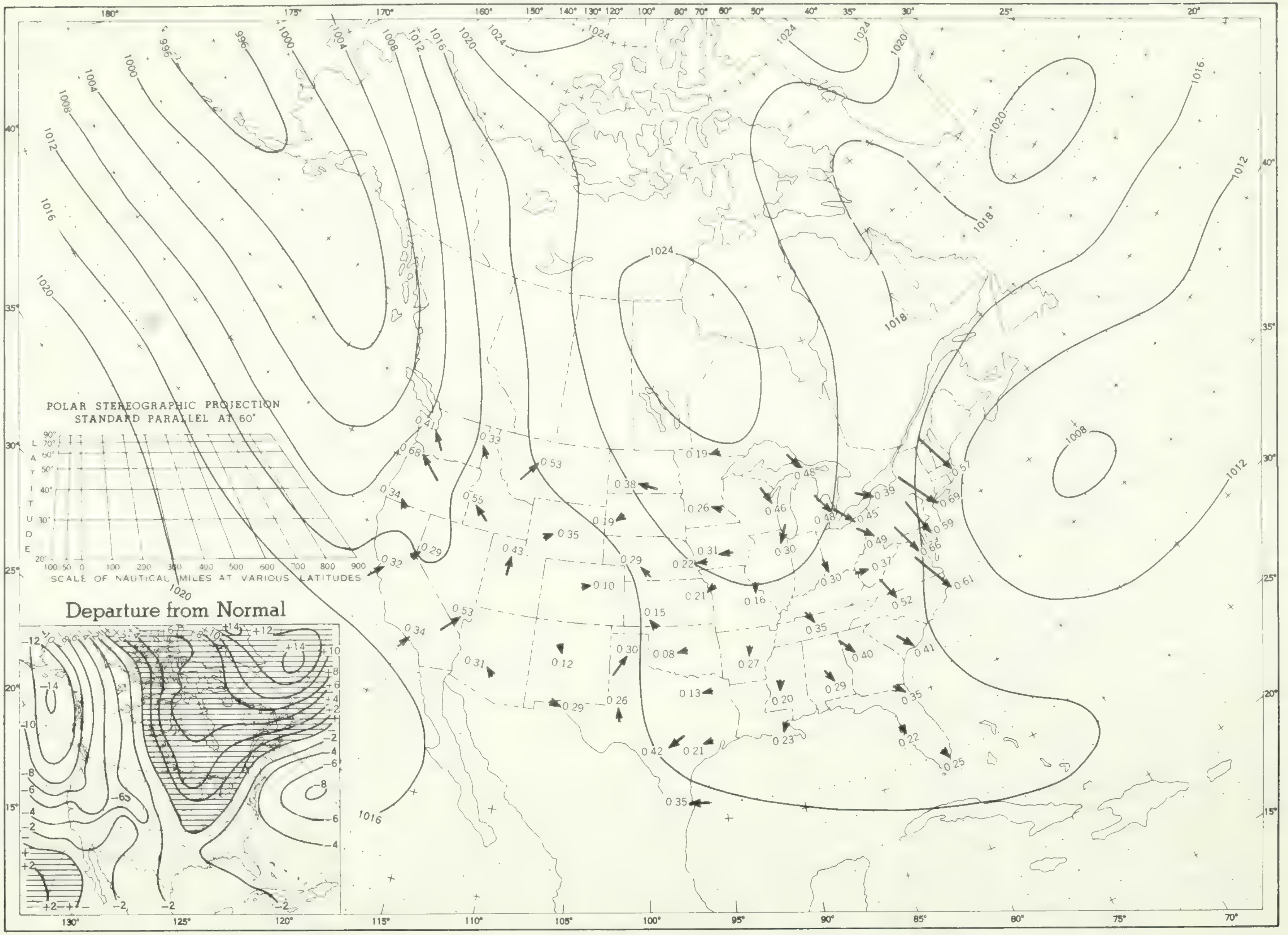
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, **February 1969.**



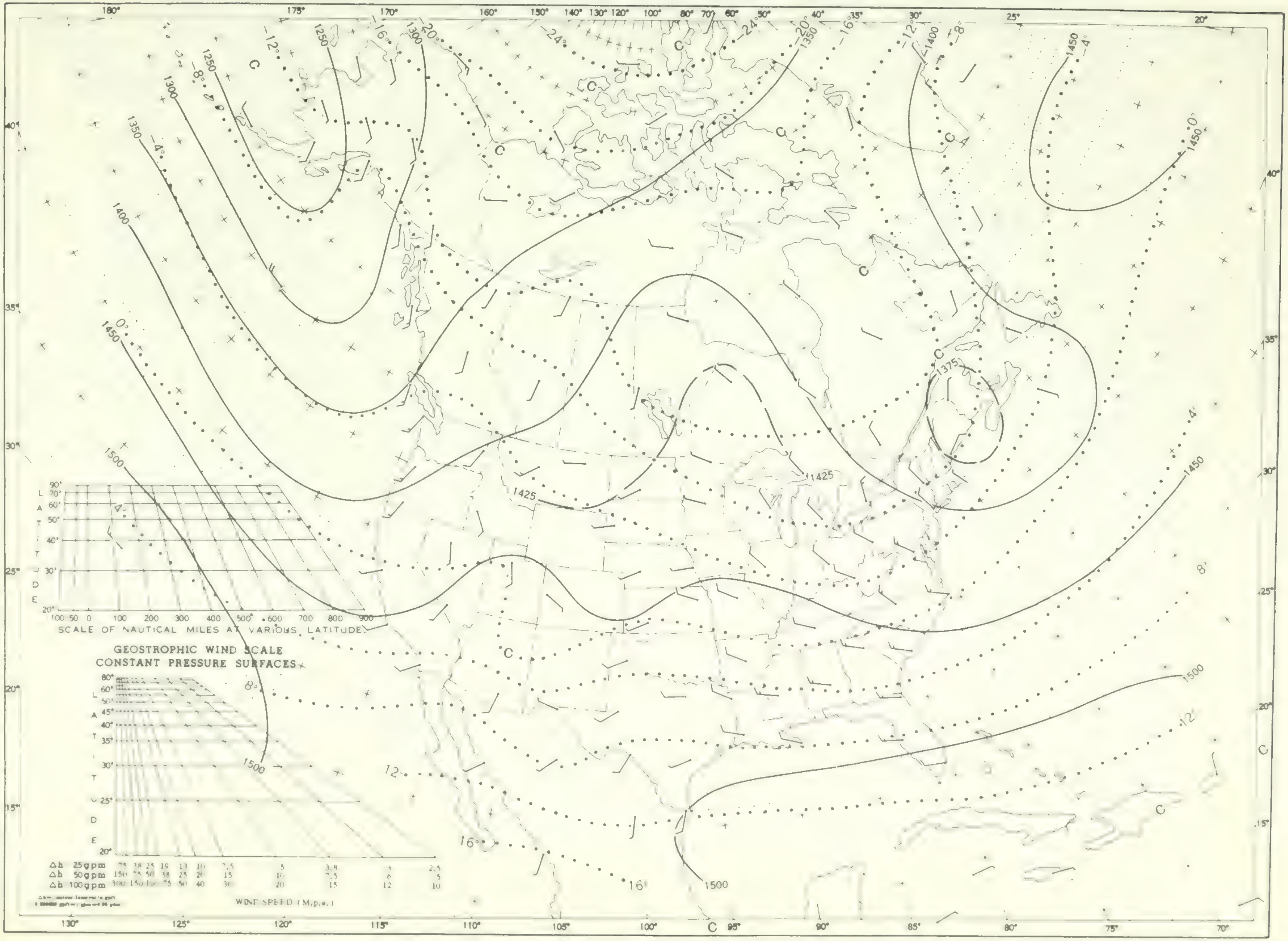
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X   Average Sea Level Pressure (mb) and Resultant Surface Wind, **February 1969**. Inset: Departure of Average Pressure (mb) from Normal, **February 1969**.



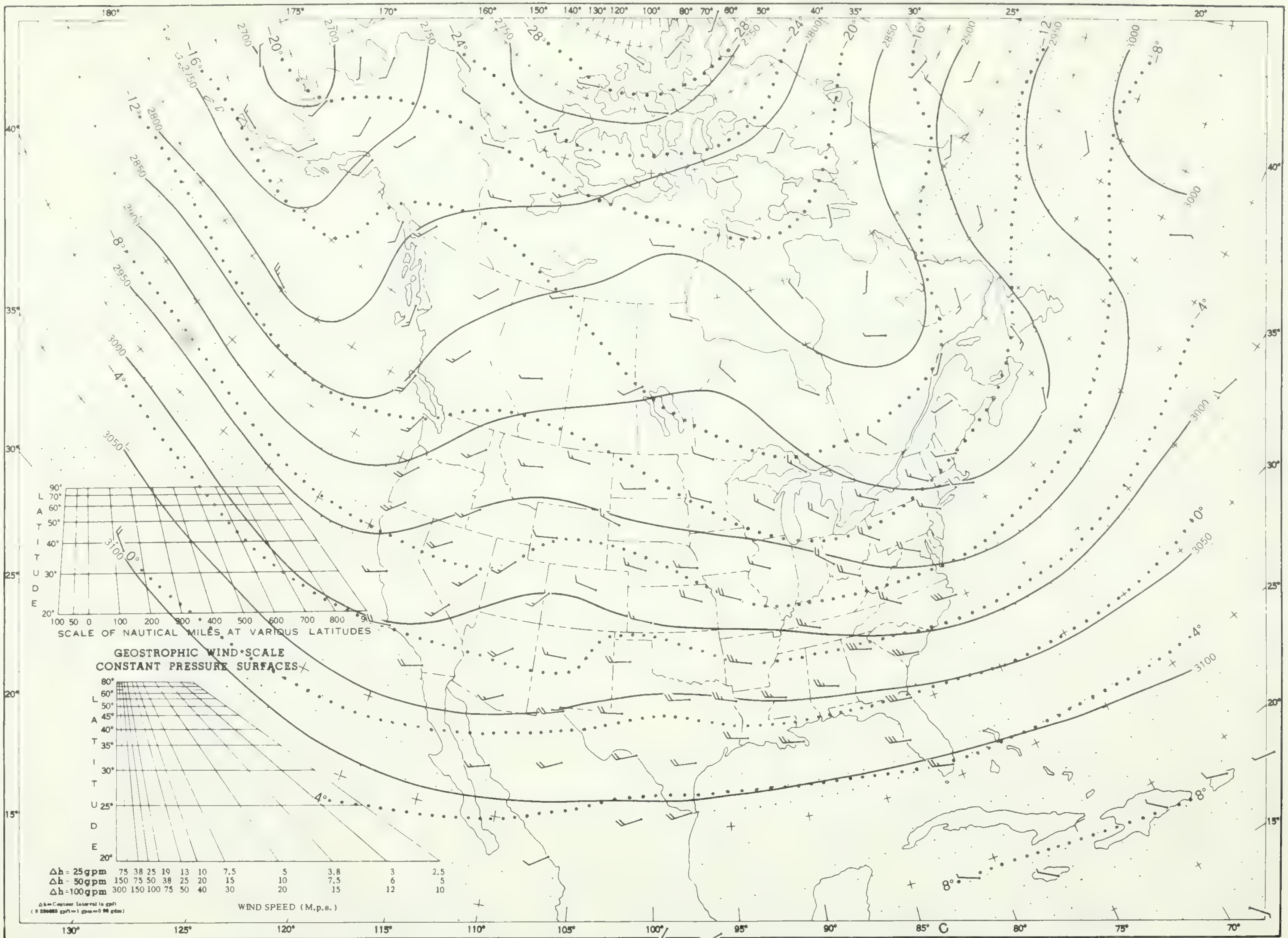
Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, **February 1969**. Average Height and Temperature, and Resultant Winds.



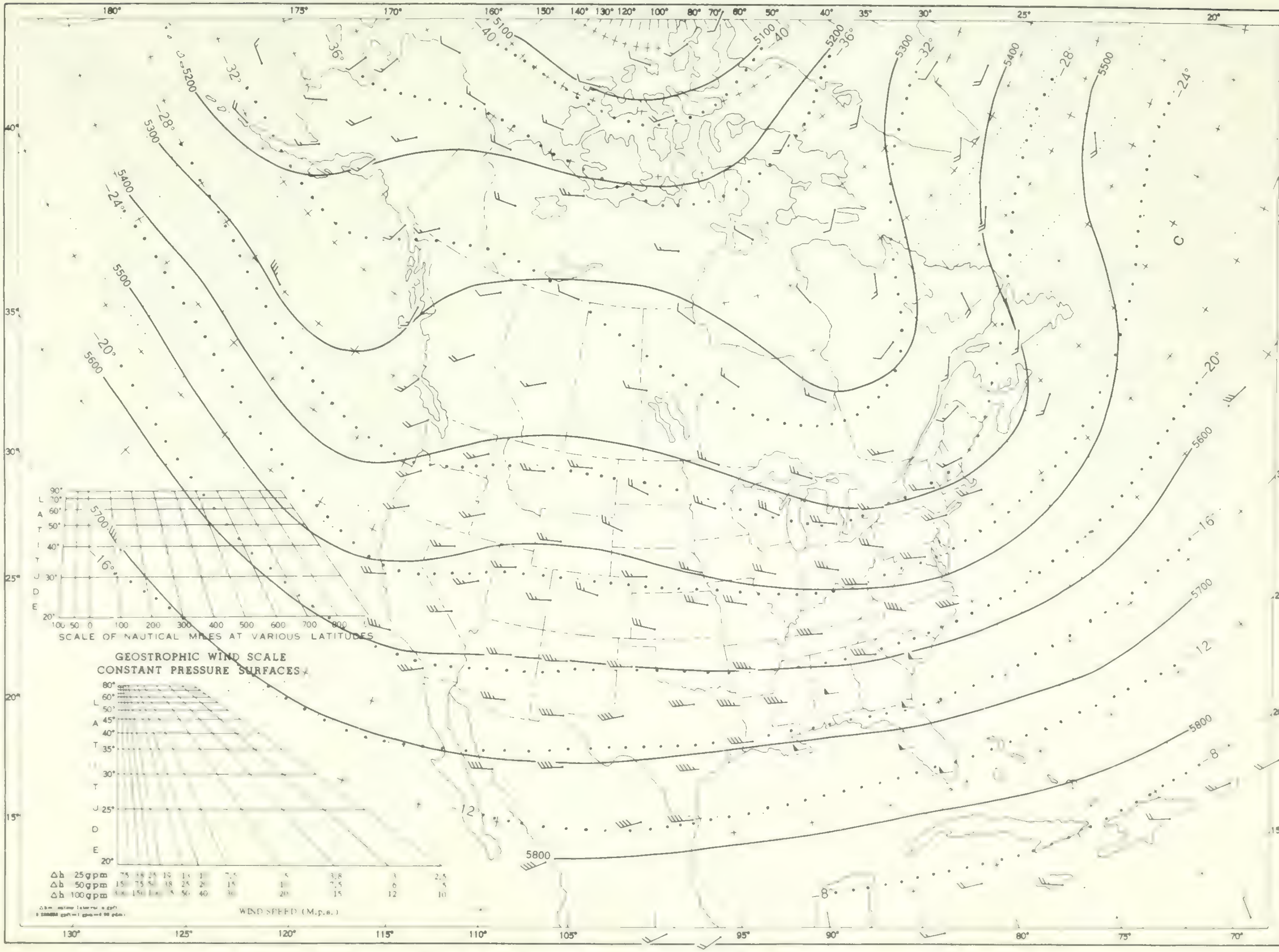
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, **February 1969**. Average Height and Temperature, and Resultant Winds.



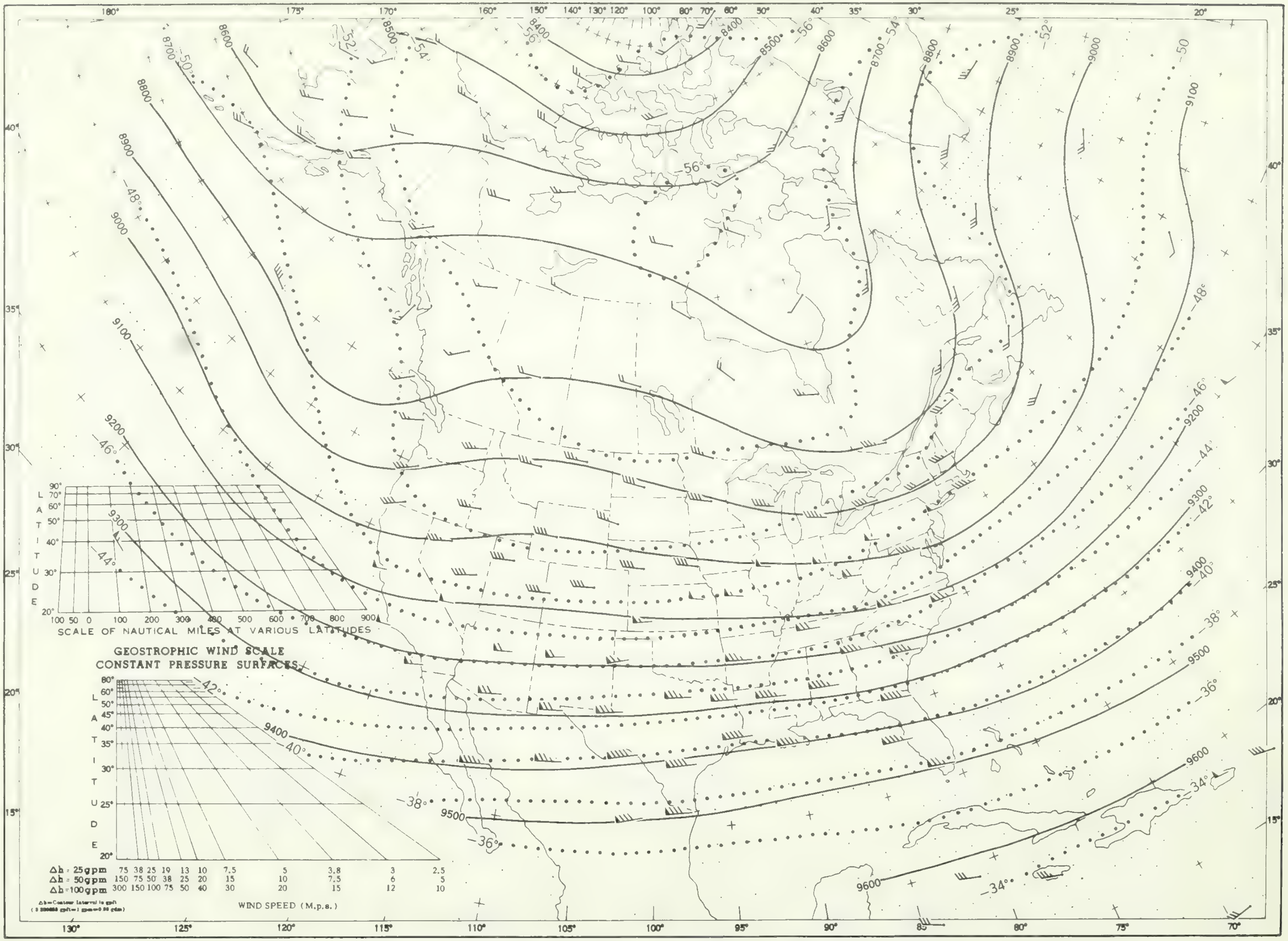
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, **February 1969**. Average Height and Temperature, and Resultant Winds.



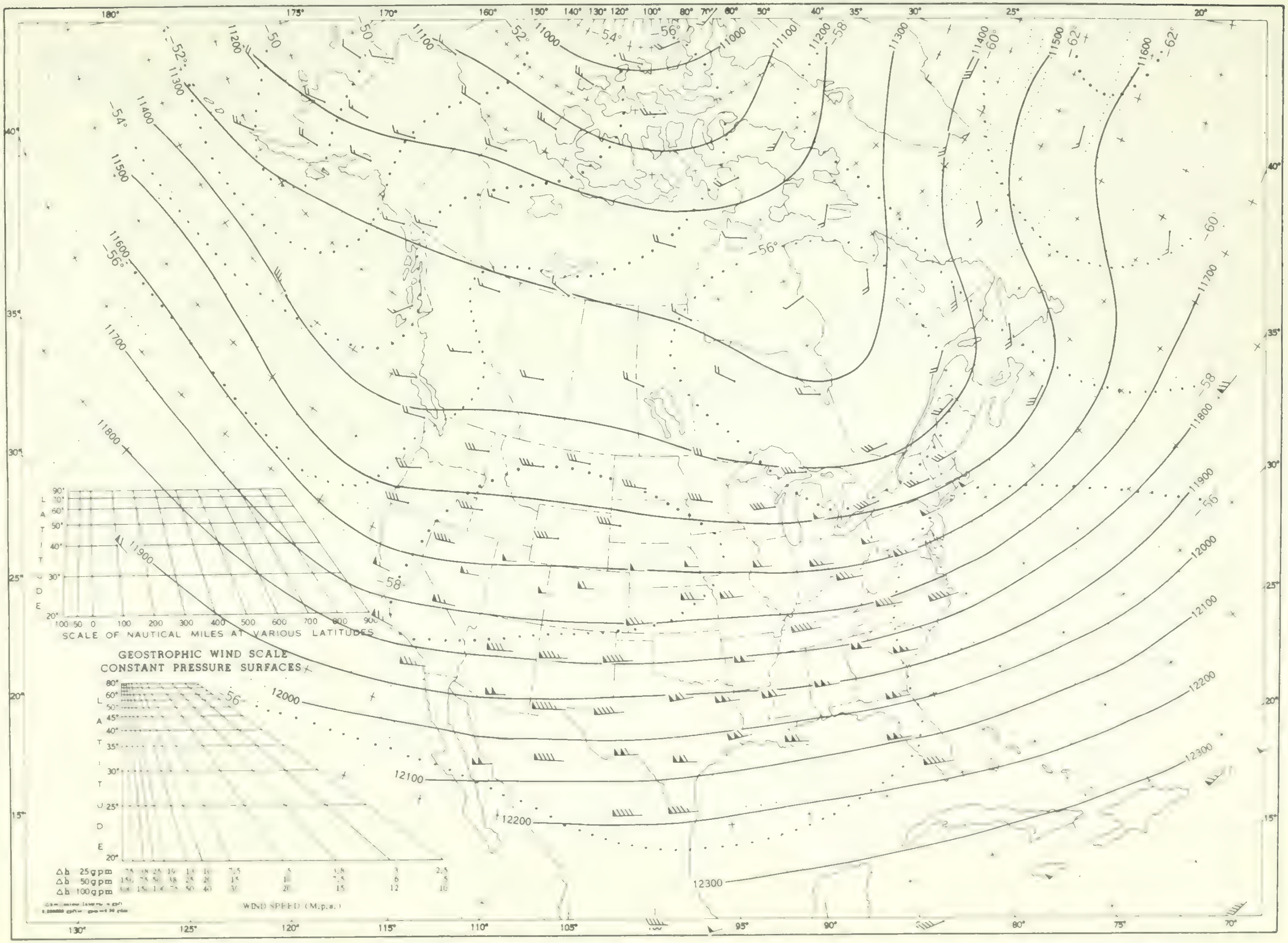
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25mps, full feather 5mps, and half feather 2.5mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, **February 1969**. Average Height and Temperature, and Resultant Winds.



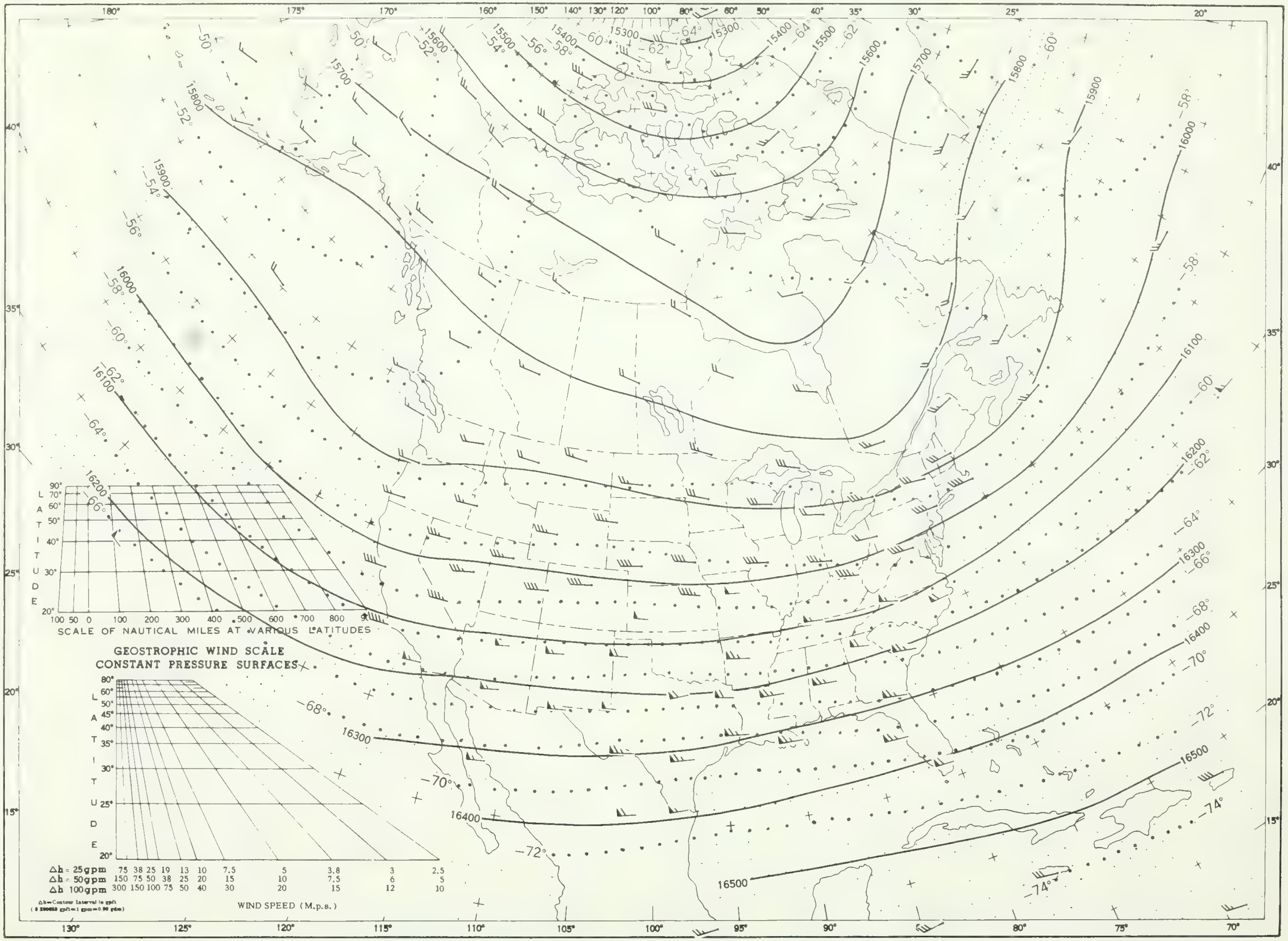
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, February 1969. Average Height and Temperature, and Resultant Winds



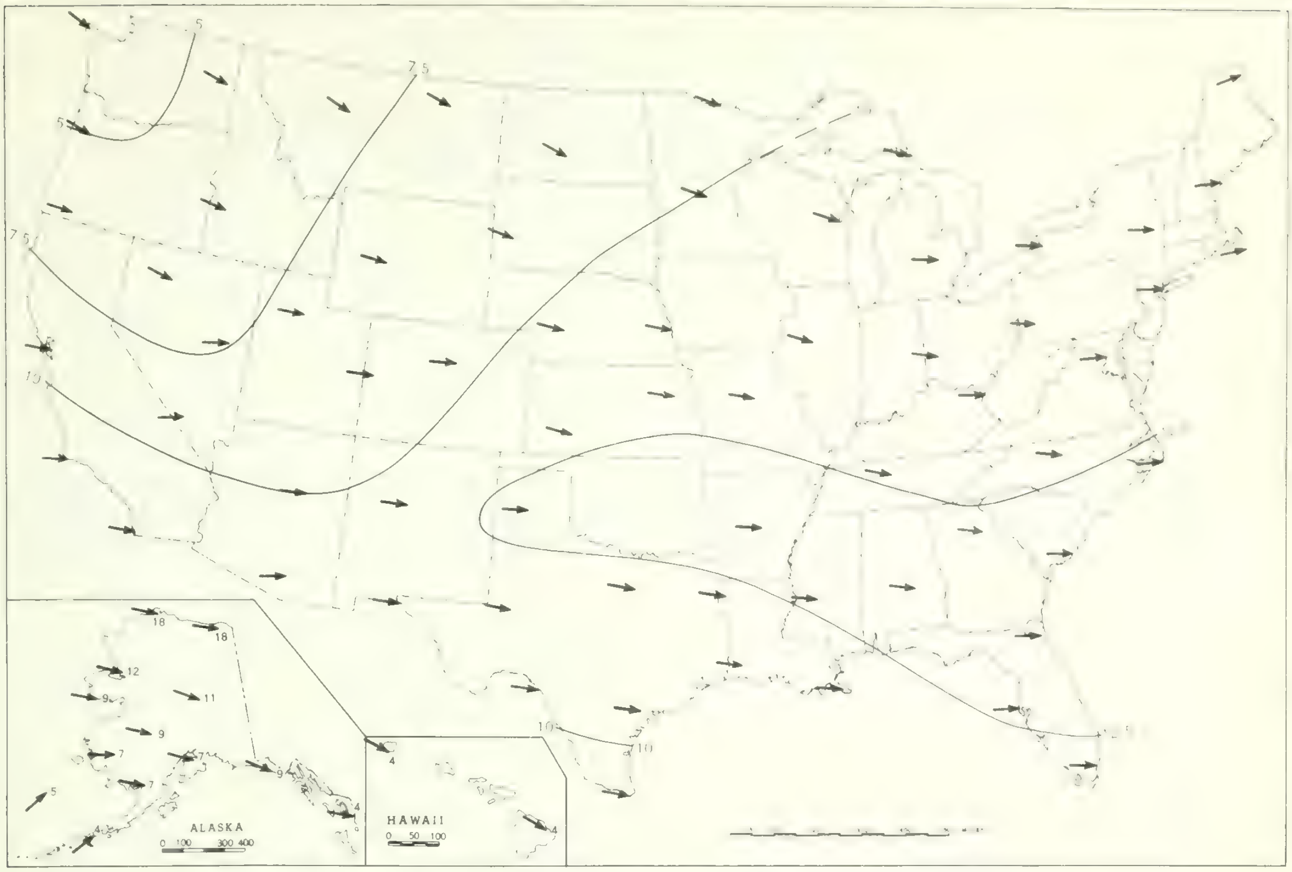
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, February 1969. Average Height and Temperature, and Resultant Winds

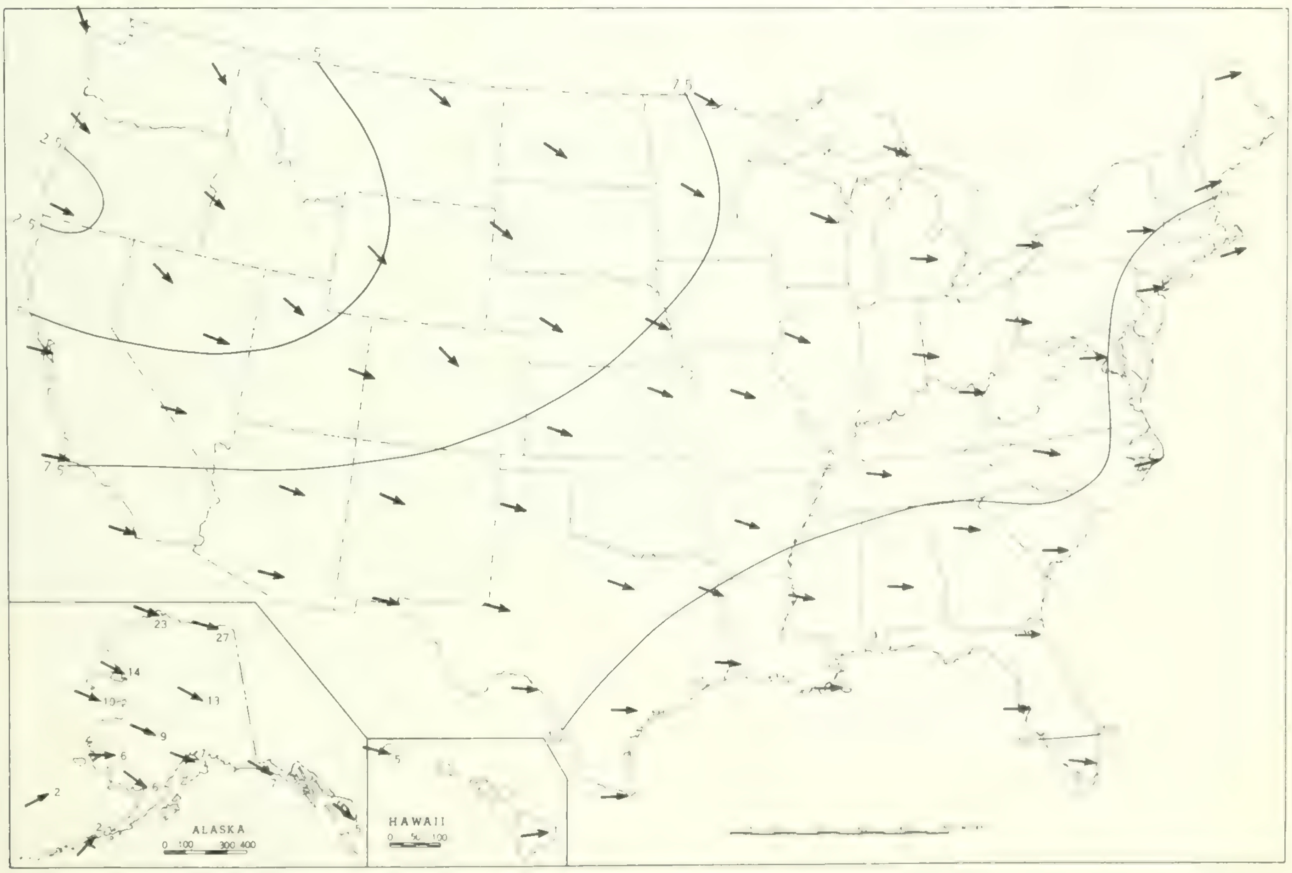


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, February 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, February 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MARCH 1969
Volume 20 No. 3

Asheville 1969

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 3 MARCH 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. March 1969 averaged colder than any previous March of record at numerous locations.
2. Many stations registered record-breaking low temperatures near the end of March.
3. A few stations received more snow than in any previous March.
4. Many stations received less precipitation in March than in any previous March and at a few stations the 2-month (Feb.-Mar.) and 3-month (Jan.-Mar.) totals were the least of record.

TEMPERATURE.--Only small areas--southern Washington, northern Oregon, and eastern New England--averaged warmer than normal in March. Parts of the Great Basin, most of the Great Plains, and the Southeast averaged 6° to 9° colder than normal. Flagstaff, Ariz., saw the coldest March in 70 years with temperatures averaging 27°. Helena, Mont., endured the coldest winter in 90 years, and at Aberdeen, S. Dak., March 1969 was the only March in the 74-year record that the temperature did not reach 40°. Also, southern locations registered exceptionally low average March temperatures: Roswell, N. Mex., 43.1°, the coldest in 54 years; Jackson, Miss., 49.3°, the 3d coldest March in this century; Tallahassee, Fla., 53.4°, the coldest March in the 83-year record; and numerous others.

In general, cold weather prevailed over the West until a warming trend began shortly after midmonth. March began mild in the Central States and Northeast before a cooling trend dropped temperatures sharply. Subzero temperatures occurred in more than a dozen north-central States about mid-March. Some late-season, subzero records set include: -15° at Fargo, N. Dak., on the 29th; -7° at Rochester, Minn., same date; and -5° at Sioux Falls, S. Dak., on the 30th.

The unusually heavy accumulation of snow throughout the Upper Midwest created a threat of severe flooding during the snowmelt period. Water equivalent values ranged from 3 to 4 inches to as much as 8 to 10 inches in north-central and southwestern Minnesota. At the end of March, the snowpack in the Upper Mississippi and Red River of the North Basins had not begun to thaw but the Little Sioux, Floyd, James, and Big Sioux, tributaries of the middle Missouri River were rising rapidly and were expected to exceed flood stage early in April.

PRECIPITATION.--Heavy snow fell in many parts of the United States early in March. In the Northeast, snow, accompanied by strong gusty winds, accumulated in drifts 5 to 6 feet deep. In New England, the snow collapsed roofs, delayed air and surface transportation, and closed schools and stores. In Kent County, Maryland, snow rollers, an interesting but unusual phenomenon, reached 10 to 12 inches in diameter and 22 inches in length, leaving trails 50 to 60 feet long. Another storm moved across the southern Rocky Mountains early in March. It dumped several inches of snow in southern Utah on the 4th and reached the eastern slope of the Rockies on the 5th. At the end of the first week of March, a Pacific storm lashed the Northwest coast with gales and heavy rain and snow inland to the Rocky Mountains. The snowpack at Paradise Ranger Station accumulated to 255 inches--over 21 feet. Meanwhile, severe thunderstorms dumped substantial rain from Texas to the southern Appalachians with snow in the mountains. One of the worst blizzards in years struck western Kansas on the 7th and 8th. It blocked roads, stranded motorists, downed power and communication lines, and killed several livestock.

A storm in the Southwest dumped 17 inches of snow at Flagstaff, Ariz., on the 10th and 11th, increasing the snow cover to 29 inches. As the moist air moved to the Great Plains it left 7 to 13 inches of snow in the Oklahoma and Texas Panhandles and up to 10 inches locally in southwestern Kansas.

Rain, accompanied by strong winds, beat upon the Washington and Oregon coast shortly after midmonth and showers occurred in northern California, spreading eastward to the Rocky Mountains. Six to 12 inches of snow fell in southern Minnesota, west-central Iowa, Wisconsin, and Upper Michigan near the end of the third week of March.

In the last week of March, a storm moved northeastward from the Missouri Ozarks to northern Maine. Locally heavy rain fell from the Ozark Mountains across the Ohio River Valley to Maryland and southward to the Carolinas. Snow mixed with rain fell along the western edge of the precipitation area and blustery winds, gusting to 30 to 45 m.p.h. from the Dakotas to Texas and eastward to the Atlantic coast, added to the people's misery.

Although snowfall at some locations in the central Great Plains exceeded that of previous seasons, localities elsewhere were exceedingly dry. Milford, Ore., received only 0.29 inch in March, the 2d lowest March total rainfall in their 54-year record. The February-March total at Parkersburg, W. Va., 2.11 inches, was the least in the 84-year record. The January to March period at Williamsport, Pa., was the driest in this century and the 3-month total at Morgantown, W. Va., was the least in 96 years. Above-normal rains fell from northern Arizona to Oklahoma, from Texas to Florida, and along the Atlantic coast as far north as Virginia.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

MARCH 1969

STATE	Temperature — Monthly extremes — Station	Highest	Date	Station	Lowest	Date	Precipitation — Monthly extremes — Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Tuscaloosa Oliver Dam	86	25	Russellville 2	11	12+	Fort Morgan	11.40	Gunterville	1.68
Alaska	Annette WBAP	62	29	Barter Island WBAP	-49	25	Whittier	15.82	4 Stations	T
Arizona	3 Stations	98	31+	Hawley Lake	-18	8	Hawley Lake	3.45	3 Stations	.00
Arkansas	Blue Mountain Dam	87	20	Devils Knob	11	9	Magnolia 3N	8.95	Osceola	2.09
California	Indio US Date Garden	106	31	Bridgeport	-26	8	Grant Grove	6.62	6 Stations	.00
Colorado	Holyoke	82	31	Fraser	-30	14+	Palmer Lake	3.30	Grand Valley	.04
Connecticut	Norwalk Gas Plant	67	19	Falls Village	-4	8+	Dawson Lake	4.13	Falls Village	1.98
Delaware	3 Stations	70	29	6 Stations	18	12+	Selbyville	4.55	Newark University Farm	1.12
Florida	Pompano Beach	89	18	Jasper 3SE	21	14	Melbourne	10.13	Key West WBAP	.85
Georgia	Bainbridge	87	24	2 Stations	14	12	Lumber City	8.07	Carrollton	2.19
Hawaii	Mauna Kea Beach 98	92	21+	Mauna Loa Slope Obs	24	5	Papaikou Mauka 140.1	52.51	4 Stations	.00
Idaho	2 Stations	79	30	Grouse	-27	11	Avery RS No 2	2.36	2 Stations	.00
Illinois	Harrisburg	80	19	Jacksonville	1	12	Watseka 2NW	3.43	Kewanee	.25
Indiana	Plymouth Power Substa	85	19	Wabash 2SW	0	12	Tell City Power Plant	3.33	Warsaw	.34
Iowa	Keokuk Lock and Dam 19	74	18	Britt	-12	11	Le Mars 2N	3.74	Waukon	.28
Kansas	2 Stations	84	20+	Brewster	-10	11	McCune 6SW	4.11	Saint Francis 8NW	.41
Kentucky	Mayfield Radio WNGO	80	19	2 Stations	4	13+	Golden Pond 8N	3.36	College Hill Lock 11	1.11
Louisiana	Franklinton 3SW	85	24	3 Stations	22	11	Hosston	11.67	Andrew	3.00
Maine	Woodland	60	25	2 Stations	-20	7+	Hiram	4.09	Clayton Lake 2	1.28
Maryland	Cumberland	74	20	Sines Deep Creek 2	3	13	Snow Hill 4N	6.00	Potomac Filter Plant	.68
Massachusetts	Springfield Gen Elec	63	18	Birch Hill Dam	-12	6	Rochester	4.85	West Otis	1.79
Michigan	2 Stations	71	19+	3 Stations	-24	11	Battle Creek WBCK	2.43	Eagle Harbor Coast GD	.03
Minnesota	do	56	18	2 Stations	-21	29+	Faribault Rad Sta KDHL	D 4.13	4 Stations	T
Mississippi	Merrill	83	25	do	17	11	Pascagoula 2ENE	9.74	Mount Pleasant	2.24
Missouri	Nevada Sewage Plant	83	19	do	0	9	Summersville	4.99	Linneus 2S	.89
Montana	Jordan 22E Van Norman	76	31	Wisdom	-30	10	Many Glacier	3.63	Biddle	.00
Nebraska	2 Stations	80	31	Valentine WBAP	-9	11	Superior	2.09	Lamar	T
Nevada	Sunrise Manor Las Vegas	90	29	Diamond Valley-Hall	-33	9	Mt. Rose-Christmas Tree	3.26	3 Stations	T
New Hampshire	North Stratford	58	24	Colebrook 2E	-28	6	Mount Washington	12.22	Gilmanton 2E	1.17
New Jersey	3 Stations	71	29+	Sussex 1SE	1	6	Paterson	5.00	Burlington	1.37
New Mexico	2 Stations	88	31+	Gavilan	-24	9	Bateman Ranch	3.85	2 Stations	.00
New York	Poughkeepsie	72	18	2 Stations	-16	6	Bridgehampton	3.93	do	.20
North Carolina	Whiteville	80	20	Hayesville 4NE	4	11	Elizabeth City	7.82	Sanford 4ESE	3.12
North Dakota	2 Stations	67	31	Bisbee	-29	31	Linton	2.29	Mandan Ft Lincoln Park	T
Ohio	Ironton	79	20	2 Stations	0	12+	2 Stations	2.35	Kings Mills	.65
Oklahoma	5 Stations	86	20+	do	3	9	Hugo	5.35	Boise City 2E	1.14
Oregon	Trail 12NE	85	26	Seneca	-11	12+	Valsetz	7.08	Adrian	T
Pennsylvania	Newell	78	21	2 Stations	-3	12+	Zerbey Airport	3.59	Donora	.02
Puerto Rico	Dorado 4W	95	5	Guineo Reservoir	51	26	Rio Grande El Verde	11.29	Ensenada	.21
Rhode Island	2 Stations	57	29+	Kingston	6	6	Woonsocket	3.53	Greenville	3.05
South Carolina	Sumter	86	24	Ninety Nine Islands	10	11	Sullivans Island	6.35	Georgetown	2.85
South Dakota	Midland	76	31	Custer	-24	8	Centerville 6SE	1.94	Forestburg 3NE	T
Tennessee	Rockwood 2	84	21	Unicoi 3ESE	6	12	Gatlinburg 2SW	5.42	Rogersville 1NE	.69
Texas	2 Stations	97	31+	Spearman	5	8	Pittsburg 5S	10.65	4 Stations	.00
Utah	Saint George	86	30	2 Stations	-25	14+	Blowhard Mtn Radar	4.35	2 Stations	.04
Vermont	Vernon	62	19	West Burke	-23	6	Mount Mansfield	7.58	Bristol	.72
Virginia	Chase City	79	20	2 Stations	2	11+	Wallaceton Lk Drummond	7.41	St Paul	D .81
Washington	2 Stations	78	27+	Chesaw 4NNW	-1	9	Spruce	11.82	2 Stations	.01
West Virginia	Mannington 1N	82	20	Petersburg	-4	11	Pickens 1	4.75	New Cumberland	.76
Wisconsin	Darlington	72	18	Mellen	-21	11	Montello	2.13	Madeline Island	T
Wyoming	Torrington Exp Farm	78	31	Big Piney	-32	11+	Fox Park	1.59	Powell	.01

\+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	994.6	1017.6	58	35	46.6	- 7.9	78	20	22	11	0	13	32	60	5.19	- 0.81	1.87	8	1	T	0	2.3	33	33	SW	24	8	9	14	6.1	55
HUNTSVILLE	624	994.2	1017.8	54	33	43.7	- 8.1	75	20	19	11	0	14	31	65	3.00	- 2.57	1.28	5	0	T	T	3.2	32	46	12	23	7	11	13	6.2	
MOBILE	211	1009.1	1017.3	64	44	53.8	- 6.5	79	24	30	11+	0	4	41	66	8.15	0.92	2.26	9	2	0.0	0	1.9	36	32	20	23	13	5	13	5.6	
MONTGOMERY	183	1010.2	1017.6	61	39	50.1	- 5.9	82	24	25	12	0	8	37	65	4.73	- 1.43	2.12	8	1	0.0	0	2.4	30	34	SW	24	10	10	11	5.3	68
ALASKA												B																				
ANCHORAGE	114	1005.8	1010.6	35	22	28.6	4.0	43	31+	4	16	0	30	18	65	0.10	- 0.41	0.06	4	0	1.1	15	0.6	2	25	35	14	2	9	20	8.0	43
ANNETTE	110	1013.9	1017.9	47	33	40.0	2.2	62	29	23	1	0	13	32	77	3.50	- 6.05	0.94	14	1	0.6	T	3.0	13	32	16	14	0	6	25	8.8	
BARROW	31	1021.7	1022.4	- 6	-17	-11.6	3.0	19	31	-36	25	0	31	-16	80	0.05	- 0.06	0.04	3	0	0.6	11	5.0	6	32	27	18	13	2	16	5.2	
BARTER ISLAND	39	1019.6	1021.6	- 5	-21	-13.0	1.9	21	1	-49	25	0	31	-21	66	0.06	- 0.14	0.04	4	0	1.1	5	2.7	24	77	28	18	13	5	13	5.5	
BETHEL	125	1002.0	1008.0	25	10	17.2	5.6	39	20+	-17	24	0	31	14	83	0.47	- 0.56	0.26	6	0	9.5	16	3.3	4	31	8	19	4	5	22	8.0	
BETTLES	644	991.2	1017.8	15	-10	2.8		41	31	-33	18	0	31	- 7	62	0.10		0.06	3	0	1.1	26	6.7	36	25	5	5	8	5	18	6.7	
BIG DELTA	1268			27	5	16.3		44	31	-28	16	0	31			0.27		0.20	3	0	5.3	5			43	19	19	8	8	15	6.2	
COLD BAY	96	1001.7	1005.4	36	29	32.5	3.7	43	22	13	12	0	19	27	80	1.92	0.17	0.28	18	0	13.4	9	5.2	19	50	25	20	0	4	27	9.0	
FAIRBANKS	436	996.3	1014.1	25	- 4	10.1	1.2	48	31	-31	18+	0	31	- 6	48	0.60	0.20	0.24	5	0	11.3	29	1.9	1	16	34	14	6	12	13	6.2	
FAREWELL	1499			28	4	16.1		42	30	-23	16	0	31			0.39		0.23	6	0	8.1	9						5	7	19	7.4	
GULKANA	1572	953.3	1013.3	30	8	19.1		44	31	-22	16	0	31	11	72	0.33		0.13	7	0	5.0		1.3	20	24	18	20	7	6	18	6.8	
HOMER	67			39	24	31.4		46	23+	6	16	0	27			1.28		0.59	13	0	9.8	14						3	7	21	7.8	
ILIAMNA	186			32	21	26.6		40	31+	- 5	16	0	28			1.23		0.48	15	0	8.8	37						5	3	23	7.9	
JUNEAU	12	1014.9	1015.8	36	25	30.7	0.3	45	29	3	17+	0	25	28	87	4.17	0.90	0.96	23	0	27.9	15	6.1	11	32	13	24	1	2	28	9.3	26
KING SALMON	49	1004.4	1006.5	32	21	26.3	6.8	39	9	- 6	16	0	29	19	72	1.19	0.23	0.24	13	0	12.3	7	3.6	11	39	10	19	2	3	26	9.0	
KOTZEBUE	10	1015.2	1015.7	8	- 6	1.0	3.1	29	8	-25	24	0	31	- 9	63	0.26	- 0.02	0.07	8	0	6.9	15	5.8	7	45	11	29	12	3	16	5.5	
MC GRATH	344	998.3	1011.4	28	2	15.0	6.7	47	11	-27	15	0	31	5	62	0.35	- 0.58	0.22	6	0	8.9	19	0.7	3	21	[illegible]	21+	2	6	23	8.1	
NENANA	356			21	- 5	8.1		43	31	-38	18	0	31			0.31		0.14	5	0	8.8				18	7	6	7	9	15	6.5	
NOME	13	1010.8	1011.7	18	- 1	8.2	0.3	32	7	-29	3+	0	31	4	78	0.24	- 0.64	0.12	9	0	5.0	12	6.9	5	33	3	9	9	3	19	6.6	43
ST. PAUL ISLAND	22	1004.1	1004.8	29	22	25.5	1.3	37	28	4	22	0	31	23	89	0.71	- 0.35	0.26	15	0	12.1	13	6.8	4	47	1	5	1	3	27	9.1	
SHEMYA	122	997.3	1001.0	35	29	31.8	- 0.6	40	28+	22	8	0	30	26	79	2.12	- 0.45	0.38	20	0	14.0	9	5.0	24	58	13	13	0	6	25	8.6	
SUMMIT	2401	922.1	1013.4	25	6	15.2		44	31	-18	18	0	31	10	79	0.71		0.29	13	0	10.7	17	4.0	4	26	7	14	4	7	20	7.4	
TALKEETNA	345	998.0	1011.5	36	11	23.3		47	31	-15	16	0	31	16	72	0.30		0.15	8	0	8.1	29	1.6	1	23	1	14	3	8	20	7.3	
TANANA	232			19	- 6	6.8		44	31	-34	25	0	31			0.44		0.22	5		5.1	23			24	12	26	8	7	16	6.5	
UNALAKLEET	15	1010.5	1011.1	23	9	15.3		38	7	-16	23	0	31	10	80	0.23		0.07	10	0	5.1	22	12.8	8	43	[illegible]	25	6	1	24	8.0	
YAKUTAT	28	1012.2	1013.1	36	23	29.7	- 1.7	42	31+	- 2	17	0	27	25	82	14.40	5.71	3.05	26	0	74.3	49	4.5	11	25	14	20	2	2	27	9.0	
ARIZONA																																
FLAGSTAFF	7006	784.3	1016.9	40	14	27.3	- 8.3	62	30	- 4	8	0	31	8	43	3.00	1.55	1.13	9	0	43.6	37	1.5	24	23	25	23+	13	8	10	4.6	
PHOENIX	1117	975.3	1014.4	73	41	56.9	- 2.1	91	30	32	15+	3	2	31	45	0.56	- 0.10	0.52	3	1	0.0	0	1.3	18	43Y	WSW	6	16	10	5	3.4	84
TUCSON	2584	925.5	1014.0	69	40	54.3	- 3.7	91	31	27	15	1	3	23	36	0.34	- 0.19	0.24	2	0	T	0	2.8	22	34	SW	13	19	7	5	3.2	86
WINSLOW	4895	849.6	1015.6	57	26	41.4	- 4.2	80	31	15	5	0	27	18	48	0.45	0.06	0.18	7	0	6.1	2	3.4	26	44	31	23	17	9	5	3.8	
YUMA	194	1007.5	1014.9	77	49	62.8	- 0.2	96	30	38	12	5	0	28	32	0.02	- 0.22	0.02	1	0	0.0	0	4.2	30	36	W	10	22	8	1	2.1	95
ARKANSAS																																
FORT SMITH	447	1002.0	1019.0	57	34	45.3	- 5.8	85	19	22	10+	0	13	29	57	2.60	- 0.87	1.86	7	2	0.0	0	2.4	36	30	W	24	12	3	16	5.7	64
LITTLE ROCK	257	1008.8	1018.4	56	35	45.5	- 6.3	80	19	20	11	0	13	31	59	3.65	- 1.16	2.93	8	2	T	T	2.4	33	32	NW	8	14	5	12	5.3	70
CALIFORNIA																																
BAKERSFIELD	475	1001.7	1019.5	69	45	56.7	- 0.2	92	29	36	14+	1	0	39	55	0.29	- 0.77	0.13	5	0	0.0	0	1.7	3	26	13	24+	13	11	7	4.6	
BISHOP	4108	875.4		55	25	40.1	- 7.5	81	31+	9	1	0	24			0.68	0.13	0.59	4		2.0	13						17	7	7	3.8	
BLUE CANYON	5280			44	31	37.5	- 2.0	62	28+	21	7	0	19			2.24	- 6.21	0.75	13		13.1	125			28	8	24+	12	7	12	6.3	
EUREKA U	43			55	42	48.3	- 0.4	71	25+	34	8	0	0			1.56	- 3.69	0.88	11		0.0	0			34	N	9	8	14	9	[illegible]	77
FRESNO	328	1007.5	1019.3	66	40	53.1	- 1.9	87	29	30	7	0	2	40	67	1.16	- 0.80	0.60	7	0	0.0	0	2.1	33	30	NW	3	13	10	8	4.5	83
LONG BEACH	34	1016.6	1018.1	67	46	56.2	- 0.5	85	27	37	14	0	0	42	64	0.66	- 0.71	0.34	5	0	0.0	0	2.6	26	29	34	3	16	11	4	3.8	
LOS ANGELES	97	1013.9	1017.6	63	49	56.4	- 0.6	80	25	40	11	0	0	45	68	0.42	- 1.37	0.23	3	1	0.0	0	3.4	25	32Y	NW	6	16	11	4	3.7	
LOS ANGELES U	270			70	50	59.7	0.3	88	27	41	11	0	0			1.49	- 0.77	1.24	3		0.0	0			33	NW	3	18	8	5	3.5	82
MT SHASTA R	3544			51	29	39.7	- 1.5	71	27	17	8	0	21			0.82	- 3.64	0.47	8		7.2	39										
OAKLAND	6	1020.0	1020.3	61	46	53.5	- 0.1	76	27+	39	13	0	0	43	71	0.98	- 1.44	0.44	5	0	0.0	0	4.1	29	25	6	24	14	12	5	3.9	
RED BLUFF	342	1007.1	1020.0	66	42	53.6	- 0.5	79	25	31	8	0	1	37	59	1.39	- 1.31	0.74	7	0	0.0	0	3.3	33	30	N	4	12	11	8	4.6	75
SACRAMENTO	17	1019.0	1019.7	63	42	52.4	- 1.0	79	28	33	13	0	0	40	67	0.94	- 1.42	0.41	6	0	0.0	0	2.4	28	31	N	4	16	8	7	4.1	94
SANDBERG R	4517	862.9		53	37	44.9	- 0.1	76	30+	24	13	0	12	24	52	0.56	- 0.88	0.23	7		3.0	1			52	35	4	12	9	10	4.7	
SAN DIEGO	13	1016.9	1017.9	65	49	56.8	- 2.2	78	26+	44	15	0	0	44	64	0.94	- 0.63	0.37	7	1	0.0	0	4.1	29	23	NW	13+	15	8	8	3.9	86

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h.							%
CALIFORNIA																																
SAN FRANCISCO	8	1019.6	1020.4	61	44	52.1	- 1.2	76	27+	38	21+	0	0	42	72	1.34	- 1.35	0.75	6	0	0.0	0	6.8	29	36	WNW	5	17	6	8	3.9	
SAN FRANCISCO U	52			60	48	54.3	- 0.4	78	26	43	13	0	0			1.01	- 1.92	0.31	6		0.0	0			29	SW	2					87
SANTA MARIA	236			63	40	51.3	- 2.0	81	27	32	8	0	1			0.66	- 1.40	0.23	7		0.0	0						16	11	4	3.7	
STOCKTON	22	1019.0	1020.1	64	40	51.8	- 1.9	80	28	30	14	0	3	41	72	0.91	- 1.14	0.38	7	0	0.0	0	3.3	31	25	36	4	12	11	8	4.5	
COLORADO																																
ALAMOSA	7536	767.7		45	11	27.9	- 4.2	68	31	- 1	9	0	31			0.47	0.21	0.14	9		12.5	2						8	10	13	5.9	
COLORADO SPRINGS	6145	809.0	1019.2	41	18	29.6	- 6.6	72	31	0	9	0	31	14	58	0.77	0.16	0.36	10	0	11.3	5	2.7	3	41	29	19	3	8	20	7.3	
DENVER	5283	834.7	1017.0	45	19	32.2	- 4.2	74	31	- 2	8	0	28	19	66	1.10	- 0.11	0.64	9	0	13.2	6	0.6	19	37	NW	19	3	12	16	7.1	77
GRAND JUNCTION	4843	851.0	1016.5	51	26	38.1	- 3.4	75	31	15	9	0	27	19	51	0.67	- 0.08	0.29	7	0	9.5	5	1.6	5	33	NW	19	9	11	11	5.5	71
PUEBLO	4684	855.1	1017.4	49	24	36.3	- 3.8	77	31	7	9	0	27	20	56	0.82	0.30	0.23	9	0	12.7	3	2.2	5	43	NW	23	7	11	13	6.4	73
CONNECTICUT																																
BRIDGEPORT	7	1011.2	1012.0	45	29	37.0	- 0.5	65	18	20	12	0	22	23	60	3.35	- 0.90	2.44	7	1	2.0	1	7.9	32	42	3	2	11	7	13	5.7	
HARTFORD	169	1004.4	1011.2	42	27	34.5	- 1.5	63	18	12	6	0	23	21	60	3.11	- 0.69	2.31	6	1	4.4	10	6.4	31	29	NW	31+	6	8	17	6.7	60
NEW HAVEN	6	1011.5		43	27	35.2	- 1.7	59	18	18	12+	0	23			2.62	- 2.00	1.66	7		3.6	1			30	NW	12+	10	7	14	5.9	66
DELAWARE																																
WILMINGTON	74	1010.5	1013.6	48	31	39.6	- 1.7	65	18	19	12	0	22	23	55	1.71	- 2.31	0.82	8	0	7.8	4	6.4	28	30	28	7	11	10	10	5.4	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1012.2	1014.5	53	33	43.0	- 1.8	70	21+	20	12	0	18	25	52	1.60	- 1.61	0.50	10	1	6.7	3	5.4	31	32	NW	11	14	4	13	5.2	61
FLORIDA																																
APALACHICOLA U	13			62	48	55.1	- 5.9	74	19	36	11+	0	0			8.18	3.66	4.15	12	4	0.0	0			38	SE	23	10	10	11	5.6	76
DAYTONA BEACH	31	1015.9	1017.2	67	48	57.9	- 5.9	81	25+	36	12	0	0	45	66	2.74	- 0.82	0.80	12	1	0.0	0	1.8	32	28	25	9	6	8	17	6.8	
FORT MYERS	15	1016.6	1016.8	72	55	63.4	- 4.8	82	24	44	14+	0	0	53	71	4.74	2.12	2.97	7	3	0.0	0	2.2	3	25	29	6	2	11	18	7.4	
JACKSONVILLE	20	1015.9	1016.9	67	45	55.9	- 6.3	84	24	34	12	0	0	43	66	4.23	0.74	1.13	9	1	0.0	0	2.3	29	35	W	9+	12	8	11	5.2	72
KEY WEST	4	1015.6	1016.2	73	65	68.9	- 3.6	83	18	57	13+	0	0	60	73	0.85	- 0.92	0.39	8	1	0.0	0	5.2	5	31	NW	4	2	12	17	7.3	62
LAKELAND U	214			69	51	60.0	- 6.5	80	22+	39	10	0	0			5.38	1.13	2.84	11		0.0	0						7	8	16	6.7	52
MIAMI	7	1015.9	1016.1	75	60	67.8	- 2.7	87	18	46	5	0	0	56	68	1.98	- 0.29	0.96	11	2	0.0	0	1.4	4	25	28	19	3	9	19	7.7	
ORLANDO	108	1012.9	1017.3	71	50	60.4	- 5.5	84	18	39	10	0	0	47	66	5.52	2.11	2.50	11	1	0.0	0	1.9	34	28	25	18	5	7	19	7.2	
PENSACOLA	112	1012.9	1017.0	63	45	53.7	- 7.3	79	24	31	11	0	2	41	65	9.26	3.22	4.33	9		0.0	0	2.2	35	45	SE	23	11	6	14	5.9	65
TALLAHASSEE	55	1014.9	1017.4	67	40	53.4	- 7.2	82	30	27	14	0	7	41	68	9.13	3.95	2.51	11	3	0.0	0	1.5	34	30	15	23	10	10	11	5.2	
TAMPA	19	1016.6	1017.0	68	49	58.2	- 7.8	81	30	38	14+	0	0	48	71	5.33	1.58	2.45	11	1	0.0	0	2.4	1	29	29	6	5	6	20	7.4	57
WEST PALM BEACH	15	1015.9	1016.6	73	56	64.7	- 5.2	88	18	43	2	0	0	53	67	5.53	2.09	2.57	12	3	0.0	0	1.5	1	35	25	6	4	7	20	7.8	
GEORGIA																																
ATHENS	802	986.5	1015.9	59	36	47.4	- 4.2	78	24	22	11	0	12	29	54	4.86	- 0.24	2.30	7	1	T	0	4.3	28	23	22	24	11	8	12	5.1	
ATLANTA	1010	979.3	1016.6	58	36	46.9	- 4.5	78	24	21	11	0	11	30	58	4.00	- 1.37	1.53	7	1	0.0	0	4.9	31	69	SE	23	13	7	11	5.0	69
AUGUSTA	136	1010.5	1015.9	63	37	50.0	- 4.9	81	24	23	12	0	11	33	58	3.23	- 0.94	1.68	6	1	0.0	0	3.9	28	38	32	4	12	10	9	4.8	
COLUMBUS	385	1002.7		62	38	49.8	- 5.5	81	24	24	12+	0	10	34	60	4.49	- 1.52	2.15	8	2	0.0	0	3.3	31	30	23	24	13	7	11	4.9	
MACON	354	1003.7	1016.8	63	38	50.4	- 6.5	81	24	25	12+	0	9	34	59	3.85	- 1.09	1.64	8	1	0.0	0	3.6	30	31	SE	24	15	7	9	4.7	66
ROME	637			58	31	44.8	- 5.6	77	24+	20	12	0	20			3.93	- 1.94	1.71	6		T	0										
SAVANNAH	46	1014.6	1016.3	65	40	52.4	- 5.9	84	24	26	12	0	8	37	61	5.11	1.14	1.69	7	2	0.0	0	3.6	27	34	NW	9	14	7	10	4.8	76
HAWAII																																
HILO	27	1016.9	1018.2	80	65	72.5	1.9	83	16+	60	10	0	0	64	77	30.64	15.94	7.64	28	3	0.0	0	0.6	9	19	SW	30+	1	11	19	8.0	37
HONOLULU	7	1017.3	1017.7	81	66	73.6	0.8	84	5	61	28	0	0	62	72	3.00	0.11	2.69	8	0	0.0	0	10.1	5	28	NE	9	11	12	8	5.1	83
KAHULUI	48	1015.2	1017.6	81	64	72.2	0.0	85	21	56	10	0	0	63	75	3.17	0.95	1.06	15	1	0.0	0	12.0	5	32	E	2	9	11	11	5.8	72
LIHUE	103	1014.2	1019.2	75	65	69.9	- 1.1	78	22+	58	11	0	0	63	80	1.75	- 2.81	0.40	14	0	0.0	0	10.3	5	26	NE	31	3	13	15	6.7	49
IDAHO																																
BOISE	2838	918.4	1020.0	54	31	42.5	0.8	74	30	23	12+	0	22	24	53	0.26	- 1.06	0.13	3	0	1.3	1	0.5	17	34	NW	23+	9	10	12	5.9	77
LEWISTON	1413			55	32	43.3	0.7	70	30+	21	11	0	19			0.25	- 0.93	0.16	4		0.0	0						8	7	16	6.1	
POCATELLO	4454	864.5	1021.8	41	18	29.2	- 6.6	65	30	1	11	0	29	20	72	0.40	- 0.62	0.18	7	0	5.7	4	3.3	25	34	SW	22	9	5	17	6.5	68
ILLINOIS																																
CAIRO U	314			51	33	42.2	- 6.0	78	19	22	11+	0	19			2.38	- 2.41	1.73	7		T	T			34	E	23	13	6	12	5.3	66

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
CHICAGO O HARE	658	991.9	1017.0	44	25	34.4	-0.3	74	18	11	12+	0	25	21	61	1.93	-0.75	1.39	6	0	4.7	1	4.3	30	41	1	24	12	7	12	5.5	
CHICAGO MIDWAY	607	993.9	1017.0	44	25	34.4	-1.9	74	18	12	31+	0	26	20	59	1.96	-0.78	1.29	7	0	6.7	2	4.4	29	34	NE	24	13	7	11	5.1	65
MOLINE	582	995.9	1018.1	43	22	32.2	-3.2	71	18	9	12	0	28	20	64	2.25	-0.14	1.48	9	0	5.6	1	5.1	29	33	NW	20	9	11	11	5.6	65
PEORIA	652	993.2	1018.1	44	22	33.0	-4.6	71	18	10	12	0	27	23	70	1.20	-1.65	0.77	6	0	4.1	1	4.5	29	38	E	24	10	8	13	5.8	62
ROCKFORD	724	989.2	1016.9	41	21	31.0	-3.0	69	18	8	30+	0	28	21	68	1.59	-0.87	0.95	5	0	4.9	4	4.5	31	27	3	24	13	6	12	5.0	
SPRINGFIELD	588	995.3	1018.0	43	23	32.6	-7.6	71	19	3	11	0	26	24	72	2.00	-0.88	1.27	6	0	7.0	6	4.6	27	46	W	20	13	6	12	5.4	65
INDIANA																																
EVANSVILLE	381	1003.7	1018.1	49	28	38.3	-7.0	75	19	13	12	0	23	25	63	2.06	-2.25	1.61	6	1	0.8	1	3.5	28	32	SE	23	9	11	11	5.9	61
FORT WAYNE	791	985.4	1016.4	43	23	33.1	-3.2	71	19	8	12	0	28	22	66	1.68	-1.10	1.15	8	1	2.4	1	4.7	27	42	W	20	11	6	14	5.9	70
INDIANAPOLIS	792	987.1	1016.8	46	25	35.7	-3.2	73	19	11	11	0	23	23	54	1.33	-2.08	0.46	10	1	6.4	1	4.3	28	38	SW	20	12	8	11	5.3	55
SOUTH BEND	773	987.5	1016.1	42	24	32.9	-2.0	69	18	5	11	0	25	23	68	1.92	-0.82	1.23	10	1	6.8	3	4.9	29	29	23	20	11	8	12	5.8	
IOWA																																
BURLINGTON	692			43	22	32.8	-4.5	71	18	7	11	0	27	23	67	1.03	-1.68		4	0	0.6		5.4	31	26	31	20	8	11	12	5.8	
DES MOINES	938	983.7	1019.9	37	19	28.2	-5.6	63	17	2	11	0	28	20	71	1.41	-0.68	0.74	11	1	2.8	5	5.7	33	38	NW	20	10	9	12	5.8	64
DUBUQUE	1056	977.3		40	19	29.4	-2.5	66	18	5	30+	0	29			1.11	-1.65	0.53	9		4.8	2						11	9	11	5.5	
SIOUX CITY	1095	979.3	1020.9	33	17	24.9	-8.2	50	31	0	11	0	31	19	78	0.69	-0.77	0.62	5	1	2.6	12	5.6	33	42	NW	20	6	9	16	6.7	67
WATERLOO	868	986.1	1019.0	36	16	26.1	-5.9	59	19	1	11	0	31	19	75	0.99	-1.06	0.70	7	0	4.4	1	4.6	32	28	33	20	11	8	12	5.4	
KANSAS																																
CONCORDIA	1470	965.5	1020.0	44	23	33.8	-6.0	71	19	6	11	0	30	25	75	1.67	0.18	0.85	7	1	7.4	3	4.2	33	37	NW	24+	11	6	14	6.2	47
DODGE CITY	2582	926.2	1019.7	41	23	31.8	-10.0	69	31	2	11+	0	26	25	79	2.31	1.15	0.76	10	0	19.4	11	2.8	34	42	N	24	7	10	14	6.5	57
GOODLAND	3654	888.3	1018.7	44	19	31.2	-5.3	80	31	-1	11	0	29	20	58	0.97	-0.09	0.66	5	0	13.3	9	2.6	28	37	35	24+	7	13	11	6.2	
TOPEKA	876	987.1	1019.9	48	26	37.1	-4.6	79	19	11	11+	0	25	26	66	1.37	-0.64	0.83	5	0	2.0	2	4.1	33	39	NE	8	6	11	14	6.7	53
WICHITA	1321	970.5	1019.8	46	26	36.1	-8.4	76	19	-1	11	0	22	26	69	1.73	0.09	1.11	9	0	5.1	5	3.6	35	45	N	24+	11	6	14	6.2	54
KENTUCKY																																
COVINGTON	869	984.4	1016.7	48	26	37.3	-3.3	74	19	12	12	0	26	23	62	1.42	-2.37	0.72	10	1	2.8	1	4.5	27	30	21	20	10	7	14	5.9	
LEXINGTON	966	981.0	1017.2	49	29	38.9	-4.3	74	19	13	12	0	23	23	57	1.50	-3.25	0.75	8	0	1.7	2	4.1	26	27	20	20	9	7	15	6.1	
LOUISVILLE	477	999.3	1017.2	51	29	39.9	-3.4	77	19	15	12	0	20	24	58	1.94	-2.65	1.22	10	0	2.2	1	3.9	28	35	SE	23	9	9	13	5.8	63
LOUISIANA																																
BATON ROUGE	64	1014.9	1017.5	64	43	53.8	-6.9	79	19	30	10	0	3	40	65	5.42	0.51	1.74	9	2	0.0	0	1.7	1	23	23	23	6	11	14	6.3	
LAKE CHARLES	9	1016.3	1017.4	63	45	54.0	-7.1	75	29	32	10+	0	2	44	74	4.27	0.03	1.50	11	3	0.0	0	2.3	4	32	18	23	6	11	14	6.5	
NEW ORLEANS	3	1016.6	1017.6	64	44	53.8	-7.6	78	24	29	13	0	1	43	68	7.08	1.74	3.20	9	3	0.0	0	2.4	2	37	18	23	9	7	15	6.1	
SHREVEPORT	254	1008.5	1018.0	60	41	50.1	-6.5	80	19	27	11+	0	5	37	64	7.23	3.08	2.45	11	1	T	T	2.4	36	27	16	23	8	10	13	5.8	56
MAINE																																
CARIBOU	624	985.1		35	16	25.4	2.6	50	24	-4	6	0	31			1.49	-0.89	0.40	15		19.5	30						7	3	21	7.2	
PORTLAND	47	1007.5	1009.7	40	23	31.1	-0.3	51	23	-6	6	0	24	19	62	3.36	-0.98	1.60	11	1	9.3	20	3.6	29	31	E	25	7	8	16	6.7	43
MARYLAND																																
BALTIMORE	148	1008.5	1014.3	50	31	40.7	-2.4	67	29	20	12	0	21	22	51	1.63	-2.19	0.53	8	0	7.8	5	6.2	29	35	NW	11	13	6	12	5.2	62
MASSACHUSETTS																																
BLUE HILL OBS R	629			40	26	32.7	-2.1	56	29	10	6	0	25			3.11	-1.43	1.42	10		11.9	43			52	NE	3					49
BOSTON	15	1009.5	1010.3	41	30	35.4	-2.3	57	29	15	6	0	19	24	66	2.63	-1.59	1.18	9	1	6.1	15	8.5	30	47	SE	25	8	6	17	6.5	53
NANTUCKET	43	1009.8	1010.2	44	31	37.5	1.4	53	29	22	6+	0	20	28	70	4.41	-0.13	1.91	10	1	12.1	5	6.5	31	47	N	[illegible]	11	6	14	5.8	59
WORCESTER	986	972.9	1010.6	38	23	30.8	-2.0	54	29	7	6	0	29	19	64	2.53	-1.58	1.60	10	1	6.9	34	7.4	29	31	26	27+	7	9	15	6.4	
MICHIGAN																																
ALPENA	689	988.8	1014.9	35	14	24.4	-1.3	50	23+	-1	11	0	30	14	64	1.48	-0.54	0.67	9	0	7.7	5	3.6	30	29	NE	24	8	12	11	5.6	58
DETROIT	619			44	26	35.0	0.2	68	18	12	11	0	23	17	52	1.45	-0.97	1.11	6	1	1.5		6.5	29	35	28	21					
DETROIT M WAYNE CO	633	990.2	1014.8	44	23	33.5	-0.9	69	18	10	11	0	28	20	62	1.62	-0.79	1.01	7	2	2.3	1	4.9	29	36	SW	20	10	10	11	5.4	65
FLINT	771	986.1	1014.6	41	21	31.1	-1.6	67	18	9	11	0	27	19	63	1.31	-0.83	0.55	8	0	6.8	5	5.4	28	26	28	21	12	7	12	5.4	
GRAND RAPIDS	784	985.4	1015.5	39	19	29.3	-3.4	67	18	5	27	0	28	18	63	1.29	-0.99	0.40	9	1	7.9	4	5.1	28	32	NW	10	10	8	13	5.6	68
HOUGHTON LAKE	1149	971.9	1015.5	35	12	23.2	-3.3	54	19	-4	11	0	30	17	74	0.86	-0.83	0.30	9	0	9.5	7	3.7	30	23	4	25	10	7	14	5.7	
LANSING	841	982.7	1015.4	42	18	30.4	-2.0	70	18	5	11	0	28	16	57	1.06	-1.34	0.44	9	1	4.9	3	5.1	29	32	SW	17	12	8	11	5.3	72

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
MARQUETTE U	677			33	18	25.6	- 1.1	49	22	8	31+	0	30			1.82	- 0.09	1.19	11		17.7	28			25	N	25+	6	10	15	6.7	61
MUSKEGON	625	991.9	1015.7	38	23	30.6	- 2.3	61	19	6	12	0	26	18	60	1.39	- 0.66	0.34	12	1	11.6	4	4.5	31	26	19	23	11	4	16	6.2	
SAULT STE MARIE	721	987.5	1015.2	32	14	23.0	- 0.8	45	19	- 3	11	0	31	15	72	1.13	- 0.68	0.65	8	0	6.6	11	4.7	32	28	NW	26	6	11	14	6.4	69
MINNESOTA																																
DULUTH	1428	965.1	1018.7	31	12	21.4	0.1	46	23+	- 9	29+	0	31	11	65	0.39	- 1.23	0.27	7	0	3.0	30	3.5	30	31	NW	28	10	8	13	6.0	71
INTERNATIONAL FALLS	1179	973.9	1019.1	31	7	18.7	- 0.7	47	22	-13	30	0	31	7	58	0.19	- 0.84	0.12	5	0	1.7	27	3.1	32	24	26	30	10	13	8	5.3	
MINNEAPOLIS	834	987.8	1019.4	33	15	24.1	- 3.3	47	23+	- 5	29	0	29	17	72	0.90	- 0.63	0.40	8	0	7.3	17	3.6	31	33	N	20	12	8	11	5.3	71
ROCHESTER	1297	969.2	1018.8	31	11	21.3	- 6.6	46	19	- 8	11	0	31	15	74	0.99	- 0.65	0.75	6	1	5.6	12	4.9	29	29	2	24+	11	11	9	5.3	
ST CLOUD	1034	980.0	1019.4	32	11	21.6	- 4.0	48	18+	- 8	29	0	31		67	0.47	- 0.81	0.29	6		4.0	19						11	10	10	5.3	
MISSISSIPPI																																
JACKSON	310	1005.8	1017.8	61	38	49.3	- 7.2	78	19	24	11+	0	9	39	70	4.90	- 0.84	1.48	11	3	0.0	0	1.9	1	35	SE	23	9	9	13	6.3	55
MERIDIAN	290	1006.4	1017.9	61	37	48.9	- 7.6	76	20+	26	11+	0	13	37	66	4.76	- 1.56	2.30	9	1	0.0	0	2.2	33	29	20	23	8	7	16	6.2	
MISSOURI																																
COLUMBIA	778	989.5	1018.4	48	27	37.3	- 4.6	78	19	7	9	0	22	25	64	1.91	- 0.74	1.43	6	1	5.0	5	3.3	31	39	E	23	7	11	13	6.2	68
KANSAS CITY	742	991.5	1019.4	48	27	37.6	- 5.7	78	19	12	11+	0	23	25	66	1.36	- 1.13	0.91	5	0	2.8	2	4.2	31	42	NW	20	8	11	12	6.1	68
ST JOSEPH	811			52	28	39.8	- 0.4	80	19	10	9	0	19	25	64	1.78	- 0.55		5	0	2.0		5.1	32	26	35	8	5	16	10	6.0	
ST LOUIS	535	998.0	1018.7	49	27	37.8	- 4.8	78	19	12	9	0	20	24	62	2.47	- 0.61	1.73	7	0	2.7	3	4.4	29	37	E	23	13	5	13	5.6	69
SPRINGFIELD	1268	972.2	1018.7	51	27	39.2	- 4.8	81	19	12	10+	0	23	24	59	3.07	0.23	2.36	7	0	0.5	T	2.1	32	34	SE	8	10	8	13	6.0	65
MONTANA																																
BILLINGS	3567	892.7	1020.3	41	21	31.1	- 2.6	71	31	- 3	8	0	24	18	62	0.57	- 0.48	0.33	8	0	5.5	4	3.7	28	42	NW	27	3	8	20	7.5	64
GLASGOW	2284	936.3	1022.1	28	8	18.3	- 8.4	53	31	-12	11	0	31	14	83	0.17	- 0.39	0.05	9	0	3.3	10	2.9	3	37	4	23	4	8	19	7.5	
GREAT FALLS	3662	889.6	1022.1	36	16	26.2	- 4.5	68	31	-11	8	0	28	14	64	0.44	- 0.48	0.13	6	0	5.5	6	7.0	24	47	SW	16	9	6	16	6.4	82
HAVRE	2584	925.8	1022.1	31	8	19.6	- 7.3	60	31	-19	8	0	28	10	67	0.19	- 0.41	0.08	6	0	2.9	12	4.3	25	35	NW	23	5	8	18	7.3	77
HELENA	3828	882.8	1023.9	33	10	21.3	-10.1	57	31	-16	11	0	31	13	70	0.57	- 0.13	0.55	3	0	7.0	15	3.8	28	30	NW	27+	6	9	16	6.8	75
KALISPELL	2965	913.6	1021.5	39	15	27.0	- 4.8	55	27	-18	11	0	29	16	64	0.64	- 0.32	0.46	7	0	4.9	17	0.9	13	25	2	27	6	12	13	6.5	
MILES CITY	2629	924.5	1020.8	37	15	25.5	- 5.4	70	31	- 8	7	0	30	18	73	0.73	0.08		13	0	6.0		3.7	31								
MISSOULA	3190	906.9	1022.3	41	17	29.0	- 4.7	59	29	- 6	11	0	30	21	75	0.72	- 0.01	0.44	6	0	9.0	14	1.0	9	30	NW	22	8	8	15	6.1	61
NEBRASKA																																
GRAND ISLAND	1841	952.3	1020.8	38	21	29.2	- 6.5	60	27+	4	8	0	31	22	75	0.19	- 1.08	0.09	4	1	1.8	5	5.2	33	38	35	24	8	4	19	6.9	
LINCOLN U	1150			40	23	31.6	- 6.5	69	19	7	8	0	30			1.45	- 0.28	0.67	8		5.0	3			37	NW	24	7	8	16	6.8	54
NORFOLK	1544			34	17	25.5	- 7.8	51	18	1	11	0	31			0.43	- 1.16	0.40	2		1.4	11						6	6	19	6.9	
NORTH PLATTE	2775	919.1	1020.3	41	18	29.0	- 6.0	71	31	1	11	0	31	20	75	0.17	- 0.81	0.08	5	0	1.8	1	3.7	35	40	NW	19	8	11	12	6.0	61
OMAHA	977	983.4	1020.1	40	23	31.5	- 5.4	68	17	9	11+	0	30	22	69	1.25	- 0.20	0.86	9	1	3.2	2	6.2	34	37	NW	28	4	13	14	6.8	62
SCOTTSBLUFF	3957	879.8	1019.5	43	18	30.8	- 4.5	74	31	- 2	8	0	31	18	65	0.51	- 0.35	0.17	8	0	6.1	3	4.5	33	35	32	26	4	8	19	7.4	
VALENTINE	2587			36	11	23.5	- 7.8	73	31	- 9	11	0	31			0.51	- 0.50	0.37	7		4.6	8			36	N	26	6	11	14	6.6	57
NEVADA																																
ELKO	5050	845.6	1020.7	44	18	30.9	- 4.7	67	30+	4	9	0	29			0.35	- 0.48	0.38	5	0	4.9	5	1.7	32	29	31	23+	9	9	13	5.8	
ELY	6253	808.3	1019.9	41	11	26.2	- 7.3	67	31+	-11	9	0	30	14	64	0.41	- 0.44	0.27	3	0	6.3	10	1.4	24	32	N	3	11	11	9	5.0	86
LAS VEGAS	2162	939.4	1016.3	66	40	53.0	- 1.8	87	31+	28	8	0	1	24	38	0.57	0.22	0.30	5	0	0.0	0	3.8	32	34	N	6+	19	4	8	4.0	81
RENO	4404	867.3	1018.9	55	27	40.7	- 0.8	74	30	18	13	0	27	22	50	0.07	- 0.61	0.04	2	0	1.9	2	1.2	29	34	NW	18	11	8	12	5.2	85
WINNEMUCCA	4301	869.6	1019.7	51	25	37.7	- 0.3	72	30	15	9	0	27	23	58	0.28	- 0.53	0.20	4	0	3.5	3	0.5	4	42	N	5	10	4	17	5.9	62
NEW HAMPSHIRE																																
CONCORD	342	997.6	1010.7	38	19	28.3	- 3.4	52	23	-15	6	0	27	19	67	2.36	- 0.90	1.60	10	0	5.7	34	4.9	31	34	NW	31	5	10	16	6.8	57
MT WASHINGTON OBS	6262			15	3	9.1	- 2.6	32	20	-21	5	0	31			12.22	6.48	3.51	23	1	95.0	33			118Y	W	8	4	2	25	8.4	28
NEW JERSEY																																
ATLANTIC CITY	64	1010.5	1012.8	48	27	37.4	- 3.7	71	29+	11	12	0	25	26	64	3.19	- 0.72	1.17	10	1	17.6	11	6.7	29	31	29	11	10	11	10	5.4	48
ATLANTIC CITY U	11			45	33	38.6	- 2.5	57	21	20	12	0	17			2.63	- 1.38	0.88	9						38	NNE	2					
NEWARK	7	1011.5	1012.4	47	31	38.8	- 1.7	69	18	18	12	0	20	23	56	3.53	- 0.56	2.58	8	0	5.9	2	8.0	29	32	30	10	9	10	12	5.7	
TRENTON U	56			47	32	39.4	- 1.3	68	18	19	12+	0	19			2.44	- 1.40	1.09	9		9.5	5			32	NE	2	12	10	9	5.2	65

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%
NEW MEXICO															
ALBUQUERQUE	5311	835.8	1014.7	55	27	41.1	- 4.7	80	31	16	5	0	24	16	43
CLAYTON	4969			46	21	33.3	- 7.6	75	31	8	11	0	27		
ROSWELL	3617			59	28	43.1	- 6.4	79	18	16	8	0	25		
NEW YORK															
ALBANY	275	1001.7	1012.5	40	22	31.1	- 1.9	61	18	4	1	0	27	21	67
BINGHAMTON	1590	952.6	1012.9	37	23	29.9	- 1.4	60	18	9	12+	0	25	19	67
BUFFALO	705	987.5	1013.7	38	23	30.9	- 0.6	65	20	10	11	0	28	22	73
J.F. KENNEDY	13	1011.5	1012.4	44	32	38.2	- 0.5	60	25+	19	12	0	19	24	61
NEW YORK J	132	1008.5	1011.8	47	33	40.1	- 0.4	70	18	19	12	0	15	21	51
NEW YORK LA GUARDIA	11	1010.5	1012.4	46	33	39.1	- 1.7	69	18	19	12	0	16	20	49
ROCHESTER	547	992.9	1013.5	40	24	32.0	- 0.3	61	20	10	12	0	27	22	68
SYRACUSE	410	997.6	1013.0	37	24	30.4	- 2.2	54	23+	7	5	0	26	22	73
NORTH CAROLINA															
ASHEVILLE	2140	937.7	1015.1	53	29	41.3	- 3.3	71	20	18	12	0	24	27	64
CAPE HATTERAS R	7	1013.9	1014.4	54	37	45.4	- 5.6	68	29	24	16	0	9	35	69
CHARLOTTE	736	987.1	1015.1	57	33	45.1	- 4.9	75	20	19	12	0	16	26	51
GREENSBORO	897	982.7	1015.0	56	32	44.3	- 3.1	73	29+	21	12	0	19	27	56
RALEIGH	434	998.3	1014.6	56	31	43.4	- 6.1	76	22	19	12	0	21	28	61
WILMINGTON	28	1013.9	1015.3	61	39	50.0	- 4.2	75	20	27	12	0	6	34	60
NORTH DAKOTA															
BISMARCK	1647	959.7	1022.2	28	7	17.5	- 8.7	45	17	- 9	30	0	31	12	74
FARGO	896	986.8	1021.5	25	5	15.3	- 9.0	37	23	-15	29	0	31	11	78
WILLISTON	1899	950.2	1021.6	31	11	20.8	- 3.5	62	31	-15	10	0	31	15	78
OHIO															
AKRON	1208	969.5	1015.2	43	24	33.9	- 3.0	71	20	7	1	0	26	22	64
CINCINNATI OBS	761			48	29	38.5	- 4.2	77	19	15	12	0	23		
CLEVELAND	777	985.8	1015.6	42	27	34.3	- 0.8	70	20	12	11	0	25	20	58
COLUMBUS	812	985.8	1016.4	46	25	35.3	- 3.6	72	20	11	12	0	28	19	54
DAYTON	1002	979.3	1016.2	46	25	35.5	- 3.4	72	19	10	12	0	25	22	58
MANSFIELD	1295			45	26	35.0	- 0.2	70	20	6	11	0	26	22	63
TOLEDO	669	990.2	1016.1	45	22	33.2	- 2.0	72	20	9	11	0	27	20	63
YOUNGSTOWN	1178	971.2	1015.2	40	23	31.5	- 3.8	69	20	8	11	0	27	21	69
OKLAHOMA															
OKLAHOMA CITY	1285	971.6	1019.1	52	32	42.0	- 6.5	82	19	18	9	0	15	30	67
TULSA	650	994.6	1019.3	54	31	42.7	- 5.4	86	19	15	9	0	21	27	57
OREGON															
ASTORIA	8	1020.0	1020.7	54	35	44.3	- 0.2	68	25	25	13+	0	10	37	77
BURNS U	4151	875.0	1021.0	46	22	34.1	- 3.3	68	30+	9	11	0	29	23	67
EUGENE	359	1007.5	1021.0	60	35	47.6	1.6	75	27	27	11	0	10	36	69
MEACHAM	4050	878.1	1020.7	42	26	34.3	1.0	61	29	13	10	0	24		
MEDFORD	1298	972.9	1021.3	59	32	45.5	1.2	78	26	22	10	0	17	31	63
PENDLETON	1482	966.1	1020.9	55	35	44.6	- 0.5	69	30+	26	11+	0	12	31	64
PORTLAND	21	1019.6	1020.9	59	34	46.5	0.4	73	28	22	10	0	9	35	67
SALEM	196	1013.5	1021.0	61	32	46.3	1.0	75	27	21	10	0	18	34	66
SEXTON SUMMIT R	3836	885.5	1020.0	46	33	39.5	0.9	68	26	23	11	0	19		
PACIFIC AREA															
JOHNSTON	7	1014.6	1015.3	82	72	77.1	- 0.1	83	26+	68	17	0	0	68	74
KOROR R	94	1007.5	1011.0	88	76	81.7	1.0	90	12	74	19+	1	0	74	81
KWAJALEIN	8	1009.5	1010.2	87	78	82.7	2.2	89	21+	73	8	0	0	74	76
MAJURO	10	1009.5	1010.0	85	77	81.0	0.4	87	22	74	6+	0	0	75	81
PAGO PAGO	12	1010.2	1010.3	88	75	81.2		90	18+	72	31	3	0	77	88
PONAPE R	123	1004.4	1009.9	86	74	80.2	- 0.4	90	30	71	29+	1	0	74	81

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																	
ALBUQUERQUE	0.41	- 0.07	0.16	5	1	5.5	2	1.1	4	50	NW	1	11	11	9	4.8	81
CLAYTON	1.48	0.85	0.55	12		15.1	7						8	11	12	6.2	
ROSWELL	1.14	0.64	0.62	5		10.9	5			33	SW	7					77
NEW YORK																	
ALBANY	1.32	- 1.40	0.81	8	0	4.5	5	7.1	28	34	W	7	4	10	17	7.2	47
BINGHAMTON	0.69	- 2.20	0.42	9	0	1.3	1	6.4	29	38	SE	24	5	7	19	7.3	56
BUFFALO	1.62	- 1.62	0.53	20	0	8.0	2	8.4	26	35	SW	21	5	5	21	7.2	52
J.F. KENNEDY	2.03	- 2.12	0.79	8	1	3.4	2	7.7	30	38	1	2	8	12	11	5.7	
NEW YORK J	3.73	- 0.28	2.80	8	1	5.6	3	5.3	31	32	N	3+					60
NEW YORK LA GUARDIA	3.06	- 1.17	2.19	8	1	4.0	2	7.6	32	41	NW	11	8	12	11	5.8	
ROCHESTER	1.16	- 1.85	0.64	11	0	4.6	4	7.3	27	34	SW	21	5	9	17	7.1	50
SYRACUSE	1.08	- 2.52	0.56	13	0	9.4	5	6.5	27	29	W	31+	5	6	20	7.4	49
NORTH CAROLINA																	
ASHEVILLE	4.01	- 0.81	1.60	8	2	13.0	10	8.3	35	46	35	9	10	11	10	5.2	74
CAPE HATTERAS R	4.87	0.71	1.88	9	3	0.0	0	3.1	34	46	WSW	9	15	6	10	4.9	70
CHARLOTTE	4.04	- 0.35	1.62	8	1	3.0	3	2.6	29	29	S	29	12	9	10	4.9	81
GREENSBORO	3.72	0.03	1.41	8	0	10.7	10	3.6	29	30	SW	29	9	15	7	4.9	75
RALEIGH	3.95	0.60	1.70	7	0	9.3	7	4.4	30	26	27	25+	14	11	6	4.6	80
WILMINGTON	4.60	0.57	1.84	7	1	0.0	0	2.7	28	38	W	9	13	10	8	4.8	77
NORTH DAKOTA																	
BISMARCK	0.15	- 0.63	0.06	5	0	3.2	18	3.2	33	32	N	27	6	8	17	6.9	72
FARGO	0.54	- 0.21	0.33	4	0	3.0	16	3.8	33	41	N	28	10	8	13	6.0	74
WILLISTON	0.45	- 0.26	0.15	9	0	4.5	12	3.1	33	29	NE	27	7	7	17	6.8	66
OHIO																	
AKRON	1.91	- 1.41	0.79	12	1	5.9	2	5.6	27	25	18	20+	8	7	16	6.3	
CINCINNATI OBS	1.54	- 2.35	0.87	9	1	2.0	1			27	W	20					63
CLEVELAND	1.82	- 1.31	0.43	11	1	9.0	4	5.3	25	38	[illegible]	20	9	5	17	6.5	55
COLUMBUS	1.32	- 1.84	0.33	9	1	1.9	1	4.4	28	35	SW	20	8	8	15	6.5	48
DAYTON	1.41	- 1.71	0.64	10	0	3.8	1	5.1	28	38	W	20	9	8	14	6.2	56
MANSFIELD	1.25	- 2.53	0.46	10	1	5.5	3	6.6	28	26	24	28+	9	8	14	6.3	
TOLEDO	1.54	- 0.72	0.76	8	1	4.9	3	[illegible]	29	35	W	21	8	10	13	5.7	73
YOUNGSTOWN	1.83	- 1.52	0.54	17	1	9.3	2	5.1	28	22	18	20+	7	7	17	6.7	
OKLAHOMA																	
OKLAHOMA CITY	3.01	1.04	1.77	11	1	8.2	3	3.8	[illegible]	43	NW	8	11	7	13	[illegible]	59
TULSA	3.25	0.82	2.67	9	1	1.3	1	3.7	35	32	NW	28	10	6	15	5.9	60
OREGON																	
ASTORIA	3.16	- 5.76	0.72	14	0	0.0	0	1.9	19	35	18	16	7	5	19	6.7	
BURNS U	0.31	- 0.66	0.14	6		1.7	10	3.2	32				10	6	15	[illegible]	
EUGENE	2.74	- 1.58	1.45	6	0	0.0	0	[illegible]	22	29	26	5	10	7	14	6.8	
MEACHAM	1.86	- 2.10	0.68	9		14.9	26			28	26	22	8	5	18	[illegible]	
MEDFORD	0.29	- 1.49	0.20	4	0	T	T	1.0	26	[illegible]	14	[illegible]	11	8	12	[illegible]	
PENDLETON	0.57	- 0.63	0.24	4	0	T	0	3.2	24	32	16	23+	8	8	15	6.1	
PORTLAND	1.13	- 2.70	0.41	10	0	0.0	0	1.7	16	34	S	16	12	3	16	5.7	74
SALEM	1.63	- 3.05	0.80	8	0	0.0	0	3.2	[illegible]	25	18	5	10	6	15	[illegible]	
SEXTON SUMMIT R	0.95	- 2.52	0.26	10		8.3	36			43	22	16	10	8	13	[illegible]	
PACIFIC AREA																	
JOHNSTON	1.49	- 0.85	0.57	18	0	0.0	0	[illegible]	7	29	E	26+	11	[illegible]	11	5.5	81
KOROR R	5.11	- 2.52	2.12	20	0	0.0	0	8.4	7	24	NE	[illegible]	1	4	26	7.7	74
KWAJALEIN	1.40	- 5.06	0.74	9	0	0.0	0	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	
MAJURO	16.17	4.45	6.53	[illegible]	1	0.0	0	[illegible]	[illegible]	32	E	7	1	6	24	8.8	[illegible]
PAGO PAGO	11.93		2.44	24	8	0.0	0	[illegible]	[illegible]	26	NW	[illegible]	[illegible]	13	16	7.1	46
PONAPE R	10.71	- 3.84	2.66	17	1	0.0	0	[illegible]	[illegible]	41	NE	[illegible]	[illegible]	[illegible]	29	8.1	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
TAGUAC GUAM R	361	1000.0	1012.7	86	70	77.6	- 1.2	88	29	62	31	0	0	70	78	0.97	- 1.67	0.29	13	0	0.0	0	10.5	9	26	E	7	3	19	9	6.4	75
TRUK MOEN ISLAND	5	1009.8	1010.1	86	77	81.4	0.6	87	28+	73	13	0	0	73	77	3.82	- 3.93	1.83	10	0	0.0	0	12.7	5	24	NE	11	0	2	29	9.6	79
WAKE	11	1015.6	1016.0	85	74	79.2	1.4	87	31+	71	20	0	0	69	74	0.91	- 0.56	0.45	9	0	0.0	0	13.1	8	28	E	23	11	13	7	4.8	88
YAP R	44	1008.8	1010.9	87	74	80.5	- 0.5	89	13	70	10+	0	0	73	77	2.08	- 3.30	0.56	16	0	0.0	0	10.0	7	19	E	18+	2	15	14	7.0	68
PENNSYLVANIA																																
ALLENTOWN	387	998.6	1013.1	47	28	37.3	- 0.3	68	18	17	12	0	26	22	57	1.93	- 1.86	1.28	7	1	8.4	6	7.3	30	30	26	26+	9	13	9	5.6	
ERIE	731	987.5	1014.9	39	25	31.8	- 1.8	69	20	11	11	0	28	22	68	1.43	- 1.45	0.35	18	1	9.4	3	6.2	26	28	15	24+	5	11	15	6.3	
HARRISBURG	338	1001.0	1013.9	48	29	38.6	- 1.7	68	18	19	12+	0	22	22	55	2.20	- 1.23	1.85	7	0	3.8	2	6.2	29	30	NW	11	10	12	9	5.4	71
PHILADELPHIA	5	1011.9	1013.0	48	31	39.7	- 1.3	68	18	19	12	0	22	23	55	1.92	- 1.88	0.88	9	0	8.8	6	6.4	31	32	N	2	11	10	10	5.4	66
PITTSBURGH	1137	969.9	1014.9	45	24	34.3	- 2.5	74	20	10	11	0	26	18	58	1.14	- 2.18	0.61	11	0	3.9	2	6.7	28	35	22	20	6	7	18	6.6	64
READING U	266			48	32	39.8	- 1.5	69	18	18	12	0	20			2.10	- 1.68	1.42	6		6.3	5			47	E	24	12	10	9	4.9	60
SCRANTON	930	978.7	1013.5	42	26	34.4	- 1.8	64	18	14	12	0	26	19	57	1.45	- 1.37	1.33	6	1	2.5	2	5.2	30	28	E	24	8	7	16	6.3	57
WILLIAMSPORT	524	994.2	1013.8	46	25	35.5	- 1.9	68	18	14	12+	0	28	23	65	1.49	- 2.24	1.23	6	0	1.2	T	6.2	28	27	12	24	10	10	11	5.9	
RHODE ISLAND																																
BLOCK ISLAND	110			40	30	34.7	- 2.0	49	29+	19	12+	0	21			3.44	- 0.63	2.02	8		8.5	8						13	5	13	5.4	
PROVIDENCE	51	1008.5	1010.8	42	28	35.0	- 2.0	57	29+	16	6+	0	23	21	59	3.10	- 1.04	1.74	9	1	6.0	14	7.0	32	37	3	3	11	5	15	6.0	58
SOUTH CAROLINA																																
CHARLESTON	40	1013.9	1015.9	62	39	50.6	- 6.1	76	30	27	12+	0	8	36	62	5.14	1.21	1.92	10	1	2.0	T	3.6	26	48Y	W	9	13	7	11	5.0	63
CHARLESTON U	9			61	45	53.1	- 4.4	75	30	31	11	0	1			6.00	2.38	1.83	10		1.0	1			40	NW	9					
COLUMBIA	213	1007.5	1015.8	64	38	51.1	- 3.3	84	24	21	12	0	10	32	54	5.16	0.90	2.60	7	1	0.0	0	3.6	28	25	28	9	16	4	11	4.5	63
GNVLE-SPARTANBURG	957	980.4	1015.7	58	33	45.9	- 5.5	75	20	17	11	0	14	27	53	4.56	- 0.19	1.63	7	1	1.9	1	2.9	31	33	SW	26	14	6	11	4.6	77
SOUTH DAKOTA																																
ABERDEEN	1296	972.2	1021.6	27	6	16.2	-12.0	39	22+	-18	14	0	31	13	85	0.36	- 0.73	0.30	4	0	2.8	24	4.2	34	39	1	28	9	9	13	6.0	
HURON	1281	972.6	1021.4	30	11	20.7	- 8.0	42	17	-10	11	0	31	14	73	0.28	- 0.83	0.23	3	0	2.5	22	3.8	32	43	N	28	5	10	16	6.7	75
RAPID CITY	3162	905.9	1020.4	39	17	27.8	- 3.3	73	31	- 1	8	0	28	17	67	0.66	- 0.35	0.27	11	0	6.3	3	6.9	35	49	NW	26	6	7	18	6.8	62
SIOUX FALLS	1418	966.8	1020.6	30	11	20.5	- 9.6	46	17	- 8	12	0	31	14	73	1.09	- 0.45	0.91	5	1	2.9	33	5.1	32	33	34	20	7	12	12	6.0	
TENNESSEE																																
BRISTOL	1507	961.4	1016.8	50	27	38.6	- 7.4	73	24+	14	12	0	24	24	62	2.14	- 1.84	0.53	13	2	4.4	2	4.2	28	29	22	24	9	8	14	6.2	
CHATTANOOGA	665	991.9	1017.0	56	33	44.6	- 6.6	76	20	20	12	0	13	29	60	2.96	- 2.68	1.18	7	0	0.2	T	2.8	32	31	SW	24	11	8	12	5.7	56
KNOXVILLE	980	980.7	1016.4	53	32	42.1	- 7.5	73	24+	18	12	0	19	26	58	2.89	- 1.84	1.21	8	1	5.2	1	3.2	28	47	SW	24	6	9	16	6.6	69
MEMPHIS	258	1007.8	1018.3	55	35	45.0	- 6.1	78	19	20	11	0	13	28	54	2.63	- 2.44	1.60	6	1	T	T	2.1	33	42	SE	23	9	8	14	6.0	55
NASHVILLE	590	995.3	1017.5	54	31	42.6	- 6.5	76	20+	17	12	0	19	28	61	2.12	- 3.07	1.11	7	0	4.8	1	2.9	29	30	SW	24	10	5	16	6.1	63
OAK RIDGE R	905			52	31	41.2	- 6.3	73	20	18	12	0	20			2.24	- 3.35	0.52	11		0.9	T			44Y		24	9	6	16	6.5	
TEXAS																																
ABILENE	1762	955.0	1017.2	58	37	47.5	- 7.5	84	19	20	9	0	9	31	59	2.08	1.04	1.00	8	5	0.5	0	1.8	8	36	W	7	11	5	15	5.9	59
AMARILLO	3604	890.6	1016.5	50	27	38.8	- 8.8	74	19+	11	8	0	23	27	70	1.15	0.33	0.30	11	1	10.3	2	1.9	6	43	SE	2+	9	8	14	6.0	58
AUSTIN	597	995.6	1017.8	64	44	53.9	- 5.8	84	19	30	9	0	1	39	63	3.26	1.13	1.23	9	3	0.0	0	3.5	4	35	W	23	9	7	15	6.1	55
BROWNSVILLE	19	1015.6	1016.1	74	53	63.4	- 4.5	93	23	40	4	1	0	53	73	0.82	- 0.22	0.60	6	0	0.0	0	4.0	9	36	N	23	4	10	17	7.1	53
CORPUS CHRISTI	41	1015.6	1016.9	68	48	57.8	- 7.4	83	23	34	26	0	0	47	71	0.49	- 0.95	0.25	8	0	0.0	0	5.4	8	38	W	23	6	9	16	6.8	54
DALLAS	481	1000.7	1018.3	59	41	49.9	- 6.2	82	19	23	9	0	5	35	61	3.79	0.94	1.20	11	1	0.0	0	2.5	3	34	NW	8	11	6	14	5.9	52
DEL RIO	1026	980.0	1016.3	69	46	57.3	- 5.7	90	19	29	12	1	1	34	48	0.60	- 0.22	0.52	3	1	0.0	0	3.1	9	35	29	23	13	7	11	5.1	
EL PASO	3918	880.1	1012.8	65	34	49.4	- 5.5	87	31	23	9+	0	14	21	35	0.17	- 0.18	0.10	3	0	T	0	2.5	27	53	SW	23	20	6	5	3.2	92
FORT WORTH	537	998.0	1018.8	60	40	49.8	- 6.1	83	19	25	9	0	8	37	66	3.62	1.11	1.23	9	1	0.0	0	2.8	3	29	34	24+	10	7	14	6.1	
GALVESTON U	7			61	51	55.8	- 5.6	74	23	37	9	0	0			2.30	- 0.56	0.62	10		0.0	0			30	N	24+					52
HOUSTON	50	1015.6	1017.7	65	47	56.1	- 5.2	80	30+	34	9	0	0	44	69	3.18	0.51	1.31	10	2	0.0	0	1.7	4	30	26	23	7	9	15	6.7	54
LUBBOCK	3254	903.5	1016.5	54	29	41.5	- 8.1	73	28	13	9	0	20	28	64	1.77	1.04	1.04	7	2	11.7	9	2.9	6	37	28	7	12	6	13	5.4	
MIDLAND	2851	916.0	1015.4	61	34	47.5	- 7.7	81	19	21	11+	0	13	28	55	0.51	0.15	0.34	3	1	1.5	1	1.1	7	41	27	7	14	7	10	4.7	
PORT ARTHUR	16	1016.9	1017.7	65	45	54.7	- 6.4	79	29	32	10+	0	3	46	77	3.67	0.23	1.04	10	2	0.0	0	1.9	4	52	S	23	5	12	14	6.7	47
SAN ANGELO	1903	949.2	1016.5	64	39	51.6	- 5.4	88	19	26	9	0	11	32	54	1.76	0.83	1.06	6	3	0.0	0	0.5	8	33	29	23	11	7	13	5.5	
SAN ANTONIO	788	989.2	1017.4	65	45	54.9	- 6.1	85	19	32	12+	0	2	39	60	2.35	0.68	1.39	7	1	0.0	0	3.5	4	35	NW	23	9	8	14	6.0	57
VICTORIA	104	1013.2	1017.3	67	47	56.9	- 6.3	81	29	35	4	0	0	46	72	2.90	0.58	1.70	9	2	0.0	0	3.4	6	49Y	W	23	6	10	15	7.0	
WACO	501	1000.0	1018.2	61	43	51.8	- 6.1	80	19	28	9	0	1	39	67	3.62	1.27	1.06	11	2	0.0	0	2.7	34	32	23	7	9	6	16	6.0	
WICHITA FALLS	994	981.4	1018.6	57	34	45.0	- 8.8	85	19	19	9	0	13	34	70	3.18	1.64	1.18	8	3	3.0	3	3.7	1	36	33	8	6	10	15	6.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In	In.			In.	In.	M.p.h.		M.p.h.							%
UTAH																																
MILFORD	5028	845.9		50	20	35.1	- 3.4	76	30	1	9	0	30			1.17	0.14	0.68	7		19.3	10						11	8	12	5.5	
SALT LAKE CITY	4220	872.7	1018.9	49	28	38.4	- 2.0	73	30	21	13+	0	25	23	57	0.57	- 0.99	0.26	4	0	5.4	2	0.8	31	44	NW	23	8	11	12	6.1	85
WENDOVER	4237	872.0	1019.3	49	29	39.1	- 2.4	70	28	18	12	0	21			0.07	- 0.32	0.07	3		0.4	1										
VERMONT																																
BURLINGTON	332	998.6	1011.6	32	16	24.3	- 2.4	48	24	-12	6	0	30	16	71	1.93	- 0.18	0.62	16	0	12.4	15	1.2	29	34	S	29	4	6	21	7.8	56
VIRGINIA																																
LYNCHBURG	916			52	30	40.7	- 4.8	75	20	15	12	0	22			4.32	0.71	2.00	9		18.2	13			27	W	26+	14	11	6	4.5	73
NORFOLK	22	1012.9	1014.0	53	37	44.7	- 3.3	74	29	25	12	0	9	28	56	4.88	1.43	1.44	10	1	1.9	2	3.0	31	40	N	1	13	10	8	4.9	79
RICHMOND	164	1008.5	1014.6	54	30	42.3	- 5.4	75	29	20	14+	0	21	27	59	3.95	0.53	1.65	9	2	11.9	5	2.9	31	26	W	25+	10	15	6	5.0	71
ROANOKE	1149	971.9	1014.7	52	29	40.7	- 4.8	74	20	16	12	0	23	21	49	3.35	- 0.18	1.32	9	1	13.8	10	6.8	30	29	31	11	12	9	10	5.1	
WALLOPS ISLAND	9			46	33	39.2		67	25	23	12	0	18			3.97		1.87	11		10.2	3			57Y	N	2					
WASHINGTON																																
OLYMPIA	195	1013.2	1020.6	57	32	44.4	0.2	76	26	21	11+	0	16	34	71	2.90	- 2.50	1.03	13	0	0.0	0	2.4	20	32	26	22	8	5	18	6.6	
QUILLAYUTE	179	1012.2	1019.9	52	34	43.4	0.5	69	26	23	13+	0	14	37	84	10.58	- 0.50	3.16	16	0	T	0	1.9	16	28	S	16	8	6	17	6.5	48
SEATTLE TACOMA	400	1004.1	1020.6	55	39	46.9	3.1	70	26	32	12+	0	2	36	70	2.20	- 1.59	0.87	14	0	0.0	0	1.6	19	31	SW	22	9	6	16	6.6	54
SPOKANE	2356	934.3	1019.8	45	26	35.6	- 2.5	66	30	8	11	0	22	27	72	0.53	- 0.97	0.30	4	1	2.0	16	4.1	18	30	SW	22	10	8	13	5.7	75
STAMPEDE PASS R	3958	880.5		38	28	32.8	2.8	54	28	16	11	0	24			4.35	- 6.25	0.95	15		31.3	198										
WALLA WALLA U	949			56	38	46.6	0.6	72	30	27	10	0	9			0.73	- 0.86	0.29	6		0.0	0			34	NW	22	8	7	16	6.4	59
YAKIMA	1052	981.4	1020.7	54	29	41.8	- 0.2	71	27	20	11	0	23	26	59	0.16	- 0.46	0.07	4	0	T	7	4.6	27	29	25	22	11	8	12	5.3	
WEST INDIES																																
SAN JUAN P.R.	13	1013.2	1015.6	83	72	77.8	2.5	88	4+	66	19	0	0	70	79	2.89	0.69	3.91	9	1	0.0	0	6.9	7	37	NE	1	8	20	3	5.0	80
SWAN ISLAND	28			84	76	80.1	0.1	87	7	70	12+	0	0			0.53	- 0.10	0.33	5		0.0	0						9	15	7	5.1	
WEST VIRGINIA																																
BECKLEY	2504	924.8	1015.9	43	24	33.8	- 6.1	70	20	4	12	0	27	21	64	2.48	- 2.57	0.88	13	2	15.4	6	5.3	28	43	16	24	10	3	18	6.3	
CHARLESTON	939	981.0	1015.9	50	28	38.7	- 5.7	79	20	14	12	0	24	23	58	1.43	- 2.91	0.71	12	2	4.8	2	3.9	25	30	24	26	10	5	16	6.4	
ELKINS	1970	942.8		43	22	32.6	- 6.9	71	20	7	13	0	27			2.26	- 1.88	0.93	16		14.6	3			28	28	26	9	3	19	6.5	
HUNTINGTON	827	985.8	1016.7	50	28	38.6	- 6.2	77	20	10	12	0	24	23	59	1.24	- 2.96	0.70	14	2	4.1	2	3.9	26	31	28	26	9	6	16	6.4	
PARKERSBURG U	615			48	28	38.1	- 4.6	75	20	14	12	0	25			1.27	- 2.26	0.85	7		0.6	1			33	W	26+					52
WISCONSIN																																
GREEN BAY	682	990.5	1016.9	34	15	24.4	- 3.8	49	18	1	12+	0	30	16	69	1.04	- 0.30	0.53	6	0	2.2	2	4.3	31	36	NE	24	12	9	10	4.9	65
LA CROSSE	651	993.2	1018.6	36	16	26.0	- 4.5	56	22	1	29	0	28	17	72	0.78	- 1.29		5	1	3.7		2.8	31								
MADISON	858	984.8	1017.1	38	18	27.9	- 1.2	66	18	2	30	0	29	18	68	1.47	- 0.37	0.51	7	0	10.1	3	4.7	31	31	NE	24	10	9	12	5.4	64
MILWAUKEE	672	990.5	1016.5	39	20	29.8	- 1.2	64	18	7	30+	0	27	19	64	1.05	- 1.26	0.44	7	1	6.2	2	5.6	31	42	N	24	11	8	12	5.5	69
WYOMING																																
CASPER	5338	836.4	1019.9	40	17	28.4	- 3.7	69	31	- 6	9+	0	27	16	65	1.10	0.07	0.75	6	0	13.1	8	4.7	24	30	23	18+	4	7	20	7.3	
CHEYENNE	6126	810.0	1018.7	41	17	28.7	- 3.7	71	31	- 9	8	0	28	12	54	0.27	- 0.94	0.13	6	0	2.9	2	7.8	31	57	NW	26	5	10	16	6.8	69
LANDER	5563	827.6	1018.5	42	17	29.5	- 2.7	70	31	- 5	9	0	29	15	57	0.92	- 0.28	0.64	7	0	21.3	11	1.2	28	33	W	27+	7	10	14	6.3	78
SHERIDAN	3964	879.8	1021.0	39	18	28.7	- 2.3	70	31	- 1	11	0	31	19	69	0.40	- 1.02	0.13	9	0	4.9	2	4.8	32	36	NW	27	4	7	20	7.5	63

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

R Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%
ALABAMA															
BIRMINGHAM	189	994.6	1017.6	14.4	1.7	8.1	- 4.4	25.6	20	- 5.6	11	0	13	0.0	60
HUNTSVILLE	190	994.2	1017.8	12.2	0.6	6.5	- 4.5	23.9	20	- 7.2	11	0	14	- 0.6	65
MOBILE	64	1009.1	1017.3	17.8	6.7	12.1	- 3.6	26.1	24	- 1.1	11+	0	4	5.0	66
MONTGOMERY	56	1010.2	1017.6	16.1	3.9	10.1	- 3.3	27.8	24	- 3.9	12	0	8	2.8	65
ALASKA												B			
ANCHORAGE	35	1005.8	1010.6	1.7	- 5.6	- 1.9	2.2	6.1	31+	-15.6	16	0	30	- 7.8	65
ANNETTE	34	1013.9	1017.9	8.3	0.6	4.4	1.2	16.7	29	- 5.0	1	0	13	0.0	77
BARROW	9	1021.7	1022.4	-21.1	-27.2	-24.2	1.7	- 7.2	31	-37.8	25	0	31	-26.7	80
BARTER ISLAND	12	1019.6	1021.6	-20.6	-29.4	-25.0	1.1	- 6.1	1	-45.0	25	0	31	-29.4	66
BETHEL	38	1002.0	1008.0	- 3.9	-12.2	- 8.2	3.1	3.9	20+	-27.2	24	0	31	-10.0	83
BETTLES	196	991.2	1017.8	- 9.4	-23.3	-16.2		5.0	31	-36.1	18	0	31	-21.7	62
BIG DELTA	386			- 2.8	-15.0	- 8.7		6.7	31	-33.3	16	0	31		
COLD BAY	29	1001.7	1005.4	2.2	- 1.7	0.3	2.1	6.1	22	-10.6	12	0	19	- 2.8	80
FAIRBANKS	133	996.3	1014.1	- 3.9	-20.0	-12.2	0.7	8.9	31	-35.0	18+	0	31	-21.1	48
FAREWELL	457			- 2.2	-15.6	- 8.8		5.6	30	-30.6	16	0	31		
GULKANA	479	953.3	1013.3	- 1.1	-13.3	- 7.2		6.7	31	-30.0	16	0	31	-11.7	72
HOMER	20			3.9	- 4.4	- 0.3		7.8	23+	-14.4	16	0	27		
ILIAMNA	57			0.0	- 6.1	- 3.0		4.4	31+	-20.6	16	0	28		
JUNEAU	4	1014.9	1015.8	2.2	- 3.9	- 0.7	0.2	7.2	29	-16.1	17+	0	25	- 2.2	87
KING SALMON	15	1004.4	1006.5	0.0	- 6.1	- 3.2	3.8	3.9	9	-21.1	16	0	29	- 7.2	72
KOTZEBUE	3	1015.2	1015.7	-13.3	-21.1	-17.2	1.7	- 1.7	8	-31.7	24	0	31	-22.8	63
MC GRATH	105	998.3	1011.4	- 2.2	-16.7	- 9.4	3.7	8.3	11	-32.8	15	0	31	-15.0	62
NENANA	109			- 6.1	-20.6	-13.3		6.1	31	-38.9	18	0	31		
NOME	4	1010.8	1011.7	- 7.8	-18.3	-13.2	0.2	0.0	7	-33.9	3+	0	31	-15.6	78
ST. PAUL ISLAND	7	1004.1	1004.8	- 1.7	- 5.6	- 3.6	0.7	2.8	28	-15.6	22	0	31	- 5.0	89
SHEMYA	37	997.3	1001.0	1.7	- 1.7	- 0.1	- 0.3	4.4	28+	- 5.6	8	0	30	- 3.3	79
SUMMIT	732	922.1	1013.4	- 3.9	-14.4	- 9.3		6.7	31	-27.8	18	0	31	-12.2	79
TALKEETNA	105	998.0	1011.5	2.2	-11.7	- 4.8		8.3	31	-26.1	16	0	31	- 8.9	72
TANANA	71			- 7.2	-21.1	-14.0		6.7	31	-36.7	25	0	31		
UNALAKLEET	5	1010.5	1011.1	- 5.0	-13.3	- 9.3		3.3	7	-26.7	23	0	31	-12.2	80
YAKUTAT	9	1012.2	1013.1	2.2	- 5.0	- 1.3	- 0.9	5.6	31+	-18.9	17	0	27	- 3.9	82
ARIZONA															
FLAGSTAFF	2135	784.3	1016.9	4.4	-10.0	- 2.6	- 4.6	16.7	30	-20.0	8	0	31	-13.3	43
PHOENIX	340	975.3	1014.4	22.8	5.0	13.8	- 1.2	32.8	30	0.0	15+	3	2	- 0.6	45
TUCSON	788	925.5	1014.0	20.6	4.4	12.4	- 2.1	32.8	31	- 2.8	15	1	3	- 5.0	36
WINSLOW	1492	849.6	1015.6	13.9	- 3.3	5.2	- 2.3	26.7	31	- 9.4	5	0	27	- 7.8	48
YUMA	59	1007.5	1014.9	25.0	9.4	17.1	- 0.1	35.6	30	3.3	12	5	0	- 2.2	32
ARKANSAS															
FORT SMITH	136	1002.0	1019.0	13.9	1.1	7.4	- 3.2	29.4	19	- 5.6	10+	0	13	- 1.7	57
LITTLE ROCK	78	1008.8	1018.4	13.3	1.7	7.5	- 3.5	26.7	19	- 6.7	11	0	13	- 0.6	59
CALIFORNIA															
BAKERSFIELD	145	1001.7	1019.5	20.6	7.2	13.7	- 0.1	33.3	29	2.2	14+	1	0	3.9	55
BISHOP	1252	875.4		12.8	- 3.9	4.5	- 4.2	27.2	31+	-12.8	1	0	24		
BLUE CANYON	1609			6.7	- 0.6	3.1	- 1.1	16.7	28+	- 6.1	7	0	19		
EUREKA U	13			12.8	5.6	9.1	- 0.2	21.7	25+	1.1	8	0	0		
FRESNO	100	1007.5	1019.3	18.9	4.4	11.7	- 1.1	30.6	29	- 1.1	7	0	2	4.4	67
LONG BEACH	10	1016.6	1018.1	19.4	7.8	13.4	- 0.3	29.4	27	2.8	14	0	0	5.6	64
LOS ANGELES	30	1013.9	1017.6	17.2	9.4	13.6	- 0.3	26.7	25	4.4	11	0	0	7.2	68
LOS ANGELES U	82			21.1	10.0	15.4	0.2	31.1	27	5.0	11	0	0		
MT SHASTA R	1080			10.6	- 1.7	4.3	- 0.8	21.7	27	- 8.3	8	0	21		
OAKLAND	2	1020.0	1020.3	16.1	7.8	11.9	- 0.1	24.4	27+	3.9	13	0	0	6.1	71
RED BLUFF	104	1007.1	1020.0	18.9	5.6	12.0	- 0.3	26.1	25	- 0.6	8	0	1	2.8	59
SACRAMENTO	5	1019.0	1019.7	17.2	5.6	11.3	- 0.6	26.1	28	0.6	13	0	0	4.4	67
SANDBERG R	1377	862.9		11.7	2.8	7.2	- 0.1	24.4	30+	- 4.4	13	0	12	- 4.4	52
SAN DIEGO	4	1016.9	1017.9	18.3	9.4	13.8	- 1.2	25.6	26+	6.7	15	0	0	6.7	64
SAN FRANCISCO	2	1019.6	1020.4	16.1	6.7	11.2	- 0.7	24.4	27+	3.3	21+	0	0	5.6	72

State and Station	Precipitation: Total	Precipitation: Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																	
BIRMINGHAM	132	- 21	48	8	1	T	0	1.0	33	14.8	SW	24	8	9	14	6.1	55
HUNTSVILLE	76	- 65	33	5	0	T	T	1.4	32	20.6	12	23	7	11	13	6.2	
MOBILE	207	23	57	9	2	0	0	0.8	36	14.3	20	22	13	5	13	5.6	
MONTGOMERY	120	- 36	54	8	1	0	0	1.1	34	15.2	SW	24	10	10	11	5.3	68
ALASKA																	
ANCHORAGE	3	- 10	2	4	0	28	381	0.3	2	11.2	35	14	2	9	20	8.0	43
ANNETTE	89	-154	24	14	1	15	T	1.3	13	14.3	16	14	0	6	25	8.8	
BARROW	1	- 2	1	3	0	15	279	2.2	6	14.3	27	18	13	2	16	5.2	
BARTER ISLAND	2	- 4	1	4	0	28	127	1.2	24	34.4	28	18	13	5	13	5.5	
BETHEL	12	- 14	7	6	0	241	406	1.5	4	13.9	8	19	4	5	22	8.0	
BETTLES	3		2	3	0	28	660	3.0	36	11.2	5	6	8	5	18	6.7	
BIG DELTA	7		5	3	0	135	127			19.2	19	19	8	8	15	6.2	
COLD BAY	49	4	7	18	0	340	229	2.3	19	22.4	25	20	0	4	27	9.0	
FAIRBANKS	15	5	6	5	0	287	737	0.8	1	7.2	34	14	6	12	13	6.2	
FAREWELL	10		6	6	0	206	229						5	7	19	7.4	
GULKANA	8		3	7	0	127		0.6	20	10.7	18	20	7	6	18	6.8	
HOMER	33		15	13	0	249	356						3	7	21	7.8	
ILIAMNA	31		12	15	0	224	940						5	3	23	7.9	
JUNEAU	106	23	24	23	0	709	381	2.7	11	14.3	13	24	1	2	28	9.3	26
KING SALMON	30	6	6	13	0	312	178	1.6	11	17.4	10	19	2	3	26	9.0	
KOTZEBUE	7	- 1	2	8	0	175	381	2.6	7	20.1	11	29	12	3	16	5.5	
MC GRATH	9	- 15	6	6	0	226	483	0.3	3	9.4	20	21+	2	6	23	8.1	
NENANA	8		4	5	0	224				8.0	7	6	7	9	15	6.5	
NOME	6	- 16	3	9	0	127	305	3.1	5	14.8	3	9	9	3	19	6.6	43
ST. PAUL ISLAND	18	- 9	7	15	0	307	330	3.0	4	21.0	1	5	1	3	27	9.1	
SHEMYA	54	- 11	10	20	0	356	229	2.2	24	25.9	13	13	0	6	25	8.6	
SUMMIT	18		7	13	0	272	432	1.8	4	11.6	7	14	4	7	20	7.4	
TALKEETNA	8		4	8	0	206	737	0.7	1	10.3	1	14	3	8	20	7.3	
TANANA	11		6	5		130	584			10.7	12	26	8	7	16	6.5	
UNALAKLEET	6		2	10	0	130	559	5.7	8	19.2	9	25	6	1	24	8.0	
YAKUTAT	366	145	77	26	0	1887	1245	2.0	11	11.2	14	20	2	2	27	9.0	
ARIZONA																	
FLAGSTAFF	76	39	29	9	0	1107	940	0.7	24	10.3	25	23+	13	8	10	4.6	
PHOENIX	14	- 3	13	3	1	0	0	0.6	18	19.2Y	WSW	6	16	10	5	3.4	84
TUCSON	9	- 5	6	3	0	T	0	1.3	22	15.2	SW	13	19	7	5	3.2	86
WINSLOW	11	2	5	7	0	155	51	1.5	26	19.7	31	23	17	9	5	3.8	
YUMA	1	- 6	1	1	0	0	0	1.9	30	16.1	W	10	22	8	1	2.1	95
ARKANSAS																	
FORT SMITH	66	- 22	47	7	2	0	0	1.1	36	13.4	W	24	12	3	16	5.7	64
LITTLE ROCK	93	- 29	74	8	2	T	T	1.1	33	14.3	NW	8	14	5	12	5.3	70
CALIFORNIA																	
BAKERSFIELD	7	- 20	3	5	0	0	0	0.8	3	11.6	13	24+	13	11	7	4.6	
BISHOP	17	3	15	4		51	330						17	7	7	3.8	
BLUE CANYON	57	-158	19	13		333	3175			12.5	8	24+	12	7	12	5.3	
EUREKA U	40	- 94	22	11		0	0			15.2	N	9	8	14	9	5.7	77
FRESNO	29	- 20	15	7	0	0	0	0.9	33	13.4	NW	3	13	10	8	4.5	83
LONG BEACH	17	- 18	9	5	0	0	0	0.9	26	13.0	34	3	16	11	4	3.8	
LOS ANGELES	11	- 35	6	3	1	0	0	1.5	25	14.3Y	NW	6	16	11	4	3.7	
LOS ANGELES U	38	- 20	31	3		0	0			14.8	NW	3	18	8	5	3.5	82
MT SHASTA R	21	- 92	12	8		183	991										
OAKLAND	25	- 37	11	5	0	0	0	1.8	29	11.2	6	24	14	12	5	3.9	
RED BLUFF	35	- 33	19	7	0	0	0	1.5	33	13.4	N	4	12	11	8	4.6	75
SACRAMENTO	24	- 36	10	8	0	0	0	1.1	28	13.9	N	4	16	8	7	4.1	84
SANDBERG R	14	- 22	6	7		76	25			23.2	35	4	12	9	10	4.7	
SAN DIEGO	24	- 16	9	7	1	0	0	1.8	29	10.3	NW	13+	15	8	8	3.9	86
SAN FRANCISCO	34	- 34	19	6	0	0	0	3.0	29	16.1	WNW	5	17	6	8	3.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%
CALIFORNIA															
SAN FRANCISCO [illegible]	16			15.6	8.9	12.4	- 0.2	25.6	26	6.1	13	0	0		
SANTA MARIA	72			17.2	4.4	10.7	- 1.1	27.2	27	0.0	8	0	1		
STOCKTON	7	1019.0	1020.1	17.8	4.4	11.0	- 1.1	26.7	28	- 1.1	14	0	3	5.0	72
COLORADO															
ALAMOSA	2297	767.7		7.2	-11.7	- 2.3	- 2.3	20.0	31	-18.3	9	0	31		
COLORADO SPRINGS	1873	809.0	1019.2	[illegible]	- 7.8	- 1.3	- 3.7	22.2	31	-17.8	9	0	31	-10.0	58
DENVER	1610	834.7	1017.0	7.2	- 7.2	0.1	- 2.3	23.3	31	-16.9	8	0	28	- 7.2	66
GRAND JUNCTION	1476	851.0	1016.5	10.6	- 3.3	3.4	- 1.9	23.9	31	- 9.4	9	0	27	- 7.2	51
PUEBLO	1428	855.1	1017.4	9.4	- 4.4	2.4	- 2.1	25.0	31	-13.9	9	0	27	- 6.7	56
CONNECTICUT															
BRIDGEPORT	2	1011.2	1012.0	7.2	- 1.7	2.8	- 0.3	18.3	18	- 6.7	12	0	22	- 5.0	60
HARTFORD	52	1004.4	1011.2	5.6	- 2.8	1.4	- 0.8	17.2	18	-11.1	6	0	23	- 6.1	60
NEW HAVEN	2	1011.5		6.1	- 2.8	1.6	- 0.9	15.0	18	- 7.8	12+	0	23		
DELAWARE															
WILMINGTON	23	1010.5	1013.6	8.9	- 0.6	4.2	- 0.9	18.3	18	- 7.2	12	0	22	- 5.0	55
DIST. OF COLUMBIA															
WASH NAT'L AP	[illegible]	1012.2	1014.5	11.7	0.6	6.1	- 1.0	21.1	21+	- 6.7	12	0	18	- 3.9	52
FLORIDA															
APALACHICOLA [illegible]	4			16.7	8.9	12.8	- 3.3	23.3	19	2.2	11+	0	[illegible]		
DAYTONA BEACH	[illegible]	1015.9	1017.2	19.4	8.9	14.4	- 3.3	27.2	25+	2.2	12	0	0	7.2	66
FORT MYERS	5	1016.6	1016.8	[illegible]	12.8	17.4	- 2.7	27.8	24	6.7	14+	0	0	11.7	71
JACKSONVILLE	6	1015.9	1016.9	19.4	7.2	13.3	- 3.5	28.3	24	1.1	12	0	0	6.1	66
KEY WEST	[illegible]	1015.6	1016.2	22.8	18.3	20.5	- 2.0	28.3	18	13.9	13+	0	0	15.6	73
LAKELAND [illegible]	65			20.6	10.6	15.6	- 3.[illegible]	26.7	22+	3.9	10	0	[illegible]		
MIAMI	[illegible]	1015.9	1016.1	23.9	15.6	19.9	- 1.5	30.6	18	7.8	5	0	0	14.3	68
ORLANDO	33	1012.9	1017.3	21.7	10.0	15.8	- 3.1	28.9	18	3.9	10	0	0	[illegible]	66
PENSACOLA	34	1011.9	1017.0	17.2	7.2	12.1	- 4.1	26.1	24	- 0.6	11	0	[illegible]	[illegible]	55
TALLAHASSEE	17	1014.9	1017.4	19.4	4.4	11.9	- 4.0	27.8	[illegible]	- 2.8	14	0	[illegible]	[illegible]	68
TAMPA	[illegible]	1016.6	1017.0	[illegible]	9.4	14.6	- 4.3	27.2	[illegible]	3.3	14+	0	[illegible]	8.3	71
WEST PALM BEACH	[illegible]	1015.7	[illegible]	[illegible]	13.3	18.2	- 2.9	31.1	18	6.1	2	[illegible]	[illegible]	11.7	[illegible]
GEORGIA															
ATHENS	244	986.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 2.3	25.6	24	[illegible]	11	[illegible]	[illegible]	- 1.7	54
ATLANTA	[illegible]	[illegible]	1016.6	14.4	[illegible]	[illegible]	- 2.5	25.6	24	[illegible]	11	[illegible]	[illegible]	- 1.1	[illegible]
AUGUSTA	41	1010.5	[illegible]	[illegible]	3.9	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLUMBUS	117	[illegible]		[illegible]	[illegible]	[illegible]	- 3.1	[illegible]	[illegible]	- 4.4	[illegible]	[illegible]	[illegible]	1.1	[illegible]
MACON	[illegible]	1003.7	1016.8	17.2	3.3	[illegible]	- 3.6	27.2	24	- 3.9	[illegible]	[illegible]	9	[illegible]	[illegible]
ROME	[illegible]			14.4	[illegible]	7.1	[illegible]	[illegible]	24+	[illegible]	[illegible]	[illegible]	[illegible]		
SAVANNAH	14	[illegible]	1016.3	18.3	4.4	11.3	- 3.3	28.9	24	- 3.3	12	[illegible]	[illegible]	[illegible]	[illegible]
HAWAII															
LIHUE	[illegible]	[illegible]	1019.2	[illegible]	18.3	21.2	- 0.6	25.6	[illegible]	14.4	11	[illegible]	[illegible]	[illegible]	[illegible]
HONOLULU	[illegible]	1017.3	1017.7	[illegible]	18.9	[illegible]	0.4	28.9	[illegible]	16.1	28	[illegible]	[illegible]	[illegible]	[illegible]
KAHULUI	[illegible]	[illegible]	1017.6	[illegible]	17.8	[illegible]	[illegible]	29.4	21	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]
HILO	[illegible]	1016.9	[illegible]	26.7	18.3	[illegible]	[illegible]	28.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IDAHO															
BOISE	[illegible]	918.4	1020.0	[illegible]	- 0.6	5.8	0.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 4.4	[illegible]
LEWISTON	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	21.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
POCATELLO	[illegible]	[illegible]	1021.8	[illegible]	- 7.8	- 1.6	- 3.7	[illegible]	[illegible]	[illegible]	11	[illegible]	29	[illegible]	[illegible]
ILLINOIS															
CAIRO	96			10.6	[illegible]	5.7	- 3.3	25.6	[illegible]	[illegible]	11+	[illegible]	[illegible]		
CHICAGO O'HARE	[illegible]	991.9	[illegible]	6.7	[illegible]	1.3	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	- 6.1	61
CHICAGO MIDWAY	185	[illegible]	[illegible]	6.7	- 3.9	1.3	- 1.1	[illegible]	18	-11.1	11+	[illegible]	[illegible]	[illegible]	[illegible]

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm	Mm	Mm.			Mm.	Mm	M.p.s.		M.p.s.							%
CALIFORNIA																	
SAN FRANCISCO [illegible]	26	- 49	8	6		0	0			13.0	SW	2					87
SANTA MARIA	17	- 36	6	7		0	0						16	11	4	3.7	
STOCKTON	23	- 29	10	7	0	0	0	1.5	31	11.2	36	4	12	11	8	4.5	
COLORADO																	
ALAMOSA	12	5	4	9		318	51						8	10	13	5.9	
COLORADO SPRINGS	20	4	9	10	0	287	127	1.2	3	18.3	29	19	3	8	20	7.3	
DENVER	28	- 3	16	9	0	345	152	[illegible]	19	16.5	NW	19	3	12	16	7.1	77
GRAND JUNCTION	17	- 2	7	7	0	241	127	0.7	5	14.8	NW	19	9	11	11	6.5	71
PUEBLO	21	8	6	9	0	323	76	1.0	5	19.2	NW	23	7	11	13	6.4	73
CONNECTICUT																	
BRIDGEPORT	85	- 23	62	7	1	51	25	3.5	32	18.8	3	2	11	[illegible]	13	5.7	
HARTFORD	79	- 18	59	6	1	112	254	2.9	31	13.0	NW	31+	6	8	17	6.7	60
NEW HAVEN	67	- 51	42	7		91	25			13.4	NW	12+	10	7	14	5.9	66
DELAWARE																	
WILMINGTON	43	- 59	21	8	[illegible]	198	102	2.9	28	13.4	28	7	11	10	10	5.4	
DIST. OF COLUMBIA																	
WASH NAT'L AP	41	- 41	13	10	1	170	76	2.4	31	14.3	NW	11	14	4	13	5.2	61
FLORIDA																	
APALACHICOLA [illegible]	208	93	135	[illegible]	4	0	[illegible]			17.0	[illegible]	23	10	[illegible]	11	[illegible]	76
DAYTONA BEACH	70	- 21	[illegible]	12	1	0	[illegible]	[illegible]	32	12.5	[illegible]	9	6	[illegible]	17	[illegible]	
FORT MYERS	120	54	75	[illegible]	3	0	[illegible]	1.0	3	11.2	29	6	2	11	18	[illegible]	
JACKSONVILLE	107	19	29	[illegible]	1	0	[illegible]	1.0	29	15.6	W	9+	[illegible]	8	[illegible]	[illegible]	[illegible]
KEY WEST	22	- 23	[illegible]	8	1	0	[illegible]	[illegible]	5	13.9	NW	4	[illegible]	12	[illegible]	[illegible]	[illegible]
LAKELAND [illegible]	[illegible]	[illegible]	72	11		0	[illegible]						7	[illegible]	16	[illegible]	[illegible]
MIAMI	[illegible]	- 7	[illegible]	11	[illegible]	0	[illegible]	[illegible]	4	[illegible]	[illegible]	19	[illegible]	[illegible]	19	[illegible]	
ORLANDO	[illegible]	54	64	11	1	0	[illegible]	[illegible]	34	12.5	25	18	5	7	19	7.2	
PENSACOLA	[illegible]	[illegible]	[illegible]	[illegible]		0	[illegible]	[illegible]	35	[illegible]	[illegible]	[illegible]	11	5	14	[illegible]	[illegible]
TALLAHASSEE	[illegible]	[illegible]	64	11	4	0	[illegible]	[illegible]	34	13.4	15	[illegible]	10	[illegible]	11	[illegible]	
TAMPA	135	[illegible]	[illegible]	11	1	0	[illegible]	[illegible]	1	[illegible]	29	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WEST PALM BEACH	[illegible]	53	65	[illegible]	[illegible]	0	[illegible]	[illegible]	1	15.6	[illegible]	6	4	[illegible]	[illegible]	[illegible]	
GEORGIA																	
ATHENS	[illegible]	- 6	58	[illegible]	[illegible]	T	[illegible]	[illegible]	28	[illegible]	[illegible]	24	11	[illegible]	12	[illegible]	
ATLANTA	[illegible]	- 35	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	31	[illegible]	[illegible]	23	13	[illegible]	[illegible]	[illegible]	[illegible]
AUGUSTA	82	- 24	[illegible]	5	1	[illegible]	[illegible]	1.7	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	
COLUMBUS	114	[illegible]	55	8	2	[illegible]	[illegible]	1.5	[illegible]	13.4	[illegible]	24	[illegible]	7	11	4.9	
MACON	96	[illegible]	42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROME	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]										
SAVANNAH	[illegible]	[illegible]	43	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	9	14	[illegible]	[illegible]	[illegible]	[illegible]
HAWAII																	
LIHUE	[illegible]	[illegible]	174	[illegible]	3	[illegible]	[illegible]	[illegible]	9	8.5	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HONOLULU	[illegible]	3	68	8	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KAHULUI	81	[illegible]	27	15	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]
HILO	44	[illegible]	[illegible]	14	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IDAHO																	
BOISE	7	- 27	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LEWISTON	6	- 24	4	[illegible]									[illegible]		[illegible]	[illegible]	
POCATELLO	[illegible]	- 16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	68
ILLINOIS																	
CAIRO	[illegible]	- 61	44	[illegible]		[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CHICAGO O'HARE	[illegible]	- 19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	
CHICAGO MIDWAY	[illegible]	- 10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet		Wind		Fastest mile (1.6 kilometers)			No. of days (sunrise to sunset)				
	Elevation (ground)	Station ⊘	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M.p.s		M.p.s							%
ILLINOIS																																
MOLINE	177	995.9	1018.1	6.1	- 5.6	0.1	- 1.8	21.7	18	-12.8	12	0	28	- 6.7	64	57	- 4	38	9	0	142	25	2.3	29	14.8	NW	20	9	11	11	5.6	65
PEORIA	199	993.2	1018.1	6.7	- 5.6	0.6	- 2.6	21.7	18	-12.2	12	0	27	- 5.0	70	30	- 42	20	6	0	104	25	[illegible]	29	17.0	E	24	10	8	13	5.8	62
ROCKFORD	221	989.2	1016.9	5.0	- 6.1	- 0.6	- 1.7	20.6	18	-13.3	30+	0	28	- 6.1	68	40	- 22	24	5	0	124	102	2.0	31	12.1	3	24	13	6	12	5.0	
SPRINGFIELD	179	995.3	1018.0	6.1	- 5.0	0.3	- 4.2	21.7	19	-16.1	11	0	26	- 4.4	72	51	- 22	32	6	0	178	152	2.1	27	20.6	W	20	13	6	12	5.4	65
INDIANA																																
EVANSVILLE	116	1003.7	1018.1	9.4	- 2.2	3.5	- 3.9	23.9	19	-10.6	12	0	23	- 3.9	63	52	- 57	41	6	1	20	25	1.6	28	14.3	SE	23	9	11	11	5.9	61
FORT WAYNE	241	985.4	1016.4	6.1	- 5.0	0.6	- 1.8	21.7	19	-13.3	12	0	28	- 5.6	66	43	- 28	29	8	1	61	25	2.1	27	18.8	W	20	11	6	14	5.9	70
INDIANAPOLIS	241	987.1	1016.8	7.8	- 3.9	2.1	- 1.8	22.8	19	-11.7	11	0	23	- 5.0	64	34	- 53	12	10	1	163	25	1.9	28	17.0	SW	20	12	8	11	5.3	55
SOUTH BEND	236	987.5	1016.1	5.6	- 4.4	0.5	- 1.1	20.6	18	-15.0	11	0	25	- 5.0	68	49	- 21	31	10	1	173	76	2.2	29	13.0	23	20	11	8	12	5.8	
IOWA																																
BURLINGTON	211			6.1	- 5.6	0.4	- 2.5	21.7	18	-13.9	11	0	27	- 5.0	67	26	- 43		4	0	15		2.4	31	11.6	31	20	8	11	12	5.8	
DES MOINES	286	983.7	1019.9	2.8	- 7.2	- 2.1	- 3.1	17.2	17	-16.7	11	0	28	- 6.7	71	36	- 17	19	11	1	71	127	2.5	33	17.0	NW	20	10	9	12	5.8	64
DUBUQUE	322	977.3		4.4	- 7.2	- 1.4	- 1.4	18.9	18	-15.0	30+	0	29			28	- 42	13	9		122	51						11	9	11	5.5	
SIOUX CITY	334	979.3	1020.9	0.6	- 8.3	- 3.9	- 4.6	10.0	31	-17.8	11	0	31	- 7.2	78	18	- 20	16	5	1	66	305	2.5	33	18.8	NW	20	6	9	16	6.7	67
WATERLOO	265	986.1	1019.0	2.2	- 8.9	- 3.3	- 3.3	15.0	19	-17.2	11	0	31	- 7.2	75	25	- 27	18	7	0	112	25	2.1	32	12.5	33	20	11	8	12	5.4	
KANSAS																																
CONCORDIA	448	965.5	1020.0	6.7	- 5.0	1.0	- 3.3	21.7	19	-14.4	11	0	30	- 3.9	75	42	5	22	7	1	188	76	1.9	33	16.5	NW	24+	11	6	14	6.2	47
DODGE CITY	787	926.2	1019.7	5.0	- 5.0	- 0.1	- 5.6	20.6	31	-16.7	11+	0	26	- 3.9	79	59	29	19	10	0	493	279	1.3	34	18.8	N	24	7	10	14	6.5	57
GOODLAND	1114	888.3	1018.7	6.7	- 7.2	- 0.4	- 2.9	26.7	31	-18.3	11	0	29	- 6.7	68	25	- 2	17	5	0	338	229	1.2	28	16.5	35	24+	7	13	11	6.2	
TOPEKA	267	987.1	1019.9	8.9	- 3.3	2.8	- 2.6	26.1	19	-11.7	11+	0	25	- 3.3	66	35	- 16	21	5	0	51	51	1.8	33	17.4	NE	8	6	11	14	6.7	53
WICHITA	403	970.5	1019.8	7.8	- 3.3	2.3	- 4.7	24.4	19	-18.3	11	0	22	- 3.3	69	44	2	28	9	0	130	127	1.6	35	20.1	N	24+	11	6	14	6.2	54
KENTUCKY																																
COVINGTON	265	984.4	1016.7	8.9	- 3.3	2.9	- 1.8	23.3	19	-11.1	12	0	26	- 5.0	62	36	- 60	18	10	1	71	25	2.0	27	13.4	21	20	10	7	14	5.9	
LEXINGTON	294	981.0	1017.2	9.4	- 1.7	3.8	- 2.4	23.3	19	-10.6	12	0	23	- 5.0	57	38	- 83	19	8	0	43	51	1.8	26	12.1	20	20	9	7	15	6.1	
LOUISVILLE	145	999.3	1017.2	10.6	- 1.7	4.4	- 1.9	25.0	19	- 9.4	12	0	20	- 4.4	58	49	- 67	31	10	0	56	25	1.7	28	15.6	SE	23	9	9	13	5.8	63
LOUISIANA																																
BATON ROUGE	20	1014.9	1017.5	17.8	6.1	12.1	- 3.8	26.1	19	- 1.1	10	0	3	4.4	65	138	13	44	9	2	0	0	0.8	1	10.3	23	23	6	11	14	6.3	
LAKE CHARLES	3	1016.3	1017.4	17.2	7.2	12.2	- 3.9	23.9	29	0.0	10+	0	2	6.7	74	108	1	38	11	3	0	0	1.0	4	14.3	18	23	6	11	14	6.5	
NEW ORLEANS	1	1016.6	1017.6	17.8	6.7	12.1	- 4.2	25.6	24	- 1.7	13	0	1	6.1	68	180	44	81	9	3	0	0	1.1	2	16.5	18	23	9	7	15	6.1	
SHREVEPORT	77	1008.5	1018.0	15.6	5.0	10.1	- 3.6	26.7	19	- 2.8	11+	0	5	2.8	64	184	78	62	11	1	T	T	1.1	36	12.1	16	23	8	10	13	5.8	56
MAINE																																
CARIBOU	190	985.1		1.7	- 8.9	- 3.7	1.4	10.0	24	-20.0	6	0	31			38	- 23	10	15		495	762						7	3	21	7.2	
PORTLAND	14	1007.5	1009.7	4.4	- 5.0	- 0.5	- 0.2	10.6	23	-21.1	6	0	24	- 7.2	62	85	- 25	41	11	1	236	508	1.6	29	13.9	E	25	7	8	16	6.7	43
MARYLAND																																
BALTIMORE	45	1008.5	1014.3	10.0	- 0.6	4.8	- 1.3	19.4	29	- 6.7	12	0	21	- 5.6	51	41	- 56	13	8	0	198	127	2.8	29	15.6	NW	11	13	6	12	5.2	62
MASSACHUSETTS																																
BLUE HILL OBS R	192			4.4	- 3.3	0.4	- 1.2	13.3	29	-12.2	6	0	25			79	- 36	36	10		302	1092			23.2	NE	3					49
BOSTON	5	1009.5	1010.3	5.0	- 1.1	1.9	- 1.3	13.9	29	- 9.4	6	0	19	- 4.4	66	67	- 40	30	9	1	155	381	3.8	30	21.0	SE	25	8	6	17	6.5	53
NANTUCKET	13	1009.8	1010.2	6.7	- 0.6	3.1	0.8	11.7	29	- 5.6	6+	0	20	- 2.2	70	112	- 3	49	10	1	307	127	2.9	31	21.0	N	7	11	6	14	5.8	59
WORCESTER	301	972.9	1010.6	3.3	- 5.0	- 0.7	- 1.1	12.2	29	-13.9	6	0	29	- 7.2	64	64	- 40	41	10	1	175	864	3.3	29	13.9	26	27+	7	9	15	6.4	
MICHIGAN																																
ALPENA	210	988.8	1014.9	1.7	-10.0	- 4.2	- 0.7	10.0	23+	-18.3	11	0	30	-10.0	64	38	- 14	17	9	0	196	127	1.6	30	13.0	NE	24	8	12	11	5.6	58
DETROIT	189			6.7	- 3.3	1.7	0.1	20.0	18	-11.1	11	0	23	- 8.3	52	37	- 25	28	6	1	38		2.9	29	15.6	28	21					
DETROIT M WAYNE CO	193	990.2	1014.8	6.7	- 5.0	0.8	- 0.5	20.6	18	-12.2	11	0	28	- 6.7	62	41	- 20	26	7	2	58	25	2.2	29	16.1	SW	20	10	10	11	5.4	65
FLINT	235	986.1	1014.6	5.0	- 6.1	- 0.5	- 0.9	19.4	18	-12.8	11	0	27	- 7.2	63	33	- 21	14	8	0	173	127	2.4	28	11.6	28	21	12	7	12	5.4	
GRAND RAPIDS	239	985.4	1015.5	3.9	- 7.2	- 1.5	- 1.9	19.4	18	-15.0	27	0	28	- 7.8	63	33	- 25	10	9	1	201	102	2.3	28	14.3	NW	10	10	8	13	5.6	68
HOUGHTON LAKE	350	971.9	1015.5	1.7	-11.1	- 4.9	- 1.8	12.2	19	-20.0	11	0	30	- 8.3	74	22	- 21	8	9	0	241	178	1.7	30	10.3	4	25	10	7	14	5.7	
LANSING	256	982.7	1015.4	5.6	- 7.8	- 0.9	- 1.1	21.1	18	-15.0	11	0	28	- 8.9	57	27	- 34	11	9	1	124	76	2.3	29	14.3	SW	17	12	8	11	5.3	72
MARQUETTE U	206			0.6	- 7.8	- 3.6	- 0.6	9.4	22	-13.3	31+	0	30			46	- 2	30	11		450	711			11.2	N	25+	6	10	15	6.7	61
MUSKEGON	191	991.9	1015.7	3.3	- 5.0	- 0.8	- 1.3	16.1	19	-14.4	12	0	26	- 7.8	60	35	- 17	9	12	1	295	102	2.0	31	11.6	19	23	11	4	16	6.2	
SAULT STE MARIE	220	987.5	1015.2	0.0	-10.0	- 5.0	- 0.4	7.2	19	-19.4	11	0	31	- 9.4	72	29	- 17	17	8	0	168	279	2.1	32	12.5	NW	26	6	11	14	6.4	69

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C.	C.	C.	C.	C.		C				C.	%	Mm.	Mm.	Mm			Mm	Mm	M p.s.		M.p.s							%
MINNESOTA																																
DULUTH	435	965.1	1018.7	- 0.6	-11.1	- 5.9	0.1	7.8	23+	-22.8	29+	0	31	-11.7	65	10	- 31	7	7	0	76	762	1.6	30	13.9	NW	28	10	8	13	6.0	71
INTERNATIONAL FALLS	359	973.9	1019.1	- 0.6	-13.9	- 7.4	- 0.4	8.3	22	-25.0	30	0	31	-13.9	58	5	- 21	3	5	0	43	686	1.4	32	10.7	26	30	10	13	8	5.3	
MINNEAPOLIS	254	987.8	1019.4	0.6	- 9.4	- 4.4	- 1.8	8.3	23+	-20.6	29	0	29	- 8.3	72	23	- 16	10	8	0	185	432	1.6	31	14.8	N	20	12	8	11	5.3	71
ROCHESTER	395	969.2	1018.8	- 0.6	-11.7	- 5.9	- 3.7	7.8	19	-22.2	11	0	31	- 9.4	74	25	- 17	19	6	1	142	305	2.2	29	13.0	2	24+	11	11	9	5.3	
ST CLOUD	315	980.0	1019.4	0.0	-11.7	- 5.8	- 2.2	8.9	18+	-22.2	29	0	31		67	12	- 21	7	6		102	483						11	10	10	5.3	
MISSISSIPPI																																
JACKSON	94	1005.8	1017.8	16.1	3.3	9.6	- 4.0	25.6	19	- 4.4	11+	0	9	3.9	70	124	- 21	38	11	3	0	0	0.8	1	15.6	SE	23	9	9	13	6.3	55
MERIDIAN	88	1006.4	1017.9	16.1	2.8	9.4	- 4.2	24.4	20+	- 3.3	11+	0	13	2.8	66	121	- 40	58	9	1	0	0	1.0	33	13.0	20	23	8	7	16	6.2	
MISSOURI																																
COLUMBIA	237	989.5	1018.4	8.9	- 2.8	2.9	- 2.6	25.6	19	-13.9	9	0	22	- 3.9	64	49	- 19	36	6	1	127	127	1.5	31	17.4	E	23	7	11	13	6.2	68
KANSAS CITY	226	991.5	1019.4	8.9	- 2.8	3.1	- 3.2	25.6	19	-11.1	11+	0	23	- 3.9	66	35	- 29	43	5	0	71	51	1.9	31	18.8	NW	20	8	11	12	6.1	68
ST JOSEPH	247			11.1	- 2.2	4.3	- 0.2	26.7	19	-12.2	9	0	19	- 3.9	64	45	- 14		5	0	51		2.3	32	11.6	35	8	5	16	10	6.0	
ST LOUIS	165	998.0	1019.7	9.4	- 2.8	3.2	- 2.7	25.6	19	-11.1	9	0	20	- 4.4	62	63	- 15	44	7	0	69	76	2.0	29	16.5	E	23	13	5	13	5.6	69
SPRINGFIELD	386	972.2	1018.7	10.6	- 2.8	4.0	- 2.7	27.2	19	-11.1	10+	0	23	- 4.4	59	78	6	60	7	0	13	T	0.9	32	15.2	SE	8	10	8	13	6.0	65
MONTANA																																
BILLINGS	1087	892.7	1020.3	5.0	- 6.1	- 0.5	- 1.4	21.7	31	-19.4	8	0	24	- 7.8	62	14	- 12	8	8	0	140	102	1.7	28	18.8	NW	27	7	8	20	7.5	64
GLASGOW	696	936.3	1022.1	- 2.2	-13.3	- 7.6	- 4.7	11.7	31	-24.4	11	0	31	-10.0	83	4	- 10	1	9	0	84	254	1.3	3	16.5	4	23	4	3	19	7.5	
GREAT FALLS	1116	889.6	1022.1	2.2	- 8.9	- 3.2	- 2.5	20.0	31	-23.9	8	0	28	-10.0	64	11	- 12	3	6	0	140	152	3.1	24	21.0	SW	16	9	5	16	6.4	82
HAVRE	788	925.8	1022.1	- 0.6	-13.3	- 6.9	- 4.1	15.6	31	-28.3	8	0	28	-12.2	67	5	- 10	2	6	0	74	305	1.9	25	15.6	NW	23	5	8	18	7.3	77
HELENA	1167	882.8	1023.9	0.6	-12.2	- 5.9	- 5.6	13.9	31	-26.7	11	0	31	-10.6	70	14	- 3	14	3	0	178	381	1.7	28	13.4	NW	27+	6	9	16	6.8	75
KALISPELL	904	913.6	1021.5	3.9	- 9.4	- 2.8	- 2.7	12.8	27	-27.8	11	0	29	- 8.9	64	16	- 8	12	7	0	124	432	[illegible]	13	11.2	2	27	6	12	13	6.5	
MILES CITY	[illegible]	924.5	1020.8	2.8	- 9.4	- 3.6	- 3.0	21.1	31	-22.2	7	0	30	- 7.8	73	19	2		13	0	152		1.7	31								
MISSOULA	972	906.9	1022.3	5.0	- 8.3	- 1.7	- 2.6	15.0	29	-21.1	11	0	30	- 6.1	75	18	T	11	6	0	229	356	0.4	9	13.4	NW	22	8	8	15	6.1	61
NEBRASKA																																
GRAND ISLAND	561	952.3	[illegible]	3.3	- 6.1	- 1.6	- 3.6	15.6	27+	-15.6	8	0	31	- 5.6	75	5	- 27	2	4	1	46	127	[illegible]	33	17.0	35	24	8	4	19	[illegible]	
LINCOLN U	351			4.4	- 5.0	- 0.2	- 3.6	20.6	19	-13.9	8	0	30			37	- 7	17	8		127	76			16.5	NW	24	7	8	16	6.8	54
NORFOLK	471			1.1	- 8.3	- 3.6	- 4.3	10.6	18	-17.2	11	0	31			11	- 29	10	2		36	279						6	6	19	6.9	
NORTH PLATTE	846	919.1	1020.3	5.0	- 7.8	- 1.7	- 3.3	21.7	31	-17.2	11	0	31	- 6.7	75	4	- 21	2	5	0	46	25	1.7	35	17.9	NW	19	8	11	12	6.0	51
OMAHA	298	983.4	1020.1	4.4	- 5.0	- 0.3	- 3.0	20.0	17	-12.8	11+	0	30	- 5.6	69	32	5	22	9	1	81	51	2.8	34	16.5	NW	28	4	13	14	6.8	62
SCOTTSBLUFF	1206	879.8	1019.5	6.1	- 7.8	- 0.7	- 2.5	23.3	31	-18.9	8	0	31	- 7.8	65	13	9	4	8	0	155	76	[illegible]	33	[illegible]	32	[illegible]	4	8	19	7.4	
VALENTINE	789			2.2	-11.7	- 4.7	- 4.3	22.8	31	-22.8	11	0	31			13	- 13	9	7		117	[illegible]			16.1	N	26	6	11	14	6.6	[illegible]
NEVADA																																
ELKO	1539	845.6	1020.7	6.7	- 7.8	- 0.6	- 2.6	19.4	30+	-15.6	9	0	29			[illegible]	- 12	10	5	0	[illegible]	127	0.8	32	13.0	31	[illegible]	9	[illegible]	[illegible]	[illegible]	
ELY	[illegible]	808.3	1019.9	[illegible]	-11.7	- 3.2	- 4.1	19.4	31+	-23.9	9	0	30	-10.0	64	10	- 11	7	3	0	[illegible]	254	0.6	24	14.8	N	3	11	11	9	5.0	[illegible]
LAS VEGAS	659	939.4	1016.3	18.9	4.4	11.7	- 1.0	30.6	31+	- 2.2	8	0	1	- 4.4	38	14	6	8	5	0	[illegible]	[illegible]	1.7	32	15.2	N	6+	19	4	8	4.0	[illegible]
RENO	1342	867.3	1018.9	12.8	- 2.8	4.8	- 0.4	23.3	30	- 7.8	[illegible]	0	27	- 5.6	50	2	- 15	1	2	0	48	51	[illegible]	29	[illegible]	NW	18	11	[illegible]	[illegible]	[illegible]	[illegible]
WINNEMUCCA	1311	869.6	1019.7	10.6	- 3.9	3.2	- 0.2	22.2	30	- 9.4	9	0	27	- 5.0	58	7	- 13	5	4	0	89	76	0.2	4	[illegible]	N	[illegible]	10	4	17	[illegible]	[illegible]
NEW HAMPSHIRE																																
CONCORD	104	997.6	[illegible]	3.3	- 7.2	- 2.1	- 1.9	11.1	23	-26.1	5	0	27	- 7.2	67	60	- 23	41	10	0	145	864	[illegible]	31	15.2	NW	[illegible]	[illegible]	[illegible]	[illegible]	6.8	[illegible]
MT WASHINGTON OBS	1909			- 9.4	-16.1	-12.7	- 1.4	0.0	20	-29.4	5	0	31			310	165	89	23	1	2413	838			52.8Y	W	8	4	[illegible]	[illegible]	8.4	[illegible]
NEW JERSEY																																
ATLANTIC CITY	[illegible]	1010.5	[illegible]	8.9	- 2.8	3.0	- 2.1	21.7	29+	-11.7	12	0	25	[illegible]	64	81	- 18	[illegible]	10	1	447	[illegible]	[illegible]	29	[illegible]	[illegible]	11	[illegible]	11	10	[illegible]	[illegible]
ATLANTIC CITY U	3			7.2	0.6	3.7	- 1.4	13.9	21	- 6.7	12	0	17			67	- 35	22	9						[illegible]	NNE	2					
NEWARK	[illegible]	1011.5	1012.4	8.3	- 0.6	3.8	- 0.9	20.6	18	- 7.8	12	0	20	- 5.0	56	[illegible]	- 14	66	8	0	[illegible]	51	[illegible]	29	[illegible]	[illegible]	10	9	[illegible]	[illegible]	[illegible]	
TRENTON U	17			8.3	0.0	4.1	- 0.7	[illegible]	18	- 7.2	12+	0	19			62	- 36	28	9		241	127			[illegible]	NE	2	12	[illegible]	9	[illegible]	[illegible]
NEW MEXICO																																
ALBUQUERQUE	1619	845.8	[illegible]	12.8	- 2.8	5.1	- 2.6	26.7	31	- 8.9	[illegible]	0	24	- 8.9	43	[illegible]	- 2	4	5	1	140	51	[illegible]	4	[illegible]	NW	[illegible]	11	11	9	[illegible]	[illegible]
CLAYTON	1515			7.8	- 6.1	0.7	- 4.2	23.9	31	-13.3	11	0	27			38	22	14	11		384	178						8	11	12	[illegible]	
ROSWELL	1102			15.0	- 2.2	6.2	- 3.6	26.1	18	- 8.9	8	0	25			29	16	16	5		277	[illegible]			14.8	SW	[illegible]					[illegible]
NEW YORK																																
ALBANY	84	1001.7	1012.5	4.4	- 5.6	- 0.5	- 1.1	16.1	18	-15.6	1	0	27	- 6.1	67	34	- 36	[illegible]	8	0	114	[illegible]	[illegible]	28	15.2	W	7	4	[illegible]	[illegible]	[illegible]	47

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 2.5 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, sunrise to sunset	Possible sunshine
	M	Mb	Mb	C.	C.	C.	C	C		C.				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
NEW YORK																																
BINGHAMTON	485	952.6	1012.9	2.8	- 5.0	- 1.2	- 0.8	15.6	18	-12.8	12+	0	25	- 7.2	67	18	- 56	11	9	0	33	25	2.9	29	17.0	SE	24	5	7	19	7.3	56
BUFFALO	215	987.5	1013.7	3.3	- 5.0	- 0.6	- 0.3	18.3	20	-12.2	11	0	28	- 5.6	73	41	- 41	13	20	0	[illegible]	51	3.6	26	15.6	SW	21	5	5	21	[illegible]	[illegible]
J.F. KENNEDY	4	1011.5	1012.4	6.7	0.0	3.4	- 0.3	15.6	25+	- 7.2	12	0	19	- 4.4	61	52	- 54	20	8	1	86	51	3.4	30	17.0	[illegible]	2	8	12	11	5.7	
NEW YORK U	40	1008.5	1011.8	8.3	0.6	4.5	- 0.2	21.1	18	- 7.2	12	0	15	- 6.1	51	45	- 7	71	8	1	142	76	2.4	31	14.3	N	3+					60
NEW YORK LA GUARDIA	3	1010.5	1012.4	7.8	0.6	3.9	- 0.9	20.6	18	- 7.2	12	0	16	- 6.7	49	78	- 30	56	8	1	102	51	3.4	32	18.3	NW	11	8	12	11	5.8	
ROCHESTER	167	992.9	1013.5	4.4	- 4.4	0.0	- 0.2	16.1	20	-12.2	12	0	27	- 5.6	68	29	- 47	16	11	0	127	102	3.3	27	15.2	SW	21	5	9	17	7.1	[illegible]
SYRACUSE	125	997.6	1013.0	2.8	- 4.4	- 0.9	- 1.2	12.2	23+	-13.9	5	0	26	- 5.6	73	27	- 64	14	13	0	239	127	2.9	27	13.0	W	31+	5	6	20	7.4	49
NORTH CAROLINA																																
ASHEVILLE	652	937.7	1015.1	11.7	- 1.7	5.2	- 1.8	21.7	20	- 7.8	12	0	24	- 2.8	64	102	- 21	41	8	2	330	254	3.7	35	20.6	35	9	10	11	10	5.2	74
CAPE HATTERAS R	2	1013.9	1014.4	12.2	2.8	7.4	- 3.1	20.0	29	- 4.4	16	0	9	1.7	69	124	18	48	8	3	0	0	1.4	34	20.6	WSW	9	15	6	10	4.9	[illegible]
CHARLOTTE	224	987.1	1015.1	13.9	0.6	7.3	- 2.7	23.9	20	- 7.2	12	0	16	- 3.3	51	123	- 9	41	8	1	76	76	1.2	29	13.4	S	29	12	9	13	4.9	81
GREENSBORO	273	982.7	1015.0	13.3	0.0	6.8	- 1.7	22.8	29+	- 6.1	12	0	19	- 2.8	56	94	1	36	8	0	272	254	1.6	29	13.4	SW	29	9	15	7	4.7	75
RALEIGH	132	998.3	1014.6	13.3	- 0.6	6.3	- 3.4	24.4	29	- 7.2	12	0	21	- 2.2	61	100	15	43	7	0	236	178	[illegible]	31	11.6	27	25+	14	11	6	4.6	[illegible]
WILMINGTON	9	1013.9	1015.3	16.1	3.9	10.0	- 2.3	23.9	20	- 2.8	12	0	6	1.1	60	117	14	47	7	1	0	0	1.2	28	17.0	W	9	13	10	8	4.8	77
NORTH DAKOTA																																
BISMARCK	502	959.7	1022.2	- 2.2	-13.9	- 8.1	- 4.8	7.2	17	-22.8	30	0	31	-11.1	74	4	- 16	2	5	0	81	457	1.4	33	14.3	N	27	6	8	17	6.9	72
FARGO	273	986.8	1021.5	- 3.9	-15.0	- 9.3	- 5.0	2.8	23	-26.1	29	0	31	-11.7	78	14	- 5	8	4	0	76	406	1.7	33	18.[illegible]	N	28	10	8	13	6.[illegible]	74
WILLISTON	579	950.2	1021.6	- 0.6	-11.7	- 6.2	- 1.9	16.7	31	-26.1	10	0	31	- 9.4	78	11	- 7	4	9	0	114	305	1.4	33	12.5	NE	27	7	7	17	6.8	66
OHIO																																
AKRON	368	969.5	1015.2	6.1	- 4.4	1.1	- 1.7	21.7	20	-13.9	11	0	26	- 5.6	64	49	- 36	20	12	1	150	51	2.5	27	11.2	18	20+	8	7	16	6.3	
CINCINNATI OBS	232			8.9	- 1.7	3.6	- 2.3	25.0	19	- 9.4	12	0	23			39	- 60	22	9		51	25			12.1	W	20					63
CLEVELAND	237	985.8	1015.6	5.6	- 2.8	1.3	- 0.4	21.1	20	-11.1	11	0	25	- 6.7	58	46	- 33	11	11	1	229	102	2.4	26	17.0	S	20	9	5	17	6.5	43
COLUMBUS	247	985.8	1016.4	7.8	- 3.9	1.8	- 2.0	22.2	20	-11.7	12	0	28	- 7.2	54	34	- 47	21	9	1	48	25	2.1	28	15.6	SW	20	8	8	15	6.5	48
DAYTON	305	979.3	1016.2	7.8	- 3.9	1.9	- 1.9	22.2	19	-12.2	12	0	25	- 6.7	58	36	- 43	16	10	0	97	25	2.3	28	17.0	W	20	9	8	14	6.2	56
MANSFIELD	395			7.2	- 3.3	1.7	- 0.1	21.1	20	-14.4	11	0	26	- 5.6	63	32	- 64	12	10	1	140	76	3.0	28	11.6	24	28+	9	8	14	6.3	
TOLEDO	204	990.2	1016.1	7.2	- 5.6	0.7	- 1.1	21.1	20	-12.8	11	0	27	- 6.7	63	39	- 18	19	8	1	124	76	2.3	29	15.6	SW	20	8	10	13	5.7	73
YOUNGSTOWN	359	971.2	1015.2	4.4	- 5.0	- 0.3	- 2.1	20.6	20	-13.3	11	0	27	- 6.1	69	46	- 39	14	17	1	236	51	2.3	28	9.8	18	20+	7	7	17	6.7	
OKLAHOMA																																
OKLAHOMA CITY	392	971.6	1019.1	11.1	0.0	5.6	- 3.6	27.8	19	- 7.8	9	0	15	- 1.1	67	76	26	45	11	1	208	76	1.7	2	19.2	NW	8	11	7	13	5.5	59
TULSA	198	994.6	1019.3	12.2	- 0.6	5.9	- 3.0	30.0	19	- 9.4	9	0	21	- 2.8	57	83	21	68	9	1	33	25	1.7	35	14.3	NW	28	10	6	15	5.9	60
OREGON																																
ASTORIA	2	1020.0	1020.7	12.2	1.7	6.8	- 0.1	20.0	25	- 3.9	13+	0	10	2.8	77	80	-146	18	14	0	0	0	0.8	19	15.6	18	16	7	5	19	6.7	
BURNS U	1265	875.0	1021.0	7.8	- 5.6	1.2	- 1.8	20.0	30+	-12.8	11	0	29	- 5.0	67	8	- 17	4	6		43	254	1.4	32				10	6	15	5.5	
EUGENE	109	1007.5	1021.0	15.6	1.7	8.7	0.9	23.9	27	- 2.8	11	0	10	2.2	69	70	- 40	37	6	0	0	0	0.9	22	13.0	26	5	10	7	14	5.8	
MEACHAM	1234	878.1	1020.7	5.6	- 3.3	1.3	0.6	16.1	29	-10.6	10	0	24			47	- 53	17	9		378	660			12.5	26	22	8	5	18	6.8	
MEDFORD	396	972.9	1021.3	15.0	0.0	7.5	0.7	25.6	26	- 5.6	10	0	17	- 0.6	63	7	- 38	5	4	0	T	T	0.4	28	14.3	14	2	11	8	12	5.3	
PENDLETON	452	966.1	1020.9	12.8	1.7	7.0	- 0.3	20.6	30+	- 3.3	11+	0	12	- 0.6	64	14	- 16	6	4	0	T	0	1.4	24	23.2	26	23+	8	8	15	6.1	
PORTLAND	6	1019.6	1020.9	15.0	1.1	8.1	0.2	22.8	28	- 5.6	10	0	9	1.7	67	29	- 69	10	10	0	0	0	0.8	16	16.1	S	16	12	3	16	5.7	74
SALEM	60	1013.5	1021.0	16.1	0.0	7.9	0.6	23.9	27	- 6.1	10	0	18	1.1	66	41	- 77	20	8	0	0	0	1.4	20	11.2	18	5	10	6	15	5.7	
SEXTON SUMMIT R	1169	885.5	1020.0	7.8	0.6	4.2	0.5	20.0	26	- 5.0	11	0	18			24	- 64	7	10		211	914			19.2	22	16	10	8	13	5.3	
PACIFIC AREA																																
JOHNSTON	2	1014.6	1015.3	27.8	22.2	25.1	- 0.1	28.3	26+	20.0	17	0	0	20.0	74	38	- 22	14	18	0	0	0	8.2	7	13.0	E	26+	11	9	11	5.5	81
KOROR R	29	1007.5	1011.0	31.1	24.4	27.6	0.6	32.2	12	23.3	19+	1	0	23.3	81	130	- 64	54	20	0	0	0	3.8	7	10.7	NE	15	1	4	26	8.7	74
KWAJALEIN	2	1009.5	1010.2	30.6	25.6	28.2	1.2	31.7	21+	22.8	8	0	0	23.3	76	36	-129	19	9	0	0	0	8.0	7	15.6	6	8	0	3	28	9.4	
MAJURO	3	1009.5	1010.0	29.4	25.0	27.2	0.2	30.6	22	23.3	6+	0	0	23.9	81	411	113	168	20	1	0	0	6.3	7	14.3	E	7	1	6	24	8.8	57
PAGO PAGO	4	1010.2	1010.3	31.1	23.9	27.3		32.2	18+	22.2	31	3	0	25.0	88	303		62	24	8	0	0	1.2	8	11.2	NW	31	0	13	18	7.7	46
PONAPE R	37	1004.4	1009.9	30.0	23.3	26.8	- 0.2	32.2	30	21.7	29+	1	0	23.3	81	272	- 98	68	17	1	0	0	3.9	7	9.4	NE	26+	0	2	29	9.1	58
TAGUAC GUAM R	110	1000.0	1012.7	30.0	21.1	25.3	- 0.7	31.1	29	16.7	31	0	0	21.1	78	25	- 42	7	13	0	0	0	4.7	9	11.6	E	7	3	19	9	6.4	75
TRUK MOEN ISLAND	2	1009.8	1010.1	30.0	25.0	27.4	0.3	30.6	28+	22.8	13	0	0	22.8	77	97	-100	46	10	0	0	0	5.7	5	10.7	NE	11	0	2	29	9.6	79
YAP R	13	1008.8	1010.9	30.6	23.3	26.9	- 0.3	31.7	13	21.1	10+	0	0	22.8	77	23	- 14	11	9	0	0	0	5.9	8	12.5	E	23	11	13	7	4.8	88
WAKE	3	1015.6	1016.0	29.4	23.3	26.2	0.8	30.6	31+	21.7	20	0	0	20.6	74	53	- 84	14	16	0	0	0	4.5	7	8.5	E	18+	2	15	14	7.0	68
PENNSYLVANIA																																
ALLENTOWN	118	998.6	1013.1	8.3	- 2.2	2.9	- 0.2	20.0	18	- 8.3	12	0	26	- 5.6	57	49	- 47	33	7	1	213	152	3.3	30	13.4	26	26+	9	13	9	5.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity
	M	Mb	Mb.	C	C.	C	C.	C.		C.				C.	%
PENNSYLVANIA															
ERIE	223	987.5	1014.9	3.9	- 3.9	- 0.1	- 1.0	20.6	20	-11.7	11	0	28	- 5.6	68
HARRISBURG	103	1001.0	1013.9	8.9	- 1.7	3.7	- 0.9	20.0	18	- 7.2	12+	0	22	- 5.6	55
PHILADELPHIA	2	1011.9	1013.0	8.9	- 0.6	4.3	- 0.7	20.0	18	- 7.2	12	0	22	- 5.0	55
PITTSBURGH	347	969.9	1014.9	7.2	- 4.4	1.3	- 1.4	23.3	20	-12.2	11	0	26	- 7.8	58
READING U	81			8.9	0.0	4.3	- 0.8	20.6	18	- 7.8	12	0	20		
SCRANTON	283	978.7	1013.5	5.6	- 3.3	1.3	- 1.0	17.8	18	-10.0	12	0	26	- 7.2	57
WILLIAMSPORT	160	994.2	1013.8	7.8	- 3.9	1.9	- 1.1	20.0	18	-10.0	12+	0	28	- 5.0	65
RHODE ISLAND															
BLOCK ISLAND	34			4.4	- 1.1	1.5	- 1.1	9.4	29+	- 7.2	12+	0	21		
PROVIDENCE	16	1008.5	1010.8	5.6	- 2.2	1.7	- 1.1	13.9	29+	- 8.9	6+	0	23	- 6.1	59
SOUTH CAROLINA															
CHARLESTON	12	1013.9	1015.9	16.7	3.9	10.3	- 3.4	24.4	30	- 2.8	12+	0	8	2.2	62
CHARLESTON U	3			16.1	7.2	11.7	- 2.4	23.9	30	- 0.6	11	0	1		
COLUMBIA	65	1007.5	1015.8	17.8	3.3	10.6	- 1.8	28.9	24	- 6.1	12	0	10	0.0	54
GNVLE-SPARTANBURG	292	980.4	1015.7	14.4	0.6	7.7	- 3.1	23.9	20	- 8.3	11	0	14	- 2.8	53
SOUTH DAKOTA															
ABERDEEN	395	972.2	1021.6	- 2.8	-14.4	- 8.8	- 6.7	3.9	22+	-27.8	14	0	31	-10.6	85
HURON	390	972.6	1021.4	- 1.1	-11.7	- 6.3	- 4.4	5.6	17	-23.3	11	0	31	-10.0	73
RAPID CITY	964	905.9	1020.4	3.9	- 8.3	- 2.3	- 1.8	22.8	31	-18.3	8	0	28	- 8.3	67
SIOUX FALLS	432	966.8	1020.6	- 1.1	-11.7	- 6.4	- 5.3	7.8	17	-22.2	12	0	31	-10.0	73
TENNESSEE															
BRISTOL	459	961.4	1016.8	10.0	- 2.8	3.7	- 4.1	22.8	24+	-10.0	12	0	24	- 4.4	62
CHATTANOOGA	203	991.9	1017.0	13.3	0.6	7.0	- 3.7	24.4	20	- 6.7	12	0	13	- 1.7	60
KNOXVILLE	299	980.7	1016.4	11.7	0.0	5.6	- 4.2	22.8	24+	- 7.8	12	0	19	- 3.3	58
MEMPHIS	79	1007.8	1018.3	12.8	1.7	7.2	- 3.4	25.6	19	- 6.7	11	0	13	- 2.2	54
NASHVILLE	180	995.3	1017.5	12.2	- 0.6	5.9	- 3.6	24.4	20+	- 8.3	12	0	19	- 2.2	61
OAK RIDGE R	276			11.1	- 0.6	5.1	- 3.5	22.8	20	- 7.8	12	0	20		
TEXAS															
ABILENE	537	955.0	1017.2	14.4	2.8	8.6	- 4.2	28.9	19	- 6.7	9	0	9	- 0.6	59
AMARILLO	1098	890.6	1016.5	10.0	- 2.8	3.8	- 4.9	23.3	19+	-11.7	8	0	23	- 2.8	70
AUSTIN	182	995.6	1017.8	17.8	6.7	12.2	- 3.2	28.9	19	- 1.1	9	0	1	3.9	63
BROWNSVILLE	6	1015.6	1016.1	23.3	11.7	17.4	- 2.5	33.9	23	4.4	4	1	0	11.7	74
CORPUS CHRISTI	12	1015.6	1016.9	20.0	8.9	14.3	- 4.1	28.3	23	1.1	26	0	0	8.3	71
DALLAS	147	1000.7	1018.3	15.0	5.0	9.9	- 3.4	27.8	19	- 5.0	9	0	5	1.7	61
DEL RIO	313	980.0	1016.3	20.6	7.8	14.1	- 3.2	32.2	19	- 1.7	12	1	1	1.1	48
EL PASO	1194	880.1	1012.8	18.3	1.1	9.7	- 3.1	30.6	31	- 5.0	9+	0	14	- 6.1	35
FORT WORTH	164	998.0	1018.8	15.6	4.4	9.9	- 3.4	28.3	19	- 3.9	9	0	8	2.8	66
GALVESTON U	2			16.1	10.6	13.2	- 3.1	23.3	23	2.8	9	0	0		
HOUSTON	15	1015.6	1017.7	18.3	8.3	13.4	- 2.9	26.7	30+	1.1	9	0	0	6.7	69
LUBBOCK	992	903.5	1016.5	12.2	- 1.7	5.3	- 4.5	22.8	28	-10.6	9	0	20	- 2.2	64
MIDLAND	869	916.0	1015.4	16.1	1.1	8.6	- 4.3	27.2	19	- 6.1	11+	0	13	- 2.2	55
PORT ARTHUR	5	1016.9	1017.7	18.3	7.2	12.6	- 3.6	26.1	29	0.0	10+	0	3	7.8	77
SAN ANGELO	580	949.2	1016.5	17.8	3.9	10.9	- 3.0	31.1	19	- 3.3	9	0	11	0.0	54
SAN ANTONIO	240	989.2	1017.4	18.3	7.2	12.7	- 3.4	29.4	19	0.0	12+	0	2	3.9	60
VICTORIA	32	1013.2	1017.3	19.4	8.3	13.8	- 3.5	27.2	29	1.7	4	0	0	7.8	72
WACO	153	1000.0	1018.2	16.1	6.1	11.0	- 3.4	26.7	19	- 2.2	9	0	1	3.9	67
WICHITA FALLS	303	981.4	1018.6	13.9	1.1	7.2	- 4.9	29.4	19	- 7.2	9	0	13	1.1	70
UTAH															
MILFORD	1533	845.9		10.0	- 6.7	1.7	- 1.9	24.4	30	-17.2	9	0	30		
SALT LAKE CITY	1286	872.7	1018.9	9.4	- 2.2	3.6	- 1.1	22.8	30	- 6.1	13+	0	25	- 5.0	57
WENDOVER	1291	872.0	1019.3	9.4	- 1.7	3.9	- 1.3	21.1	28	- 7.8	12	0	21		
VERMONT															
BURLINGTON	101	998.6	1011.6	0.0	- 8.9	- 4.3	- 1.3	8.9	24	-24.4	6	0	30	- 8.9	71

State and Station	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
PENNSYLVANIA																	
ERIE	36	- 37	9	18	1	239	76	2.8	26	12.5	15	24+	5	11	15	6.3	
HARRISBURG	56	- 31	47	7	0	97	51	2.8	29	13.4	NW	11	10	12	9	5.4	71
PHILADELPHIA	49	- 48	22	9	0	224	152	2.9	31	14.3	N	2	11	10	10	5.4	66
PITTSBURGH	29	- 55	15	11	0	99	51	3.0	28	15.6	22	20	6	7	18	6.6	64
READING U	53	- 43	36	6		160	127			21.0	E	24	12	10	9	4.9	60
SCRANTON	37	- 35	34	6	1	64	51	2.3	30	17.5	E	24	8	7	16	6.3	57
WILLIAMSPORT	38	- 57	31	6	0	30	T	2.8	28	12.1	12	24	10	10	11	5.9	
RHODE ISLAND																	
BLOCK ISLAND	87	- 16	51	8		216	203						13	5	13	5.4	
PROVIDENCE	79	- 26	44	9	1	152	356	3.1	32	16.5	3	3	11	5	15	6.0	58
SOUTH CAROLINA																	
CHARLESTON	131	31	49	10	1	51	T	1.6	26	21.5Y	W	9	13	7	11	5.0	63
CHARLESTON U	152	60	46	10		25	25			17.9	NW	9					
COLUMBIA	131	23	66	7	1	0	0	1.6	28	11.2	28	9	16	4	11	4.5	63
GNVLE-SPARTANBURG	116	- 5	41	7	1	48	25	1.3	31	14.8	SW	26	14	6	11	4.6	77
SOUTH DAKOTA																	
ABERDEEN	9	- 19	8	4	0	71	610	1.9	34	17.4	1	28	9	9	13	6.0	
HURON	7	- 21	6	3	0	64	559	1.7	32	19.2	N	28	5	10	16	6.7	75
RAPID CITY	17	- 9	7	11	0	160	76	3.1	35	21.9	NW	26	6	7	18	6.8	62
SIOUX FALLS	28	- 11	23	5	1	74	838	2.3	32	14.8	34	20	7	12	12	6.0	
TENNESSEE																	
BRISTOL	54	- 47	13	13	2	112	51	1.9	28	13.0	22	24	9	8	14	6.2	
CHATTANOOGA	75	- 68	30	7	0	5	T	1.3	32	13.9	SW	24	11	8	12	5.7	56
KNOXVILLE	73	- 47	31	8	1	132	25	1.4	28	21.0	SW	24	6	9	16	6.6	69
MEMPHIS	67	- 62	41	6	1	T	T	0.9	33	18.8	SE	23	9	8	14	[illegible]	55
NASHVILLE	54	- 78	28	7	0	122	25	1.3	29	13.4	SW	24	10	5	16	6.1	63
OAK RIDGE R	57	- 85	13	11		23	T			19.7Y		24	9	6	16	6.1	
TEXAS																	
ABILENE	53	26	25	8	5	13	0	0.8	8	16.1	W	7	11	5	15	[illegible]	59
AMARILLO	29	8	8	11	1	262	51	0.8	6	19.2	SE	2+	9	8	14	[illegible]	58
AUSTIN	83	29	31	9	3	0	0	1.6	4	15.6	W	23	9	7	15	6.1	55
BROWNSVILLE	21	- 6	15	6	0	0	0	1.8	9	16.1	N	23	4	[illegible]	17	7.1	[illegible]
CORPUS CHRISTI	12	- 24	6	8	0	0	0	2.4	8	[illegible]	W	28	6	9	16	6.8	[illegible]
DALLAS	96	24	40	11	1	0	0	1.1	3	15.2	NW	8	11	6	14	[illegible]	[illegible]
DEL RIO	15	- 6	13	3	1	0	0	1.4	9	15.6	27	23	13	7	11	[illegible]	
EL PASO	4	- 5	3	3	0	T	0	1.1	27	23.7	SW	23	10	6	5	[illegible]	[illegible]
FORT WORTH	92	28	31	9	1	0	0	1.3	3	13.0	34	24+	10	7	14	6.2	
GALVESTON U	58	- 14	16	10		0	0			13.4	N	24+					[illegible]
HOUSTON	81	13	33	10	2	0	0	0.8	4	13.4	26	23	7	9	15	[illegible]	54
LUBBOCK	45	26	26	7	2	297	229	1.3	6	16.5	28	7	12	6	13	5.4	
MIDLAND	13	4	9	3	1	38	25	2.5	7	18.3	27	7	14	[illegible]	10	[illegible]	
PORT ARTHUR	93	6	26	10	2	0	0	[illegible]	4	23.2	[illegible]	[illegible]	5	[illegible]	14	[illegible]	[illegible]
SAN ANGELO	45	21	27	6	3	0	0	[illegible]	8	14.8	29	23	11	7	13	[illegible]	
SAN ANTONIO	[illegible]	17	35	7	1	0	0	1.6	4	15.6	NW	[illegible]	9	8	14	[illegible]	[illegible]
VICTORIA	74	15	43	9	2	[illegible]	0	1.5	6	21.9Y	W	[illegible]	6	10	15	[illegible]	
WACO	92	32	27	11	2	0	0	1.2	34	[illegible]	23	7	9	6	16	6.2	
WICHITA FALLS	81	42	30	8	3	76	76	1.7	1	16.1	33	8	6	10	15	6.6	
UTAH																	
MILFORD	30	4	17	7		490	254						11	8	12	[illegible]	
SALT LAKE CITY	14	- 25	7	4	[illegible]	137	51	0.4	31	[illegible]	NW	23	8	[illegible]	12	[illegible]	[illegible]
WENDOVER	2	- 8	2	3		10	25										
VERMONT																	
BURLINGTON	49	- 5	16	16	0	315	381	0.5	29	[illegible]	[illegible]	29	4	6	11	7.8	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C	C.	C.	C.	C.		C.				C	%	Mm.	Mm	Mm.			Mm	Mm	M p.s.		M p.s							%
VIRGINIA																																
LYNCHBURG	279			11.1	- 1.1	4.8	- 2.7	23.9	20	- 9.4	12	0	22			110	18	51	9		462	330			12.1	W	26+	14	11	6	4.5	73
NORFOLK	7	1012.9	1014.0	11.7	2.8	7.1	- 1.8	23.3	29	- 3.9	12	0	9	- 2.2	56	124	36	37	10	1	48	51	1.3	31	17.9	N	1	13	10	8	4.9	79
RICHMOND	50	1008.5	1014.6	12.2	- 1.1	5.7	- 3.0	23.9	29	- 6.7	14+	0	21	- 2.8	59	100	13	42	9	2	302	127	1.3	31	11.6	W	25+	10	15	6	5.0	71
ROANOKE	350	971.9	1014.7	11.1	- 1.7	4.8	- 2.7	23.3	20	- 8.9	12	0	23	- 6.1	49	85	- 5	34	9	1	351	254	3.0	30	13.0	31	11	12	9	10	5.1	
WALLOPS ISLAND	3			7.8	0.6	4.0		19.4	25	- 5.0	12	0	18			101		47	11		259	76			25.5Y	N	2					
WASHINGTON																																
OLYMPIA	59	1013.2	1020.6	13.9	0.0	6.9	0.1	24.4	26	- 6.1	11+	0	16	1.1	71	74	- 64	26	13	0	0	0	1.1	20	14.3	26	22	8	5	18	6.6	
QUILLAYUTE	55	1012.2	1019.9	11.1	1.1	6.3	0.3	20.6	26	- 5.0	13+	0	14	2.8	84	269	- 13	80	16	0	T	0	0.8	16	12.5	S	16	8	6	17	6.5	48
SEATTLE TACOMA	122	1004.1	1020.6	12.8	3.9	8.3	1.7	21.1	26	0.0	12+	0	2	2.2	70	56	- 40	22	14	0	0	0	0.7	19	13.9	SW	22	9	6	16	6.6	64
SPOKANE	718	934.3	1019.8	7.2	- 3.3	2.0	- 1.4	18.9	30	-13.3	11	0	22	- 2.8	72	13	- 25	8	4	1	51	406	1.8	18	13.4	SW	22	10	8	13	5.7	75
STAMPEDE PASS R	1206	880.5		3.3	- 2.2	0.4	1.6	12.2	28	- 8.9	11	0	24			110	-159	24	15		795	5029										
WALLA WALLA U	289			13.3	3.3	8.1	0.3	22.2	30	- 2.8	10	0	9			19	- 22	7	6		0	0			15.2	NW	22	8	7	16	6.4	59
YAKIMA	321	981.4	1020.7	12.2	- 1.7	5.4	- 0.1	21.7	27	- 6.7	11	0	23	- 3.3	59	4	- 12	2	4	0	T	178	2.1	27	13.0	25	22	11	8	12	5.3	
WEST INDIES																																
SAN JUAN P.R.	4	1013.2	1015.6	28.3	22.2	25.4	1.4	31.1	4+	18.9	19	0	0	21.1	79	73	18	99	9	1	0	0	3.1	7	16.5	NE	1	8	20	3	5.0	80
SWAN ISLAND	9			28.9	24.4	26.7	0.1	30.6	7	21.1	12+	0	0			13	- 3	8	5		0	0						9	15	7	5.1	
WEST VIRGINIA																																
BECKLEY	763	924.8	1015.9	6.1	- 4.4	1.0	- 3.4	21.1	20	-15.6	12	0	27	- 6.1	64	63	- 65	22	13	2	391	152	2.4	28	19.2	16	24	10	3	18	6.3	
CHARLESTON	286	981.0	1015.9	10.0	- 2.2	3.7	- 3.2	26.1	20	-10.0	12	0	24	- 5.0	58	36	- 74	18	12	2	122	51	1.7	25	13.4	24	26	10	5	16	6.4	
ELKINS	600	942.8		6.1	- 5.6	0.3	- 3.8	21.7	20	-13.9	13	0	27			57	- 48	24	16		371	76			12.5	28	26	9	3	19	6.5	
HUNTINGTON	252	985.8	1016.7	10.0	- 2.2	3.7	- 3.4	25.0	20	-12.2	12	0	24	- 5.0	59	31	- 75	18	14	2	104	51	1.7	26	13.9	28	26	9	6	16	6.4	
PARKERSBURG U	187			8.9	- 2.2	3.4	- 2.6	23.9	20	-10.0	12	0	25			32	- 57	22	7		15	25			14.8	W	26+					52
WISCONSIN																																
GREEN BAY	208	990.5	1016.9	1.1	- 9.4	- 4.2	- 2.1	9.4	18	-17.2	12+	0	30	- 8.9	69	26	- 8	13	6	0	56	51	1.9	31	16.1	NE	24	12	9	10	4.9	65
LA CROSSE	198	993.2	1018.6	2.2	- 8.9	- 3.3	- 2.5	13.3	22	-17.2	29	0	28	- 8.3	72	20	- 33		5	1	94		1.3	31								
MADISON	262	984.8	1017.1	3.3	- 7.8	- 2.3	- 0.7	18.9	18	-16.7	30	0	29	- 7.8	68	37	- 9	13	7	0	257	76	2.1	31	13.9	NE	24	10	9	12	5.4	64
MILWAUKEE	205	990.5	1016.5	3.9	- 6.7	- 1.2	- 0.7	17.8	18	-13.9	30+	0	27	- 7.2	64	27	- 32	11	7	1	157	51	2.5	31	18.8	N	24	11	8	12	5.5	69
WYOMING																																
CASPER	1627	836.4	1018.9	4.4	- 8.3	- 2.0	- 2.1	20.6	31	-21.1	9+	0	27	- 8.9	65	28	2	19	6	0	333	203	2.1	24	13.4	23	18+	4	7	20	7.3	
CHEYENNE	1867	810.0	1018.7	5.0	- 8.3	- 1.8	- 2.1	21.7	31	-22.8	8	0	28	-11.1	54	7	- 24	3	6	0	74	51	3.5	31	25.5	NW	26	5	10	16	6.8	69
LANDER	1696	827.6	1018.5	5.6	- 8.3	- 1.4	- 1.5	21.1	31	-20.6	9	0	29	- 9.4	57	23	- 6	16	7	0	541	279	0.5	28	14.8	W	27+	7	10	14	6.3	78
SHERIDAN	1208	879.8	1021.0	3.9	- 7.8	- 1.8	- 1.3	21.1	31	-18.3	11	0	31	- 7.2	69	10	- 26	3	9	0	124	51	2.1	32	16.1	NW	27	4	7	20	7.5	63

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	563	3122	2434
HUNTSVILLE	655	3495	2913
MOBILE	342	1890	1518
MONTGOMERY	459	2496	2201
ALASKA			
ANCHORAGE	1124	9274	8977
ANNETTE	720	5839	5610
BARROW	2377	15487	15828
BARTER ISLAND	2423	15798	15642
BETHEL	1475	10527	10815
BETTLES	1925	14017	
BIG DELTA	1507	12486	
COLD BAY	999	7074	7547
FAIRBANKS	1698	13254	12434
FAREWELL	1513	12316	
GULKANA	1419	12915	
HOMER	1033	8546	
ILIAMNA	1187	9585	
JUNEAU	1054	8246	7293
KING SALMON	1193	9894	9296
KOTZEBUE	1986	12282	12858
MC GRATH	1545	12696	12255
NENANA	1762	13520	
NOME	1760	11250	11354
ST. PAUL ISLAND	1216	8036	8439
SHEMYA	1023	7320	7269
SUMMIT	1540	12020	
TALKEETNA	1284	10301	
TANANA	1804	13801	
UNALAKLEET	1537	11243	
YAKUTAT	1087	8700	7185
ARIZONA			
FLAGSTAFF	1164	6419	5884
PHOENIX	265	1544	1690
TUCSON	339	1603	1719
WINSLOW	722	4357	4395
YUMA	146	1002	1188
ARKANSAS			
FORT SMITH	604	3426	3126
LITTLE ROCK	595	3110	3084
CALIFORNIA			
BAKERSFIELD	274	2017	1998
BISHOP	765	4329	3742
BLUE CANYON	848	4980	4333
EUREKA U	508	3638	3548
FRESNO	366	2602	2286
LONG BEACH	270	1301	1435
LOS ANGELES	266	1284	1447
LOS ANGELES U	186	1029	1140
MT SHASTA R	775	5250	4691
OAKLAND	350	2281	2345
RED BLUFF	347	2675	2300
SACRAMENTO	384	2652	2449
SANDBERG R	618	3964	3462
SAN DIEGO	248	1155	1196
SAN FRANCISCO	391	2590	2396
SAN FRANCISCO U	333	2521	2303
SANTA MARIA	419	2080	2287
STOCKTON	407	2745	2456
COLORADO			
ALAMOSA	1144	7327	7225
COLORADO SPRINGS	1090	5561	5438
DENVER	1011	5331	5371
GRAND JUNCTION	826	5375	5087
PUEBLO	883	4563	4844
CONNECTICUT			
BRIDGEPORT	862	4707	4872
HARTFORD	938	5655	5476
NEW HAVEN	915	5001	5064
DELAWARE			
WILMINGTON	780	4399	4425
DIST.OF COLUMBIA			
WASH NATL AP	671	3882	3862
FLORIDA			
APALACHICOLA U	301	1673	1275
DAYTONA BEACH	228	1199	864
FORT MYERS	106	564	442
JACKSONVILLE	287	1518	1218
KEY WEST	17	63	108
LAKELAND U	177	908	661
MIAMI	49	233	214
ORLANDO	169	919	760
PENSACOLA	346	1917	1427
TALLAHASSEE	355	1980	1449
TAMPA	220	1102	683
WEST PALM BEACH	88	448	253
GEORGIA			
ATHENS	535	3192	2766
ATLANTA	555	3296	2790
AUGUSTA	460	2771	2307
COLUMBUS	467	2726	2287
MACON	449	2785	2073
ROME	618	3586	3115
SAVANNAH	395	2347	1774
IDAHO			
BOISE	689	4593	5045
LEWISTON	666	5105	4787
POCATELLO	1104	6478	6018
ILLINOIS			
CAIRO U	700	3845	3579
CHICAGO O HARE	941	5598	5773
CHICAGO MIDWAY	941	5435	5416
MOLINE	1010	6096	5730
PEORIA	984	5662	5383
ROCKFORD	1047	6074	6018
SPRINGFIELD	995	5408	4921
INDIANA			
EVANSVILLE	819	4463	4130
FORT WAYNE	982	5652	5506
INDIANAPOLIS	904	5173	5051
SOUTH BEND	988	5712	5615
IOWA			
BURLINGTON	995	5834	5478
DES MOINES	1135	6461	6069
DUBUQUE	1094	6696	6492
SIOUX CITY	1236	6819	6215
WATERLOO	1201	7048	6506
KANSAS			
CONCORDIA	960	5565	4940
DODGE CITY	1021	4963	4499
GOODLAND	1040	5506	5356
TOPEKA	857	5104	4716
WICHITA	887	4763	4257
KENTUCKY			
COVINGTON	852	4689	4702
LEXINGTON	800	4421	4253
LOUISVILLE	771	4237	4231
LOUISIANA			
ALEXANDRIA	434	2211	1852
BATON ROUGE	345	1850	1527
LAKE CHARLES	338	1676	1420
NEW ORLEANS	339	1789	1346
SHREVEPORT	455	2351	2103
MAINE			
CARIBOU	1219	7571	8258
PORTLAND	1043	6022	6353
MARYLAND			
BALTIMORE	748	4247	4237
MASSACHUSETTS			
BLUE HILL OBS R	994	5594	5453
BOSTON	911	4980	4877
NANTUCKET	848	4617	4757
WORCESTER	1056	6040	5975
MICHIGAN			
ALPENA	1251	6896	7127
DETROIT	922	5381	5448
DETROIT M WAYNE CO	972	5611	5641
FLINT	1042	6084	5933
GRAND RAPIDS	1102	6243	6025
HOUGHTON LAKE	1290	7102	7076
LANSING	1068	6181	5988
MARQUETTE U	1214	6715	6977
MUSKEGON	1059	5989	5714
SAULT STE MARIE	1294	7577	7560
MINNESOTA			
DULUTH	1346	8314	8472
INTERNATIONAL FALLS	1427	8994	9161
MINNEAPOLIS	1261	7298	7392
ROCHESTER	1353	7570	7271
ST CLOUD	1341	7995	7782
MISSISSIPPI			
JACKSON	476	2523	2125
MERIDIAN	494	2622	2208
MISSOURI			
COLUMBIA	851	4853	4589
KANSAS CITY	845	4922	4308
ST JOSEPH	775	4933	4988
ST LOUIS	834	4723	4452
SPRINGFIELD	795	4566	4159
MONTANA			
BILLINGS	1044	6782	6092
GLASGOW	1440	8862	7863
GREAT FALLS	1198	7942	6538
HAVRE	1403	9124	7543
HELENA	1348	8025	6902
KALISPELL	1172	7837	6948
MILES CITY	1217	7846	6769
MISSOULA	1109	7184	6894
NEBRASKA			
GRAND ISLAND	1102	6360	5812
LINCOLN U	1026	5869	5261
NORFOLK	1219	6844	6200
NORTH PLATTE	1106	6693	5860
OMAHA	1028	5992	5619
SCOTTSBLUFF	1052	6071	5761
VALENTINE	1278	7146	6474
NEVADA			
ELKO	1051	5936	6211
ELY	1198	6528	6380
LAS VEGAS	381	2511	[illegible]
RENO	745	4928	5276
WINNEMUCCA	837	5398	5672
NEW HAMPSHIRE			
CONCORD	1128	6500	6374
MT WASHINGTON OBS	1733	11088	11024
NEW JERSEY			
ATLANTIC CITY	847	4878	4244
ATLANTIC CITY U	810	4261	4060
NEWARK	804	4556	4520
TRENTON U	789	4473	4448
NEW MEXICO			
ALBUQUERQUE	735	[illegible]	3979
CLAYTON	973	4590	4525
ROSWELL	672	3474	3561
NEW YORK			
ALBANY	1043	6080	6027
BINGHAMTON	1081	6359	6229
BUFFALO	1052	5784	6010
J.F. KENNEDY	822	4562	4560
NEW YORK U	768	4361	4336
NEW YORK LA GUARDIA	795	4501	4267
ROCHESTER	1013	5676	5824
SYRACUSE	1063	5892	5893
NORTH CAROLINA			
ASHEVILLE	729	4124	4034
CAPE HATTERAS R	601	2776	2410
CHARLOTTE	610	3589	3013
GREENSBORO	637	3709	3524
RALEIGH	667	3534	3179
WILMINGTON	458	2706	2251
NORTH DAKOTA			
BISMARCK	1461	8512	7760
FARGO	1536	8676	8105
WILLISTON	1361	8731	8064
OHIO			
AKRON	959	5214	5307
CINCINNATI OBS	815	4684	4343
CLEVELAND	946	5517	5346
COLUMBUS	916	5134	5036
DAYTON	908	5155	4996
MANSFIELD	923	5270	5555
TOLEDO	976	5793	5649
YOUNGSTOWN	1032	5745	5569
OKLAHOMA			
OKLAHOMA CITY	708	3687	3502
TULSA	680	3763	3600
OREGON			
ASTORIA	633	4506	4112
BURNS U	952	6236	5844
EUGENE	536	3825	3886
MEACHAM	948	6771	6282
MEDFORD	599	3933	4256
PENDLETON	623	4933	4463
PORTLAND	570	4269	[illegible]
SALEM	575	4339	3940
SEXTON SUMMIT R	782	5590	4901
PENNSYLVANIA			
ALLENTOWN	852	5054	5148
ERIE	1020	5450	5518
HARRISBURG	809	4703	4719
PHILADELPHIA	782	4616	4584
PITTSBURGH	944	5461	5273
PITTSBURGH U	882	4893	4752
READING U	774	4469	4468
SCRANTON	942	5547	5528
WILLIAMSPORT	909	5221	5265
RHODE ISLAND			
BLOCK ISLAND	931	4821	4749
PROVIDENCE	923	5166	5133
SOUTH CAROLINA			
CHARLESTON	444	2597	1979
CHARLESTON U	359	2177	1752
COLUMBIA	430	2851	2403
GNVLE-SPARTANBURG	585	3470	2876
SOUTH DAKOTA			
ABERDEEN	1505	8099	7482
HURON	1366	7564	7149
RAPID CITY	1145	6759	6278
SIOUX FALLS	1373	7516	6918
TENNESSEE			
BRISTOL	814	4352	3814
CHATTANOOGA	628	3510	3079
KNOXVILLE	704	3873	3253
MEMPHIS	608	3231	3063
NASHVILLE	692	3780	3349
OAK RIDGE R	728	3992	3533
TEXAS			
ABILENE	541	2557	2510
AMARILLO	[illegible]	[illegible]	3677
AUSTIN	346	1806	1660
BROWNSVILLE	115	470	600
CORPUS CHRISTI	[illegible]	975	[illegible]
DALLAS	465	[illegible]	[illegible]
DEL RIO	266	1474	1486
EL PASO	477	2647	2595
FORT WORTH	468	2311	2306
GALVESTON U	281	1242	1205
HOUSTON	281	1300	[illegible]
LUBBOCK	[illegible]	3434	3346
MIDLAND	[illegible]	2717	2501
PORT ARTHUR	317	1507	[illegible]
SAN ANGELO	416	2129	2189
SAN ANTONIO	315	1752	[illegible]
VICTORIA	261	1231	1152
WACO	405	2025	1964
WICHITA FALLS	[illegible]	2973	2706
UTAH			
MILFORD	[illegible]	5487	5612
SALT LAKE CITY	818	5422	5276
WENDOVER	795	5408	[illegible]
VERMONT			
BURLINGTON	1256	7215	7112
VIRGINIA			
LYNCHBURG	745	4265	3821
NORFOLK	624	3346	3168
RICHMOND	695	3863	3593
ROANOKE	746	4255	3824
WALLOPS ISLAND	793	4052	
WASHINGTON			
OLYMPIA	633	4834	[illegible]
QUILLAYUTE	[illegible]	4963	4532
SEATTLE TACOMA	554	4270	4217
SPOKANE	905	6545	5701
STAMPEDE PASS R	990	7881	7291
WALLA WALLA U	566	4709	4241
YAKIMA	711	5843	5217
WEST VIRGINIA			
BECKLEY	941	5358	4769
CHARLESTON	807	4462	4071
ELKINS	996	5510	4985
HUNTINGTON	810	4476	4041
PARKERSBURG U	828	4553	4294
WISCONSIN			
GREEN BAY	1252	[illegible]	6941
LA CROSSE	[illegible]	6894	6735
MADISON	1143	6740	6833
MILWAUKEE	1087	6126	6486
WYOMING			
CASPER	1127	6581	6243
CHEYENNE	1118	5956	6123
LANDER	1096	[illegible]	[illegible]
SHERIDAN	1121	[illegible]	6525

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

MARCH 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	0	0	
HUNTSVILLE	0	0	
MOBILE	4	19	
MONTGOMERY	3	14	
ALASKA			
ANCHORAGE	0	0	
ANNETTE	0	0	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	0	
BETTLES	0	0	
BIG DELTA	0	0	
COLD BAY	0	0	
FAIRBANKS	0	0	
FAREWELL	0	0	
GULKANA	0	0	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	0	0	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	0	
NENANA	0	0	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	0	
TALKEETNA	0	0	
TANANA	0	0	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	0	
PHOENIX	22	22	
TUCSON	15	15	
WINSLOW	0	0	
YUMA	83	90	
ARKANSAS			
FORT SMITH	0	1	
LITTLE ROCK	0	4	
CALIFORNIA			
BAKERSFIELD	25	25	
BISHOP	0	0	
BLUE CANYON	0	0	
EUREKA U	0	0	
FRESNO	4	4	
LONG BEACH	3	16	
LOS ANGELES	4	11	
LOS ANGELES U	30	49	
MT SHASTA R	0	0	
OAKLAND	0	0	
RED BLUFF	0	0	
SACRAMENTO	0	0	
SANDBERG R	2	2	
SAN DIEGO	1	6	
SAN FRANCISCO	0	0	
SAN FRANCISCO U	5	5	
SANTA MARIA	0	0	
STOCKTON	0	0	
COLORADO			
ALAMOSA	0	0	
COLORADO SPRINGS	0	0	
DENVER	0	0	
GRAND JUNCTION	0	0	
PUEBLO	0	0	
CONNECTICUT			
BRIDGEPORT	0	0	
HARTFORD	0	0	
NEW HAVEN	0	0	
DELAWARE			
WILMINGTON	0	0	
DIST.OF COLUMBIA			
WASH NATL AP	0	0	
FLORIDA			
APALACHICOLA U	1	4	
DAYTONA BEACH	17	28	
FORT MYERS	64	117	
JACKSONVILLE	10	20	
KEY WEST	144	421	
LAKELAND U	30	52	
MIAMI	145	315	
ORLANDO	32	54	
PENSACOLA	4	15	
TALLAHASSEE	4	19	
TAMPA	14	24	
WEST PALM BEACH	87	174	
GEORGIA			
ATHENS	0	0	
ATLANTA	1	1	
AUGUSTA	3	3	
COLUMBUS	2	3	
MACON	4	6	
ROME	0	0	
SAVANNAH	8	12	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
HAWAII			
HILO	240	656	
HONOLULU	269	657	
KAHULUI	227	578	
LIHUE	159	384	
IDAHO			
BOISE	0	0	
LEWISTON	0	0	
POCATELLO	0	0	
ILLINOIS			
CAIRO U	0	0	
CHICAGO O HARE	0	0	
CHICAGO MIDWAY	0	0	
MOLINE	0	0	
PEORIA	0	0	
ROCKFORD	0	0	
SPRINGFIELD	0	0	
INDIANA			
EVANSVILLE	0	0	
FORT WAYNE	0	0	
INDIANAPOLIS	0	0	
SOUTH BEND	0	0	
IOWA			
BURLINGTON	0	0	
DES MOINES	0	0	
DUBUQUE	0	0	
SIOUX CITY	0	0	
WATERLOO	0	0	
KANSAS			
CONCORDIA	0	0	
DODGE CITY	0	0	
GOODLAND	0	0	
TOPEKA	0	0	
WICHITA	0	0	
KENTUCKY			
COVINGTON	0	0	
LEXINGTON	0	0	
LOUISVILLE	0	0	
LOUISIANA			
BATON ROUGE	2	32	
LAKE CHARLES	2	23	
NEW ORLEANS	1	46	
SHREVEPORT	0	15	
MAINE			
CARIBOU	0	0	
PORTLAND	0	0	
MARYLAND			
BALTIMORE	0	0	
MASSACHUSETTS			
BLUE HILL OBS R	0	0	
BOSTON	0	0	
NANTUCKET	0	0	
WORCESTER	0	0	
MICHIGAN			
ALPENA	0	0	
DETROIT	0	0	
DETROIT M WAYNE CO	0	0	
FLINT	0	0	
GRAND RAPIDS	0	0	
HOUGHTON LAKE	0	0	
LANSING	0	0	
MARQUETTE U	0	0	
MUSKEGON	0	0	
SAULT STE MARIE	0	0	
MINNESOTA			
DULUTH	0	0	
INTERNATIONAL FALLS	0	0	
MINNEAPOLIS	0	0	
ROCHESTER	0	0	
ST CLOUD	0	0	
MISSISSIPPI			
JACKSON	0	3	
MERIDIAN	0	6	
MISSOURI			
COLUMBIA	0	0	
KANSAS CITY	0	0	
ST JOSEPH	0	0	
ST LOUIS	0	0	
SPRINGFIELD	0	0	
MONTANA			
BILLINGS	0	0	
GLASGOW	0	0	
GREAT FALLS	0	0	
HAVRE	0	0	
HELENA	0	0	
KALISPELL	0	0	
MILES CITY	0	0	
MISSOULA	0	0	
NEBRASKA			
GRAND ISLAND	0	0	
LINCOLN U	0	0	
NORFOLK	0	0	
NORTH PLATTE	0	0	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
NEBRASKA			
OMAHA	0	0	
SCOTTSBLUFF	0	0	
VALENTINE	0	0	
NEVADA			
ELKO	0	0	
ELY	0	0	
LAS VEGAS	13	13	
RENO	0	0	
WINNEMUCCA	0	0	
NEW HAMPSHIRE			
CONCORD	0	0	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	0	0	
ATLANTIC CITY U	0	0	
NEWARK	0	0	
TRENTON U	0	0	
NEW MEXICO			
ALBUQUERQUE	0	0	
CLAYTON	0	0	
ROSWELL	0	0	
NEW YORK			
ALBANY	0	0	
BINGHAMTON	0	0	
BUFFALO	0	0	
J.F. KENNEDY	0	0	
NEW YORK U	0	0	
NEW YORK LA GUARDIA	0	0	
ROCHESTER	0	0	
SYRACUSE	0	0	
NORTH CAROLINA			
ASHEVILLE	0	0	
CAPE HATTERAS R	0	0	
CHARLOTTE	0	0	
GREENSBORO	0	0	
RALEIGH	0	0	
WILMINGTON	0	2	
NORTH DAKOTA			
BISMARCK	0	0	
FARGO	0	0	
WILLISTON	0	0	
OHIO			
AKRON	0	0	
CINCINNATI OBS	0	0	
CLEVELAND	0	0	
COLUMBUS	0	0	
DAYTON	0	0	
MANSFIELD	0	0	
TOLEDO	0	0	
YOUNGSTOWN	0	0	
OKLAHOMA			
OKLAHOMA CITY	0	0	
TULSA	0	0	
OREGON			
ASTORIA	0	0	
BURNS U	0	0	
EUGENE	0	0	
MEACHAM	0	0	
MEDFORD	0	0	
PENDLETON	0	0	
PORTLAND	0	0	
SALEM	0	0	
SEXTON SUMMIT R	0	0	
PACIFIC AREA			
JOHNSTON	382	1064	
KOROR R	522	1472	
KWAJALEIN	558	1541	
MAJURO	502	1435	
PAGO PAGO	511	1496	
PONAPE R	477	1356	
TAGUAC GUAM R	400	1096	
TRUK MOEN ISLAND	514	1439	
WAKE	448	1165	
YAP R	487	1385	
PENNSYLVANIA			
ALLENTOWN	0	0	
ERIE	0	0	
HARRISBURG	0	0	
PHILADELPHIA	0	0	
PITTSBURGH	0	0	
PITTSBURGH U	0	0	
READING U	0	0	
SCRANTON	0	0	
WILLIAMSPORT	0	0	
RHODE ISLAND			
BLOCK ISLAND	0	0	
PROVIDENCE	0	0	
SOUTH CAROLINA			
CHARLESTON	1	1	
CHARLESTON U	0	0	
COLUMBIA	5	5	
GNVLE-SPARTANBURG	0	0	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
SOUTH DAKOTA			
ABERDEEN	0	0	
HURON	0	0	
RAPID CITY	0	0	
SIOUX FALLS	0	0	
TENNESSEE			
BRISTOL	0	0	
CHATTANOOGA	0	0	
KNOXVILLE	0	0	
MEMPHIS	0	0	
NASHVILLE	0	0	
OAK RIDGE R	0	0	
TEXAS			
ABILENE	5	5	
AMARILLO	0	0	
AUSTIN	8	38	
BROWNSVILLE	72	266	
CORPUS CHRISTI	11	89	
DALLAS	5	9	
DEL RIO	32	51	
EL PASO	1	1	
FORT WORTH	3	9	
GALVESTON U	4	11	
HOUSTON	11	59	
LUBBOCK	0	0	
MIDLAND	0	0	
PORT ARTHUR	5	26	
SAN ANGELO	6	13	
SAN ANTONIO	8	24	
VICTORIA	15	63	
WACO	1	15	
WICHITA FALLS	0	0	
UTAH			
MILFORD	0	0	
SALT LAKE CITY	0	0	
WENDOVER	0	0	
VERMONT			
BURLINGTON	0	0	
VIRGINIA			
LYNCHBURG	0	0	
NORFOLK	0	0	
RICHMOND	0	0	
ROANOKE	0	0	
WALLOPS ISLAND	0	0	
WASHINGTON			
OLYMPIA	0	0	
QUILLAYUTE	0	0	
SEATTLE TACOMA	0	0	
SPOKANE	0	0	
STAMPEDE PASS R	0	0	
WALLA WALLA U	0	0	
YAKIMA	0	0	
WEST INDIES			
SAN JUAN P.R.	401	1016	
SWAN ISLAND	476	1270	
WEST VIRGINIA			
BECKLEY	0	0	
CHARLESTON	0	0	
ELKINS	0	0	
HUNTINGTON	0	0	
PARKERSBURG U	0	0	
WISCONSIN			
GREEN BAY	0	0	
LA CROSSE	0	0	
MADISON	0	0	
MILWAUKEE	0	0	
WYOMING			
CASPER	0	0	
CHEYENNE	0	0	
LANDER	0	0	
SHERIDAN	0	0	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS
Alabama										1	0	°6	C																
Alaska																										0	0	5	0
Arizona *																													
Arkansas *																													
California										0	0	4	0																
Colorado										0	1	4	0																
Connecticut										0	0	3	0													0	0	4	0
Delaware *																													
Florida																										0	0	5	0
Georgia										0	0	5	0																
Hawaii *																													
Idaho											4	4								?	?								
Illinois *																													
Indiana *																													
Iowa *																													
Kansas																		3	0	4	0								
Kentucky										0	0	5	0																
Louisiana	3	1	0	0	4					0	0	4	0																
Maine										0	0	4	0	0	0	3	0	0	0	4	0								
Maryland																		0	0	5	0								
Massachusetts										0	0	5	0	0	0	4	0	0	0	4	0					0	0	6	0
Michigan *																													
Minnesota *																													
Mississippi	1	1	0	0	3					0	0	4	?	1	0	0	0									0	0	0	?
Missouri *																													
Montana																										0	0	5	0
Nebraska *																													
Nevada																										0	0	5	0
New Hampshire										0	0	4	0	0	0	3	0	0	0	3	0					0	0	5	0
New Jersey																3												4	
New Mexico																		0	0	4	0								
New York												3																5	
North Carolina										0	0	5	0					0	0	5	0								
North Dakota *																													
Ohio	1	1	0	0	3					0	0	3		0	0	3													
Oklahoma										0	0	4	0					0	0	?	0					0	0	3	0
Oregon *																													
Pacific Area *																													
Pennsylvania										0	0	3	0																
Puerto Rico										2	0	0	0													0	0	4	0
Rhode Island										0	0	3	0	0	0	3	0	0	0	4	0					0	0	4	0
South Carolina *																													
South Dakota *																													
Tennessee										0	2	6	?																
Texas	1	1	0	1	4	0	0	6	0																				
Utah *																													
Vermont										0	0	5	0																
U. S. Virgin Is. *																													
Virginia	2	1	1	3	5													0	0	4	0								
Washington												5																	
West Virginia										0	0	2	0																
Wisconsin										0	0	5	0																

° Includes crop damage
C Crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MARCH 1969

Elmer R. Nelson, Office of Hydrology

Extensive flooding occurred in the upper Big Blue River basin in Nebraska during March. Turkey Creek near Wilber, Nebr., exceeded the 10-year record established in March 1960. The West Fork Big Blue River exceeded the 11-year record of March 1960 but was several feet below the historical high water mark of July 1950. Flooding along the mainstem of the Big Blue River generally approached the last heavy March overflows in 1960.

ATLANTIC SLOPE DRAINAGE

Flash flooding occurred on the 25th along small streams in eastern Massachusetts and sections of Connecticut and Rhode Island. This flooding was due to 1.5 to 2.5 inches of rain on the 24-25th. Some basements and roads were flooded. There was some bridge damage. A few families were evacuated from low areas.

Heavy runoff due to snowmelt and moderately heavy rain (1 to 2 inches) on the 25-27th in the Hudson River basin in New York caused small streams and brooks to rise to near bankfull. Wappingers Creek near Wappingers Falls, N. Y., overflowed but no extensive damage resulted. Elsewhere only lowland overflow and minor damage were reported.

Light flooding occurred along streams in New Jersey on the 25-26th due to snowmelt and heavy precipitation on the 25th. The first 2 weeks of March in eastern Pennsylvania and New Jersey were generally cold with below seasonal temperatures. Heavy snowfall occurred on the 2d with amounts ranging from 4 to 8 inches over eastern Pennsylvania (except 12 inches around Easton-Riegelsville area) to 25 to 30 inches in the High Point, N. J., area. A secondary maximum of over 10 inches occurred between Wading River and Toms River, N. J. Amounts of 5 inches or less were reported from around Newark to Trenton, N. J., to Wilmington, Del., and over extreme southern New Jersey. Snowfall of 2 to 4 inches occurred again over New Jersey on the 6-7th. A warming temperature trend during the third week of March produced steady snowmelt for about 1 week. Snowmelt produced steady rises on all streams with the Delaware River cresting at Trenton, N. J., on the 22-23d. Rainfall on the 25th was in excess of 1 inch with higher amounts up to 2.5 inches in the south branch of the Raritan and Millstone Basins and 3 inches over the Passaic. The Passaic at Chatham, N. J., and the Raritan at Manville and Bound Brook, N. J., rose above flood stage on the 25th and receded within their banks on the same date. The Rockaway at Boonton, N. J., and the Millstone at Blackwells Mills, N. J., rose above flood stage on the 25th and receded within their banks on the 26th. The highest crest occurred on the Millstone which was 3.35 feet above flood stage at Blackwells Mills on the 25th. This was slightly higher than in May 1968. Damages from the flooding were minor and of no consequence.

There were two rises to above flood stage on the Neuse and Cape Fear Rivers in eastern North Carolina during March. The first rise was due to 1 to 2 inches of rain on the 6-7th. The crests on the Neuse River ranged from 3.6 feet above flood stage at Smithfield, N. C., on the 9th to slightly above flood stage at Kinston, N. C., on the 18th. The lower Cape Fear River crested 6 to 7 feet above flood stage on the 9th. The second rise was due to heavy precipitation on the 17-18th with rainfall amounts similar to that on the 6-7th. The crests on the Neuse and Cape Fear Rivers were lower than during the first rise. The Roanoke River at Randolph, Va., rose 1.5 feet above flood stage on the 26th from rainfall averaging 1.5 inches over the upper Roanoke and Dan Basins during the 48-hour period ending at 8 a.m. on the 25th. No damage was reported from the flooding.

The Rocky River at Norwood, N. C., rose 2.4 feet above flood stage on the 20th and receded within its banks on the same date. The Lumber River at Lumberton, N. C., continued in flood from January 23 into April. The highest crest (11.2 feet) occurred on March 9 and was 3.2 feet above flood stage. Low swamps and drainage ditches were affected. Swamps along the Little Pee Dee River at Galivants Ferry, S. C., have been under water since the latter part of October 1968. It reached the 9-foot flood stage on March 12 and fell below on the 15th.

The middle portion of the Great Pee Dee River was high all month and in flood for 21 days. The two crests exceeded flood stage by slightly more than 1 foot.

Minor flooding occurred on the Saluda River at Chappells, S. C., and on the Broad River at Blair, S. C., between the 19th and 27th. The flooding was due to rainfall ranging from 1.75 to over 2.5 inches on the 18th and 19th. Damage was limited to pastureland.

Light flooding began on the Savannah River at Clyo, Ga., on the 25th and continued in flood to Apr. 9. It crested on Apr. 3, 1.5 feet above flood stage. Flood damage, if any, was light.

The Satilla River near Atkinson, Ga., rose above flood stage on March 19 and continued in flood to April 7. The crest on the 30th was 2.1 feet above flood stage.

EAST GULF OF MEXICO DRAINAGE

Heavy rains on the 16-19th produced rapid rises to near flood stage on the Chattahoochee and Flint Rivers in Georgia. Additional heavy rains on the 24th caused the Apalachicola River at Blountstown, Fla., to exceed flood stage on the 26-29th. The crest on the 28th was nearly 2 feet above flood stage. The total preliminary estimated damage by the Corps of Engineers was placed at slightly over $12,000.

Minor flooding occurred on the East Fork Tombigbee at Fulton, Miss., and on the Tombigbee at Jackson Lock and Dam, Ala., between the 25th and 30th. This flooding was due to moderate rains on the 18th and 19th followed by heavier rains on the 24th. No damage resulted

Heavy rains (1.5 inches) on the 3d-5th caused the Pearl River to rise above flood stage at Bogalusa, La., on the 9th. Additional heavy rain (2 inches) on the 15-18th caused an additional rise to above flood stage at Jackson, Miss., on the 20th and at Pearl River, La., on the 21st. Heavy rain (2 inches) on the 25th caused a further rise to above flood stage at Monticello, Miss., on the 25th. The crests on the 26-30th ranged from 1.7 feet above flood stage at Monticello to 6.3 feet above flood stage at Jackson, Miss. Flooding continued into April, except at Monticello which receded within its banks on the 28th. The Corps of Engineers estimated damages along the Pearl River during March as near $185,000.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Heavy snow accumulated over the Upper Midwest by midwinter which was one of the worst winters on record. Most of Minnesota received more than double the normal precipitation for the 5-month period of October through February. The total snow depth as of March 10 averaged more than 20 inches over the northern one-half and southwestern

one-third of Minnesota. In the northern one-half of Wisconsin and the northwestern portion of Iowa, the snow depths ranged from 10 to 20 inches. The water equivalent of the snow cover was the heaviest in the Minnesota River Basin and ranged from 4 to 10 inches. In the Mississippi Basin above St. Paul, Minn., the water equivalent ranged from 4 to 8 inches. Below St. Paul, Minn., to Guttenburg, Iowa, the water equivalent of the snow cover ranged from 2 to 5 inches. In the St. Croix, Chippewa, and upper Wisconsin River Basins it ranged from 5 to 7 inches and in the middle and lower Wisconsin Basin from 1 to 5 inches.

Precipitation during March in the upper Mississippi Basin continued the same below normal pattern as in February. The heaviest precipitation occurred in the southwestern quarter of Minnesota, the same as in February. New snow of 7 to 10 inches with water equivalent of more than 1 inch occurred on March 19-20 over the Minnesota area of the upper Des Moines Basin. Rains of March 23-24 amounted to 1 inch or more in the southern one-third of Iowa, decreasing to 0.5 inch or less over the northern one-third.

Temperature wise, the first week of March continued the above normal pattern established during the last 8 days of February. The next 9 days were below normal followed by a 5-day period of above normal. The last 6 days of March were below normal with the last 4 days as much as 30° below normal in many locations. Subzero temperatures were prevalent over most of Minnesota with many daily record minimum temperatures exceeded on the 29th, 30th, and 31st. Temperatures were actually the coldest of record for so late in the season.

The relatively warm temperatures on March 17 through March 25 caused considerable snowmelt runoff in the lower Minnesota Basin, and in the Le Sueur and Blue Earth River Basins. The subzero temperatures during the last 4 days of March temporarily stopped the melting of the snowcover. The Minnesota River at Mankato, Minn., crested at a stage of 18.1 feet, 0.9 foot below flood stage on March 28. It receded to a stage of 14.5 feet before it started to rise again on April 1. It rose above flood stage at Jordan and Chaska, Minn., on March 28 and at Savage, Minn., on March 30. It continued in flood into April. It crested at Jordan, Minn., 4 feet above flood stage on March 31 to April 1. The Trempealeau River at Dodge, Wis., reached, but did not exceed, flood stage on March 26. The Kickapoo River at Steuben, Wis., was out of its banks on the 25-28th. The crest on the 27th was 0.7 foot above flood stage.

Warm weather over central and southeastern Iowa on March 15 through March 23 caused rapid erosion of the snow cover over the Cedar, Skunk, Iowa, and lower Des Moines Basins. The snowmelt runoff caused extensive flooding along the South Raccoon and North Rivers, the entire Skunk River System, the West Fork of the Cedar, Black Hawk Creek, and along the Iowa River from Marshalltown, Iowa, to its mouth. Cold weather from March 24 through the end of the month stopped further melting of the snowcover.

The Salt River at New London, Mo., rose 0.9 foot above flood stage on the 25th and receded within its banks on the same date. The Sangamon River at Riverton, Ill., was out of its banks on the 25-30th. The crest on the 28th was 2.7 feet above flood stage. The Kaskaskia River at Carlyle Dam (TW), Ill., continued in flood from February 3 to March 13. The crest on February 21 was 4.3 feet above flood stage.

Missouri Basin.--Ice jams on the Sun and Teton Rivers and on Belt Creek in Montana caused localized flooding and damage to several bridges and other structures during the latter half of the month. Snowmelt runoff caused streams and creeks in the Great Falls, Helena, Denton, and Dillon, Mont., areas to run at a high level. The high water caused the death of a 4-year old boy near Stockett, Mont. The flooding was due to a combination of ice jamming and snowmelt runoff. Precipitation was generally light throughout the month and was not a contributing factor. Most of the damage was due to ice piling against bridge piers and spans.

Overflows, due to ice jamming, occurred along the Yellowstone River from Miles City, Mont., downstream to Sidney, Mont., on the 19th-21st. Most of the overflow was confined to low areas. The heaviest damage occurred to crops and buildings and was estimated to range from $200,000 to $300,000. Ice jams occurred on the Little Big Horn River, 5 miles upstream from Hardin, Mont. The overflow reached the interstate highway but little or no damage resulted.

Ice jams on the White River in South Dakota and the Niobrara River in Nebraska may have caused some local overflows but there was no reported damage or livestock loss. The Grand River between Shadehill and Little Eagle, S. Dak., was near bankfull late in March but did not overflow.

The Floyd River rose 2 to 3 feet below bankfull at Alton, Iowa, on the 27th, and near bankfull stage at James, Iowa, on the 24th and 28th. Minor rises also occurred on the southern reaches of the Big Sioux, Vermillion, and James Rivers during the last few days of March but remained less than one-half bankfull.

Temperatures during March were cold, particularly in the eastern half of South Dakota. Some locations reported near record low March temperatures. West of the Missouri River, in South Dakota, several warm days after mid-March depleted most of the snow cover.

The month began with a snow cover ranging from 5 inches in central South Dakota up to about 40 inches in southwestern Minnesota. At the end of March the snow on the ground measured a trace at Sioux City, Iowa, to 12 inches in northwestern Iowa; 10 to 25 inches in southwestern Minnesota; 8 to 16 inches in eastern South Dakota; up to 5 inches in central South Dakota; and 2 inches or less in western South Dakota and eastern Wyoming, except at higher elevations.

Changes in the water equivalent of the snow cover during March was less pronounced, as most of the snowmelt was absorbed in the snow. At the end of the month, the water equivalent was up to 7 inches in the Floyd River Basin; 3 to 8 inches in the Big Sioux and Rock River Basins, with the heaviest amount in the Flandreau, S. Dak., area; 4 to 7 inches in the Vermillion and James Basins; and generally less than 3 inches along the Niobrara River in Nebraska and the rivers west of the Missouri River in South Dakota.

Minor flooding occurred along the Elkhorn River near Scribner, Nebr., on the 21st due to a minor ice jam. One county road was briefly inundated in the Scribner area but no damage resulted. Near bankfull stage was reached at Norfolk, Nebr., on the 21st and at West Point, Nebr., on the 22d. The crests were 1.5 feet and 0.8 foot below flood stage, respectively. By the end of the month, rivers and streams with the exception of Logan Creek were running open and free of ice. Very little snow remained except in drifts and piles, although there remained a great deal of ponded water.

A heavy snow cover extended over most of the Loup and Platte River Basins in eastern Nebraska and over the Little Sioux River Basins in northwestern Iowa in the beginning of March. Very little snowmelt occurred

during the first half of the month as the temperature remained well below normal. During the last half of the month, there were three warm periods followed by cool periods which retarded some snowmelt. Some runoff occurred in the lower reaches of most streams. Local flooding occurred in the lower reaches of the Wood River in Nebraska but it was confined mostly to lowlands and croplands with some highwater over rural roads. The mild spell in mid-March caused snowmelt in the lower reaches of the Loup River Basin with some lowland flooding due to ice jams near St. Paul, Fullerton, and Columbus, Nebr., on the 19-25th. Minor ice jams and flooding occurred on the Platte River near Schuyler, Nebr. Flood damage was relatively minor and occurred mostly in the lower reaches of the Loup River between St. Paul and Columbus, Nebr.

There were three rises to above flood stage on the Nishnabotna at Hamburg, Iowa. The first rise occurred on February 25 to March 4, the second, on March 17-21 and the 3d, on March 25-26. The highest crest occurred on the 18th and was 7.25 feet above flood stage. No major damage resulted from any of the rises.

Extensive flooding occurred in the upper Big Blue River Basin in Nebraska from snowmelt on the 18-26th. Considerable overflow developed on the Little Blue River at Deweese and Fairbury, Nebr., on the 18th-21st.

Turkey Creek near Wilber, Nebr., reached a crest of 15.3 feet on the 20th which exceeded the 10-year record of 14.92 feet of March 1960. The West Fork Big Blue River near Dorchester, Nebr., exceeded the 11-year record of 20.28 feet of March 1960 but fell considerably short of the historical high water mark of 24.8 feet in July 1950. Flooding along the mainstem of the Big Blue River generally approached the last heavy March overflows in 1960 as far downstream as the Kansas border. Widespread snowmelt surface water accumulations on the tributary streams drained off very slowly. Currents in the tributaries, carrying considerable ice, were quite slow. Flooding developed from 2 to locally 5 inches of water equivalent in the old snow cover. Precipitation of 0.5 to 1 inch on the 23d-25th in the lower basin served principally to slow falling stages. Damages were locally substantial along the Big Blue at Seward, Nebr., and on the Little Blue in the Fairbury area, but generally losses were light to moderate and confined to the Nebraska portion of the basin.

The Blackwater River at Valley City, Mo., exceeded flood stage by 7.5 feet on the 24th. It was out of its banks from the 23d to the 26th. No major damage resulted.

Some flooding occurred along the Osage River at Schell City, Mo., between the 26th and 30th. The crest on the 28th was 3.1 feet above flood stage. No damage of consequence resulted from the overflow.

Ohio Basin.--Heavy rain on the 24th caused the Little Wabash River at Wilcox, Ill., to rise above flood stage on the 25-27th. The crest on the 26th was 0.6 foot above flood stage. The Saline River at Harrisburg, Ill., was out of its banks on the 24-25th. The crest was 3.1 feet above flood stage on the 25th.

White Basin.--The Black River at Black Rock, Mo., rose above flood stage on March 24 and continued in flood to April 1. The crest on March 25 was 3 feet above flood stage. The Cache River at Patterson, Ark., continued in flood from December 23 to March 16. The crest on February 1 was 4.3 feet above flood stage. It rose above flood stage again on March 24 and continued in flood into April. The highest stage reached on March 31 was 1.2 feet above flood stage. The White River at Georgetown, Ark., continued in flood from January 31 to March 10. The crest on February 4 was 5.7 feet above flood stage. At Des Arc, Ark., it continued in flood from January 30 to March 2. The crest on February 5 was 6.5 feet above flood stage. At Clarendon, Ark., it rose above flood stage on December 27 and continued in flood into April. The crest on February 7 was 6 feet above flood stage and 3 feet higher than in January. At St. Charles, Ark., it continued in flood from January 3 to March 21. The crest on February 12 was 5.1 feet above flood stage which was considerably higher than in January. Overflow on the White, Black, and Cache Rivers was light and caused only minor damage.

Arkansas Basin.--Light flooding occurred on the Little Caney River, Bird Creek, Neosho, Illinois, Fourche Maline, and Poteau Rivers in Oklahoma on the 23d-27th. This was the first flooding in the northern areas since March and April 1968. Some flooding occurred along the other streams within the last 2 months. No damages were reported as the areas affected were mostly lowlands.

Red Basin.--The Sulphur River at Naples, Tex., continued in flood from February 20 to March 4. The crest on February 25 was 6.6 feet above flood stage. Further upstream at Hagansport, Tex., the Sulphur rose above flood stage on March 3 and continued in flood to March 12. The crest on March 4 was 3.5 feet above flood stage. There were three other rises at Hagansport, Tex., to above flood stage during March, namely, 15th-22d, 23d-27th and 31st-April 2. The crests on the 18th and 24th were the highest and about 7.5 feet above flood stage. It rose above flood stage again at Naples, Tex., on March 20 and continued in flood to April 3. The crest on March 28 was 5.2 feet above flood stage.

Further to the north in southeastern Oklahoma, the Blue, Clear Boggy, and Kiamichi Rivers rose 2 to 3 feet above flood stage on the 24-26th. Light flooding occurred on Cypress Creek at Jefferson, Tex., on March 22-April 7.

Atchafalaya Basin.--The Atchafalaya River at Morgan City, La., was out of banks from February 22 to March 8. There were two crests, the higher of which was 0.3 foot above flood stage. No damage resulted from the minor flooding.

WEST GULF OF MEXICO DRAINAGE

The Calcasieu River at Hineston, La., rose above flood stage on March 17 and continued in flood to March 24. It crested on the 19th, 2.2 feet above flood stage.

The Sabine River in northeastern Tex., rose above flood level at Gladewater, on February 18 and at Mineola, Tex., on February 22. It continued in flood at Gladewater until March 9 and at Mineola until March 13. It rose out of its banks at Longview, Tex., on March 5 and receded within its banks on March 10. Heavy rains caused additional flooding in the headwaters and in the middle and lower reaches between March 16 and March 24. Flooding continued into April. Crests ranged up to 7 feet above flood stage at Gladewater.

Flooding continued from February over the lower Sabine, the Neches, the lower Trinity, and the San Jacinto Basins in Texas. The Trinity at Liberty, Tex., receded within its banks on the 2d and the Neches at Beaumont on the 3d. Heavy rains on the 15th to the 18th and on the 23d and 24th caused additional flooding on these streams. The Angelina River near Alto, Tex., rose to flood stage on the 20th and continued at that

level to the 21st. The Navasota River near Easterly, Tex., exceeded flood stage by about 2 feet on the 16-20th and again on the 25-28th. The San Jacinto at Lake Houston, Tex., exceeded the spillway elevation from December 1 into April. The crest of 46.2 feet on the 19th was 0.5 foot lower than on February 23.

Heavy rainfall from the 14th through the 16th caused some minor flooding of the Guadalupe, Navidad, and Lavaca River lowlands between the 16th and 20th. The rainfall ranged from 2 inches to about 3.5 inches. No damage was reported.

PACIFIC SLOPE DRAINAGE

March was a dry month over California with generally less than 50% of normal precipitation. Much of the precipitation in mountain areas was in the form of snow.

High flows continued on the San Joaquin River through March, due largely to reservoir releases to provide storage space for snowmelt runoff later this season. The San Joaquin River at Mendota, Calif., was above flood stage, but well within the levee system much of the month. Due to release of water from the Terminus, Success, and Isabella Reservoirs, the flooding in the normally dry Tulare Lake Basin increased markedly.

The San Joaquin River at Vernalis, Calif., receded below the danger level of 29 feet on March 19 for the first time since mid-January. By the end of March, the river had only dropped 0.6 of a foot below the danger level. The river was still too high to permit reconstruction of damaged levees and drainage of the flooded areas near Vernalis, Patterson, and the mouth of the Stanislaus.

A moderate crest moved down the Sacramento River early in the month. Very slowly falling stages followed as reservoir operators maintained substantial releases to drop back to required flood control space or below. Overflow occurred at Colusa, Tisdale, and Fremont Weirs in the beginning of the month, but by the 9th, overflow had ended at all weirs.

In the delta on flooded Sherman Island pumping was continuing with the water level dropping about 0.1 foot per day. Since the levee closure the water level had decreased about 5 feet. In parts of the island, the water level had been almost 20 feet deep.

Columbia Basin.--Snow course measurements made near the end of March by the Soil Conservation Service indicated the basin snowpack to range from near to well above average. Near average water equivalent was noted at courses in the upper Okanogan, headwaters of the Columbia in British Columbia, western Montana, and the upper Snake River in Wyoming.

The snowpack in southern Idaho ranged from 125% to 175% of the April 1 average. In Oregon, snowcover ranged from 115% of average in northeastern Oregon and the upper Deschutes to 165% in southeastern Oregon. Washington Cascade snow courses showed a water equivalent of 125% to 175% of the 15-year April 1 average, and in northeast Washington and northern Idaho water equivalent of the existing snowpack was about 130% of average.

Minor streams approached flood stage in eastern Idaho. Low-lying, poorly drained sections in Minidoka, Butte, and Jefferson Counties and adjacent areas were subjected to considerable surface flooding during March, closing roads and overflowing farmland.

March was a cool, dry month in the lower Columbia Basin. As a consequence, monthly streamflow was generally below average. A week-long warm spell towards the end of March in the interior sections increased streamflows which continued into April.

FLOOD STAGE DATA

(All dates in March unless otherwise specified) MARCH 1969

River and station	Flood stage	Above flood stages -dates From–	To–	Crest* Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft	
Rockway: Boonton, N. J.	4	25	26	E5.2	25
Ramapo: Mahwah, N. J.	8	25	26	9.0	25
Passaic: Chatham, N. J.	6	25	25	6.15	25
Millstone: Blackwells Mills, N. J.	7	25	26	10.35	25
Raritan: Manville, N. J.	12	25	25	13.15	25
Bound Brook, N. J.	8	25	25	#10.0	25
Roanoke: Randolph, Va.	21	26	27	22.5	26
Neuse: Neuse, N. C.	14	7	11	15.5	10
		21	22	14.5	21
Smithfield, N. C.	13	7	13	16.6	9
		20	24	16.0	21
Goldsboro, N. C.	14	11	17	15.7	15
		24	28	15.3	27
Kinston, N. C.	14	17	18	14.05	18
Cape Fear: Wm. O. Huske L&D (nr Tarheel, N. C.	42	7	11	48.8	9
		20	22	45.5	21
Lock No. 2, Elizabethtown, N. C.	20	7	12	26.1	9
		20	23	23.5	21
Rocky: Norwood, N. C.	15	20	20	17.35	20
Lumber: Lumberton, N. C.	8	Jan. 23	1	8.5	Jan. 31
				8.8	Feb.12-13
				9.8	Feb. 20
				10.8	Feb. 27
				11.2	9
				10.2	21
				10.0	26
Little Pee Dee: Galivants Ferry, S. C.	9	12	15	9.0	13-14
Pee Dee: Peedee, S. C.	19	Feb. 20	14	21.9	Feb. 27
				20.2	11
		21	27	20.3	24
Saluda: Chappells, S. C.	14	19	20	14.6	19
Broad: Blair, S. C.	14	19	21	16.5	20
		25	27	16.0	25
Savannah: Clyo, Ga.	11	25	Apr. 9	#12.5	Apr. 3
Satilla: Atkinson, Ga.	13	19	Apr. 7	15.1	30
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	26	29	16.75	28
East Fork Tombigbee: Fulton, Miss.	14	25	26	16.7	25
Tombigbee: Jackson L&D, Ala.	43	27	30	44.1	28,29
Pearl: Jackson, Miss.	18	20	Apr. 2	24.3	30
Monticello,	19	25	28	20.7	26
Bogalusa, La.	15	9	Apr. 9	18.75	29
Pearl River, La.	12	21	Apr. 5	14.0	28
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Minnesota: Jordan, Minn.	20	28	1/	28.2	Apr. 23
Chaska, Minn.	18	28	1/	32.6	Apr. 15
Savage, Minn.	698	30	1/	716.9	Apr. 15
Trempealeau: Dodge, Wis.	7	26	26	7.0	26
Kickapoo: Steuben, Wis.	8	25	28	8.7	27
Shell Rock: Marble Rock, Iowa	4	24	28	4.5	25
West Fork Cedar: Finchford, Iowa	12	23	27	13.7	25
Black Hawk Creek: Hudson, Iowa	12	20	22	15.2	19
		25	26	12.95	25
Iowa: Marshalltown, Iowa	13	18	30	17.7	20
				16.1	25
Wapello, Iowa	1[illegible]	27	1/	11.9	Apr. 1
North Skunk: Sigourney, Iowa	16	21	22	17.0	22
Skunk: Ames, Iowa	10	19	21	12.1	2[illegible]
Oskaloosa, Iowa	15	19	25	18.2	22
Brighton, Iowa	14	24	27	15.3	25
Boone: Webster City, Iowa	10	24	26	11.55	25
North Racoon: Jefferson, Iowa	1[illegible]	2[illegible]	1	15.9	26
South Racoon: Redfield, Iowa	11	18	20	16.6	19
Racoon: Van Meter, Iowa	13	18	30	17.6	25

River and station	Flood stage	Above flood stages -dates From–	To–	Crest* Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Racoon: Des Moines (SW 18th St.), Iowa	12	25	29	14.8	26
North: Norwalk, Iowa	14	17	20	21.4	19
		25	27	18.3	25
Des Moines: Boone, Iowa	12	25	26	12.8	25
Des Moines (SE 14th St.), Iowa	21	22	1/	26.3	27
Tracy, Iowa	14	26	1/	15.55	28
Ottumwa, Iowa	10	27	1/	10.4	28
Salt: New London, Mo.	19	25	25	19.9	25
Sangamon: Riverton, Ill.	13	25	30	15.7	28
Kaskaskia: Carlyle Dam (TW), Ill.	423.5	Feb. 3	13	427.8	Feb. 21
Missouri Basin					
Yellowstone: Miles City, Mont.	15	19	19	16.15	19
Glendive, Mont.	54	20	20	62.8	20
Sidney, Mont.	19	21	21	21.0	21
Wood: Gibbon, Nebr.	15	19	20	15.8	20
Alda, Nebr.	10	19	22	11.6	21
Grand Island, Nebr.	4.8	20	23	5.15	22
Loup: Columbus, Nebr.	11	19	20	13.45	20
Nishnabotna: Hamburg, Iowa	18	(Feb. 25	4	21.5	4
		(17	21	25.25	18
		(25	26	19.3	25
Buffalo Creek: Jamestown, Kans.	16	Feb. 26	1	16.4	Feb. 27
				17.6	Feb. 28
Lincoln Creek: Seward, Nebr.	15	18	22	#17.7	21
West Fork Big Blue: Dorchester 7NW, Nebr.	15	19	23	20.5	20
Turkey Creek: Wilber, Nebr.	11	18	23	#15.3	20
Little Blue: Deweese, Nebr.	8	18	20	11.9	19
Fairbury, Nebr.	10	18	21	11.1	18,19
				10.6	21
Big Blue: Surprise, Nebr.				8.9	20
Ulysses, Nebr.	15	18	21	19.4	20
Staplehurst, Nebr.				#19.6	20
Seward, Nebr.	18	20	22	#18.6	20
Crete, Nebr.	18	18	26	27.35	21
Beatrice, Nebr.	16	20	26	23.15	23
Barneston, Nebr.	18	21	25	22.55	24
Blue Rapids, Kans.	1101	Feb. 26	2	1105.7	Feb. 27
		22	25	1102.3	22
Blackwater: Valley City, Mo.	20	23	26	27.5	24
Osage: Schell City, Mo.	25	26	30	28.1	28
Ohio Basin					
Little Wabash: Wilcox, Ill.	16	25	27	16.6	26
Saline: Harrisburg, Ill.	13	24	25	16.1	25
White Basin					
Black: Black Rock, Mo.	14	24	Apr. 1	17.0	25
Cache: Patterson, Ark.	7	Dec. 23	16	11.3	Feb. 1
		24	1/	8.2	31
White: Georgetown, Ark.	21	Jan. 31	10	26.7	Feb. 4
Des Arc, Ark.	24	Jan. 30	2	30.5	Feb. 5
Clarendon, Ark.	26	Dec. 27	1/	29.0	Jan. 7-9
				32.0	Feb. 7
St. Charles, Ark.	25	Jan. 3	21	26.0	Jan. 10
				30.1	Feb. 12
Arkansas Basin					
Little Caney: Copan, Okla.	21	23	26	21.8	25
Bird Creek: Sperry, Okla.	21	24	25	25.7	24
Owasso, Okla.	24.5	24	26	27.8	25
Neosho: Commerce, Okla.	15	24	27	18.6	25
Illinois: Watts, Okla.	13			14.5	24
Fourche Maline: Red Oak, Okla.	15	23	24	16.15	24
Poteau: Panama, Okla.	24	24	25	26.1	24

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	Above flood stages -dates To–	Crest * Stage	Crest * Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Red Basin					
Blue: Blue, Okla.	21	24	25	23.8	24
Clear Boggy: Caney, Okla.	19	24	26	21.3	24
Kiamichi: Belzoni, Okla.	28	21	25	30.2	24
Sulphur: Hagansport, Tex.	38	3	12	41.[illegible]	1
		15	22	45.45	18
		23	27	45.4	24
		31	Apr. 2	41.8	Apr. 1
Naples, Tex.	22	Feb. 20	4	28.6	Feb. 25
Cypress Creek: Jefferson, Tex.	18	22	Apr. 3	18.9	24,25
Atchafalaya Basin					
Atchafalaya: Morgan City, La.	7	Feb. 22	8	7.2	Feb.22-23
					Feb. 28
				7.3	Mar. 6
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	17	21	14.2	19
Lake Fork Creek: Quitman, Tex.	16	19	21	17.0	19
		24	26	17.2	25
Sabine: Edgewood, Tex.	12	18	Apr. 1	14.1	24
Mineola, Tex.	14	Feb. 22	13	15.1	1
		16	Apr. 7	17.6	20
Gladewater, Tex.	26	Feb. 18	9	28.0	1
		18	Apr. 10	33.0	27
Longview, Tex.	25	5	10	25.4	8
		18	Apr. 21	30.0	Apr. 1
Logansport, La.	28	18	Apr. 3	31.1	31
Bon Wier, Tex.	17	18	1/	#19.9	2[illegible]
Deweyville, Tex.	14	24	1/	#15.3	26
WEST GULF OF MEXICO DRAINAGE	Ft			Ft	
Angelina: Alto 8E, Tex.	19	20	21	#19.0	20
Neches: Alto 8SW, Tex.	1[illegible]	15	1/	#18.5	28
Rockland, Tex.	22	19	24	#23.5	21
Beaumont, Tex.	5	Feb. 25	3	[illegible]	Feb. [illegible]
		22	[illegible]	6.6	24,25
Trinity: [illegible]	26	18	20	[illegible]	18
Trinidad, Tex.	28	18	29	35.4	22
Long Lake, Tex.	35	20	[illegible]	40.0	29
Liberty, Tex.	24	Feb. 23	2	#25.1	Feb. 27
		17	1/	#[illegible]	23
Moss Bluff, Tex.	4	Feb. 21	1/	7.2	Feb. 28
				7.8	24
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	1/	45.3	Dec. 3
				[illegible]	Jan.17-19
				46.7	Feb. 23
				46.2	19
Navasota: Easterly 7NE, Tex.	14	16	20	#15.8	18
		25	28	#16.2	[illegible]
Navidad: Ganado, Tex.	21	16	19	26.6	17
Lavaca: Edna, Tex.	21	17	18	21.4	18
Guadalupe: Victoria, Tex.	21	17	20	26.0	20
PACIFIC SLOPE DRAINAGE					
San Joaquin: Vernalis, Calif.	34	Jan. 22	14	34.3	Jan. 27

* Provisional
\# Highest stage observed
1/ Continued at end of month
E Estimated

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1002 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	86	-3.4	-7.7	28	2.4
1000	31	101			[illegible]	1.9
950	31	[illegible]	-3.8	-9.6	29	[illegible]
900	31	[illegible]	-5.9	-11.3	[illegible]	6.7
850	31	1,374	-7.5	-13.4	30	7.7
800	31	1,850	-9.0	-15.1	30	8.8
750	31	2,347	-11.0	-18.7	30	9.7
700	31	2,876	-13.1	[illegible]	30	10.8
650	31	3,486	-15.5	-22.4	29	11.8
600	31	4,036	-19.0	-25.5	28	13.8
550	31	4,677	-22.7	-30.3	28	14.7
500	31	5,374	-27.1	-33.9	27	16.4
450	31	6,119	-32.0	-40.3	27	16.0
400	31	6,947	-37.8	-45.0	27	16.1
350	31	7,855	-44.3		27	16.8
300	31	8,873	-50.6		26	20.6
250	31	10,051	-53.9		26	24.4
200	30	11,484	-51.7		27	24.9
175	30	12,351	-51.1		27	24.3
150	29	13,354	-51.2		27	22.4
125	28	[illegible]	-52.3		26	21.7
100	29	15,975	-53.7		26	[illegible]
80	29	17,405	-54.6		27	15.7
70	29	18,259	-54.9		27	14.4
60	28	19,242	-55.3		27	11.5
50	26	20,406	-56.0		27	8.5
40	26	[illegible]	-55.8		27	6.1
30	26	23,660	-55.6		27	[illegible]
25	24	24,816	-55.6		30	1.1
20	[illegible]	[illegible]	-54.3		01	1.2
15	[illegible]	28,117	-50.7		04	3.1
10	[illegible]	30,761	-46.3		33	3.0
7	[illegible]	33,128	-44.1			
5						

ALBUQUERQUE, N. MEX. 830 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,619	-.7	-8.7	09	[illegible]
1000	31	160				
950	31	575				
900	31	1,071				
850	31	1,484				
800	31	1,971	.8	-10.9	34	1.3
750	31	2,487	-1.5	-12.6	30	5.0
700	31	3,033	-5.4	-15.1	29	[illegible]
650	31	3,606	-8.9	-19.2	29	7.3
600	31	4,226	-13.2	-24.3	28	8.8
550	31	4,880	-17.6	-30.5	28	10.5
500	31	[illegible]	-22.6	-36.1	28	12.2
450	31	6,352	-28.2	-41.0	28	13.8
400	31	7,193	-34.1	-47.0	28	[illegible]
350	31	[illegible]	-40.3	-51.2	28	21.6
300	31	9,152	-46.7		28	25.1
250	31	10,344	-52.9		28	28.5
200	31	11,771	-56.4		28	30.1
175	31	12,617	-57.1		27	30.7
150	30	13,591	-56.6		27	30.6
125	29	14,743	-58.1		27	25.5
100	29	16,141	-60.6		27	22.4
80	29	17,528	-61.7		27	18.6
70	29	18,355	-61.4		27	16.0
60	[illegible]	19,312	-61.0		27	12.1
50	[illegible]	20,447	-60.4		27	8.7
40	[illegible]	21,841	-59.8		27	6.7
30	[illegible]	23,648	-57.9		28	5.2
25	26	24,801	-56.5		29	6.1
20	25	26,223	-55.1		28	5.4
15	19	[illegible]	-51.3		29	6.6
10	[illegible]	30,766	-44.8			

AMARILLO, TEXAS 891 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,095	-1.2	-4.1	09	.8
1000	31	163				
950	31	578				
900	31	1,018				
850	31	1,471	-.6	-5.6	35	.6
800	31	1,955	-1.1	-7.7	28	2.5
750	31	2,467	-2.5	-10.0	28	5.3
700	31	3,013	-5.4	-13.1	28	6.7
650	31	[illegible]	-8.8	-17.3	28	9.0
600	31	4,208	-13.0	-22.0	28	9.3
550	31	4,860	-17.7	-27.3	28	10.6
500	31	5,572	-22.6	-33.3	27	12.3
450	31	6,332	-28.2	-38.6	27	14.7
400	31	7,172	-34.3	[illegible]	27	17.1
350	31	8,093	-40.9	-50.0	27	21.4
300	31	9,127	-47.1		27	27.6
250	31	10,317	-53.0		27	32.5
200	31	11,744	-55.5		27	36.5
175	31	[illegible]	-56.1		27	36.1
150	31	13,573	-56.5		27	33.5
125	31	14,725	-58.4		27	30.5
100	31	16,122	-60.2		27	26.2
80	30	17,515	-61.0		27	20.4
70	29	18,348	-61.1		27	16.7
60	[illegible]	19,306	-60.8		27	13.8
50	[illegible]	20,442	-60.2		27	10.8
40	[illegible]	21,836	-59.3		27	8.8
30	25	23,645	-57.9		27	6.4
25	[illegible]	24,799	-56.3		27	5.3
20	[illegible]	26,225	-54.1		29	6.0
15	15	28,067	-51.6		28	6.4
10	10	30,735	-44.7			

* ANCHORAGE, ALASKA 1006 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	45	-2.9	-8.2	09	.4
1000	31	92			06	.6
950	31	502	-2.6	-9.1	14	1.6
900	31	926	-5.0	-10.8	14	2.8
850	31	1,373	-7.9	-13.9	15	4.1
800	31	1,842	-10.8	-17.0	15	4.4
750	31	2,334	-13.8	-20.3	16	5.7
700	31	2,856	-16.8	-23.8	18	6.4
650	31	3,409	-19.7	-28.2	20	6.5
600	31	4,000	-23.4	-30.6	20	6.5
550	31	4,630	-27.5	-34.0	20	7.0
500	31	5,311	-31.9	-37.5	20	7.6
450	31	6,045	-36.6	-42.6	20	7.8
400	31	6,855	-42.3	-45.8	21	9.1
350	31	7,747	-48.0		21	11.0
300	31	8,752	-52.5		22	12.1
250	30	9,924	-54.2		23	11.7
200	30	11,366	-50.5		24	10.4
175	30	12,238	-49.9		24	10.3
150	30	13,247	-49.4		25	9.8
125	30	14,442	-49.3		25	10.1
100	30	15,903	-49.8		25	9.1
80	30	17,362	-49.9		26	8.4
70	30	18,234	-50.3		26	6.6
60	31	19,238	-50.3		27	6.2
50	31	20,426	-50.5		28	5.8
40	31	21,881	-50.4		30	3.5
30	31	23,760	-49.8		30	2.1
25	30	24,957	-48.7		36	2.8
20	26	26,436	-47.0		04	5.1
15	26	28,351	-44.3		05	8.2
10	22	31,076	-41.6		05	11.4

* ANNETTE, ALASKA 1014 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	37	2.5	-.1	10	1.7
1000	31	150	2.7	-1.5	12	2.4
950	31	563	.9	-4.8	16	5.3
900	31	997	-1.7	-7.2	17	6.4
850	31	1,450	-4.4	-10.5	18	6.9
800	31	1,926	-6.4	-15.5	20	7.0
750	31	2,474	-8.8	-17.9	22	6.6
700	31	2,960	-11.5	-20.2	24	7.5
650	31	3,519	-14.4	-23.8	25	9.7
600	31	4,129	-18.1	-28.6	26	10.6
550	31	4,771	-21.9	-31.9	26	12.3
500	31	5,470	-26.2	-34.9	26	13.8
450	31	6,223	-31.3	-41.0	26	15.2
400	31	7,052	-37.3	-44.5	26	16.9
350	31	7,961	-44.2		27	17.2
300	31	8,977	-51.6		27	16.7
250	31	10,142	-57.8		28	18.3
200	31	11,546	-58.0		28	14.4
175	31	12,392	-55.5		29	14.0
150	31	13,379	-53.9		28	11.8
125	31	14,551	-53.6		29	10.8
100	31	15,987	-53.4		29	8.7
80	31	17,422	-53.8		30	7.8
70	31	18,279	-54.0		31	7.1
60	31	19,268	-54.0		31	6.1
50	31	20,439	-53.8		32	4.8
40	31	21,874	-53.8		35	4.1
30	31	23,723	-53.3		03	4.4
25	31	24,899	-52.6		04	5.2
20	31	26,345	-51.4		05	7.4
15	31	28,223	-49.1		05	10.0
10	23	30,924	-44.9		06	17.5
7	17	33,328	-42.4		07	23.9
5	10	35,616	-39.8			

ATHENS, GEORGIA 987 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	3.4	-1.5	28	1.8
1000	31	136				
950	31	553	5.4	-3.8	31	4.1
900	31	996	3.3	-6.3	30	5.6
850	31	1,458	1.2	-7.2	29	8.2
800	31	1,944	-.6	[illegible]	28	9.6
750	31	2,456	-2.5	-16.6	28	12.4
700	31	[illegible]	-4.6	-20.0	27	15.5
650	31	3,583	-7.0	-22.6	27	18.6
600	31	4,207	-10.7	-25.9	27	21.7
550	31	4,868	-14.7	-30.0	27	25.4
500	31	5,586	-19.7	-34.1	27	28.8
450	31	6,355	-25.2	-38.2	27	32.6
400	31	7,206	-30.9	-43.4	27	37.4
350	31	8,141	-37.5	-46.1	27	42.9
300	31	9,189	-44.5	-47.5	27	48.5
250	31	10,391	-50.7		27	52.1
200	30	11,831	-55.4		27	54.1
175	30	12,681	-56.3		27	49.5
150	30	13,656	-57.7		27	44.8
125	30	14,800	-59.8		27	38.6
100	30	16,185	-62.1		27	30.8
80	30	17,562	-62.7		27	22.3
70	30	18,386	-62.1		27	18.8
60	30	19,338	-62.2		27	14.9
50	30	20,469	-60.5		27	[illegible]
40	29	21,862	-59.5		27	10.9
30	29	23,671	-57.7		28	9.4
25	29	24,873	-56.6		28	8.8
20	28	26,245	-54.7		28	8.8
15	24	28,090	-51.0		28	10.1
10	22	30,774	-42.5		27	13.5
7	16	33,210	-33.7			

BARROW, ALASKA 1022 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	-25.1	-27.7	08	2.3
1000	31	163	-22.4	-25.5	08	3.5
950	31	549	-18.6	-23.1	09	2.9
900	31	947	-16.9	-21.3	10	2.3
850	31	1,375	-17.6	-21.9	11	1.6
800	31	1,828	-19.1	-23.6	12	1.5
750	31	2,307	-21.1	-26.0	12	1.4
700	31	2,813	-23.4	-28.3	15	1.2
650	31	3,352	-26.4	-31.6	16	1.1
600	31	3,927	-29.5	-35.4	20	1.5
550	31	4,539	-33.2	-37.9	22	1.8
500	31	5,207	-37.5	-41.2	22	3.0
450	31	5,927	-42.1	-44.2	23	3.9
400	31	6,716	-47.1		24	4.6
350	31	7,590	-51.8		24	5.4
300	31	8,583	-54.4		24	6.9
250	31	9,750	-53.8		24	8.8
200	30	11,196	-51.2		25	8.9
175	30	12,065	-50.5		25	9.1
150	30	13,071	-50.1		25	9.7
125	30	14,263	-49.5		25	9.4
100	30	15,726	-49.4		25	10.3
80	29	17,200	-48.9		26	11.5
70	29	18,076	-48.9		27	11.8
60	26	19,089	-49.0		27	11.8
50	23	20,298	-49.2		27	11.4
40	17	21,742	-49.5		28	12.1
30	7	23,634	-47.1			

BARTER IS., ALASKA 1021 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	15	-26.2	-27.6	16	1.0
1000	29	162	-22.7	-26.5	10	1.5
950	29	542	-17.2	-23.2	10	2.6
900	29	949	-16.1	-23.5	10	2.1
850	29	1,379	-16.5	-24.1	10	2.5
800	29	1,833	-17.9	-25.1	10	2.1
750	29	2,309	-19.5	-26.8	11	1.6
700	29	2,824	-21.8	-30.0	14	1.5
650	29	3,361	-24.5	-32.1	20	1.8
600	29	3,946	-27.9	-35.1	23	2.9
550	29	4,557	-31.8	-35.8	24	4.0
500	29	5,234	-36.2	-38.7	24	4.8
450	29	5,948	-40.7	-41.6	24	6.3
400	29	6,752	-45.5	-44.7	25	8.2
350	29	7,632	-50.2		25	9.9
300	29	8,629	-53.8		25	10.6
250	29	9,797	-54.6		25	11.4
200	29	11,233	-51.7		26	11.0
175	28	12,097	-50.6		26	10.8
150	28	13,103	-50.0		27	11.0
125	28	14,295	-49.7		27	11.0
100	28	15,757	-49.2		27	11.5
80	28	17,218	-49.6		28	11.7
70	28	18,092	-49.6		28	12.4
60	27	19,103	-49.8		29	11.6
50	26	20,295	-49.5		29	12.5
40	24	21,753	-49.4		29	12.2
30	23	23,633	-48.7		30	13.0
25	21	24,820	-48.2		30	13.1
20	19	26,309	-47.0		31	13.9
15	17	28,216	-44.7		32	12.9
10	12	31,022	-37.7			
7	6	33,539	-37.0			

BETHEL, ALASKA 1003 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	39	-8.9	-11.3	06	1.5
1000	30	58			04	3.3
950	30	460	-5.1	-10.0	13	3.5
900	30	883	-6.9	-12.3	15	4.0
850	30	1,328	-9.0	-15.0	16	4.3
800	30	1,795	-11.7	-17.9	17	4.7
750	30	2,288	-14.5	-21.5	17	4.6
700	30	2,807	-17.2	-25.4	18	3.8
650	30	3,356	-20.3	-27.6	18	3.6
600	30	3,949	-24.2	-30.7	18	3.8
550	30	4,573	-28.3	-34.8	18	4.4
500	30	5,256	-32.8	-39.7	18	5.2
450	30	5,986	-37.9	-44.3	19	6.8
400	30	6,793	-43.8	-50.3	20	7.9
350	30	7,679	-49.7		20	10.1
300	30	8,676	-53.8		21	10.1
250	30	9,847	-53.4		22	9.5
200	30	11,295	-50.1		22	9.3
175	30	12,170	-49.0		22	9.4
150	30	13,182	-48.9		23	9.1
125	30	14,379	-48.8		23	9.3
100	30	15,645	-48.8		23	7.9
80	30	17,311	-48.8		23	7.1
70	30	18,187	-49.1		23	6.6
60	30	19,196	-49.8		24	5.4
50	30	20,387	-50.4		25	4.5
40	30	21,842	-50.3		23	3.1
30	30	23,720	-49.8		26	1.0
25	30	24,915	-48.7		24	.5
20	29	26,386	-47.2		07	2.5
15	26	28,309	-43.6		09	5.4
10	8	31,036	-39.4			

* BISMARCK, N. DAK. 960 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	503	-10.5	-13.5	36	1.3
1000	31	182				
950	31	579	-9.9	-13.9	35	1.7
900	31	998	-7.4	-12.6	31	4.6
850	31	1,444	-7.6	-14.8	32	6.2
800	31	1,914	-9.0	-17.0	32	7.2
750	31	2,408	-10.5	-19.1	32	9.0
700	31	2,941	-13.0	-20.9	32	9.6
650	31	3,499	-16.2	-23.3	32	10.5
600	31	4,101	-19.7	-27.0	31	11.7
550	31	4,738	-23.8	-31.9	31	12.1
500	31	5,433	-28.2	-36.5	31	12.7
450	31	6,175	-33.5	-41.9	31	13.3
400	31	6,998	-39.6	-45.5	31	14.5
350	31	7,898	-46.3		31	14.7
300	31	8,906	-52.8		31	16.0
250	31	10,067	-57.9		30	16.1
200	31	11,472	-57.2		30	14.8
175	31	12,320	-55.2		30	15.5
150	31	13,306	-54.4		30	13.7
125	31	14,474	-54.2		30	13.0
100	31	15,903	-54.7		30	11.8
80	31	17,330	-55.1		30	10.1
70	31	18,183	-55.3		30	8.9
60	31	19,167	-55.3		30	8.0
50	31	20,331	-55.1		31	5.7
40	30	21,755	-55.3		32	4.5
30	29	23,592	-55.0		36	3.5
25	29	24,758	-54.7		01	3.5
20	29	26,189	-53.8		03	3.6
15	27	28,049	-51.7		04	4.8
10	25	30,699	-47.9		04	5.6
7	17	33,073	-44.2		01	3.5

BOISE, IDAHO 919 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	867	[illegible]	-5.0	13	2.3
1000	31	178				
950	31	594				
900	31	1,033	[illegible]	-5.3	14	.9
850	31	1,495	[illegible]	-7.6	31	2.6
800	31	1,982	-1.4	-10.5	32	3.1
750	31	2,487	-4.7	-14.0	32	3.4
700	31	[illegible]	-8.0	-17.8	31	4.4
650	31	[illegible]	-11.4	-21.6	31	5.4
600	31	4,214	-15.2	-26.2	31	5.9
550	31	4,857	-19.5	-30.4	31	[illegible]
500	31	5,568	-24.5	-35.4	31	6.8
450	31	6,321	-30.2	-40.0	31	7.7
400	31	7,155	-36.6	-43.8	31	7.9
350	31	[illegible]	-43.6	-47.5	31	9.5
300	31	9,087	-50.8		31	11.0
250	31	[illegible]	-56.9		31	14.6
200	31	11,657	-60.4		31	15.0
175	31	12,491	-59.2		30	15.1
150	31	13,460	-57.5		30	14.5
125	31	14,615	[illegible]		30	13.2
100	31	16,027	-57.1		30	11.0
80	31	[illegible]	-57.9		30	9.4
70	31	18,278	-58.2		30	7.9
60	31	19,249	-58.1		30	6.1
50	31	[illegible]	[illegible]		31	4.5
40	31	21,810	-57.1		33	3.2
30	[illegible]	23,632	-56.6		01	[illegible]
25	[illegible]	24,789	-55.6		04	2.2
20	27	26,215	-54.6		05	3.3
15	[illegible]	28,063	-52.1		05	4.4
10	[illegible]	30,736	-46.9			
7						
5						

BOOTHVILLE, LA. 1017 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1	10.9	8.4	02	2.6
1000	31	139	11.6	6.2	03	3.4
950	31	569	10.0	3.1	03	2.1
900	31	1,016	8.6	-1.3	31	2.0
850	31	1,489	7.7	-7.3	27	5.2
800	31	1,987	6.2	-9.9	27	8.6
750	31	2,517	4.4	-11.6	27	11.9
700	31	3,074	1.5	-14.8	27	14.8
650	31	[illegible]	-1.8	-18.6	26	18.1
600	31	4,300	-5.8	-21.7	25	21.0
550	31	4,972	-10.1	-25.3	26	23.7
500	31	5,705	-15.0	[illegible]	26	27.0
450	31	6,493	-20.2	-31.9	25	31.6
400	31	7,358	-25.7	-36.7	26	37.4
350	31	8,314	-32.1	-42.2	26	43.0
300	31	9,387	-39.3	-45.1	26	49.4
250	31	10,611	-48.2		26	56.7
200	30	12,058	-56.2		26	60.6
175	29	12,896	-58.6		26	59.5
150	29	13,859	-61.2		26	52.5
125	29	14,984	-63.5		26	44.8
100	[illegible]	16,344	-66.7		26	35.3
80	[illegible]	[illegible]	-68.1		26	25.9
70	29	18,491	-66.7		26	[illegible]
60	[illegible]	[illegible]	-64.6		26	15.4
50	[illegible]	20,553	-60.7		26	12.4
40	28	[illegible]	-58.7		27	9.7
30	[illegible]	23,762	-57.0		27	10.1
25	27	24,920	-56.2		28	10.1
20	25	26,355	-53.4		28	10.5
15	[illegible]	28,217	-49.0		27	11.6
10	[illegible]	30,954	-40.0		27	20.2
7	[illegible]	33,465	-34.8			

* BROWNSVILLE, TEXAS 1015 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	7	14.4	12.1	07	.8
1000	29	130	14.8	10.9	09	1.8
950	29	563	13.3	7.9	14	3.5
900	29	1,019	11.8	2.5	19	2.4
850	29	1,497	10.7	-.8	23	3.5
800	29	2,000	8.6	-4.7	24	5.3
750	29	2,533	6.4	-8.5	25	7.4
700	29	3,096	4.6	-12.5	26	10.5
650	29	3,695	1.1	-14.2	25	13.7
600	29	4,335	-3.2	-19.3	25	18.4
550	29	5,012	-7.9	-24.0	26	22.7
500	29	5,752	-12.6	-27.7	26	27.7
450	29	6,545	-17.9	-29.9	26	33.7
400	29	7,420	-23.7	-33.8	26	39.3
350	29	8,383	-30.1	-41.2	26	46.9
300	29	9,463	-38.1	-46.9	26	51.8
250	29	10,694	-47.0		26	54.5
200	29	12,139	-56.0		26	52.1
175	29	12,981	-59.6		26	55.6
150	29	13,936	-63.3		26	51.4
125	29	15,049	-66.3		26	41.2
100	29	16,388	-70.2		27	32.5
80	29	17,710	-71.7		26	23.7
70	29	18,500	-70.6		26	19.0
60	28	19,421	-67.4		27	12.0
50	26	20,532	-63.4		27	5.3
40	25	21,915	-60.2		25	5.4
30	24	23,717	-57.7		24	4.0
25	24	24,875	-55.4		29	2.4
20	24	26,308	-52.5		27	4.3
15	21	[illegible]	-47.4		26	8.2
10	16	[illegible]	-40.0		26	16.7
7	14	33,374	-33.0		26	21.1
5	7	35,755	-29.2			

BUFFALO, N. Y. 987 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	218	-3.3	-6.4	27	3.0
1000	31	115				
950	31	521	-3.2	-7.8	27	5.8
900	31	947	-5.6	-11.0	28	7.3
850	31	1,393	-7.9	-13.2	28	7.8
800	31	1,863	-10.1	-15.8	29	8.8
750	31	2,362	-12.2	-19.3	29	8.9
700	31	2,884	-14.4	-22.1	29	9.8
650	31	3,446	-16.9	-25.0	29	11.1
600	31	4,041	-20.1	-29.0	28	11.9
550	31	4,678	-24.1	-32.4	29	12.4
500	31	5,370	-28.2	-36.6	28	13.1
450	31	6,116	-33.3	-41.7	28	14.6
400	31	6,937	-39.0	-44.9	27	15.4
350	31	7,839	-45.4		27	14.2
300	31	8,852	-51.9		27	16.6
250	31	10,024	-54.8		27	19.3
200	30	11,461	-53.0		26	21.8
175	30	12,324	-51.9		27	22.3
150	30	13,322	-52.5		27	20.5
125	30	14,499	-52.8		27	19.3
100	29	15,937	-53.8		27	17.4
80	29	17,364	-55.3		27	14.2
70	29	18,215	-55.5		27	12.9
60	29	19,197	-55.7		27	11.6
50	28	20,353	-56.0		27	9.3
40	28	21,772	-55.9		27	7.3
30	26	23,605	-55.9		28	3.4
25	26	24,766	-55.2		30	3.1
20	26	26,194	-53.8		36	1.7
15	25	28,055	-51.0		03	2.2
10	[illegible]	30,719	-45.3		29	5.1

CAPE HATTERAS, N. C. 1013 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	4.8	1.7	34	2.5
1000	31	112			35	3.4
950	31	533	4.8	-3.9	31	5.7
900	31	972	2.8	-7.1	29	6.7
850	31	1,433	.7	-9.4	28	9.3
800	31	1,918	-1.5	-12.9	27	12.1
750	31	2,431	-3.6	-17.0	28	14.1
700	31	2,974	-5.7	-21.0	28	16.7
650	31	3,552	-8.8	-23.6	27	19.7
600	31	4,168	-12.2	-25.7	27	22.8
550	31	4,827	-16.2	-30.2	27	25.4
500	31	5,541	-20.6	-33.9	27	27.7
450	31	6,312	-25.4	-38.3	27	31.0
400	31	7,160	-31.2	-43.8	27	35.8
350	31	8,095	-36.8	-47.9	27	40.1
300	31	9,148	-42.8	-48.2	27	47.7
250	31	10,361	-49.0		27	52.1
200	30	11,803	-53.2		27	52.6
175	29	12,661	-54.5		27	51.2
150	29	13,647	-55.1		27	46.4
125	28	14,809	-57.1		26	39.5
100	26	16,218	-59.6		26	34.8
80	26	17,610	-60.9		26	26.9
70	26	18,440	-60.7		26	21.5
60	25	19,399	-59.9		26	17.8
50	24	20,542	-58.8		27	15.1
40	23	21,944	-58.5		27	11.6
30	21	23,766	-56.8		27	8.6
25	19	24,926	-56.1		27	8.5
20	17	26,347	-54.5		27	8.1
15	14	28,210	-50.5		27	9.1
10	12	30,906	-43.4			
7	6	33,260	-37.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

CARIBOU, MAINE — 985 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	191	-6.5	-8.8	31	2.2
1000	31	74				
950	31	479	-6.1	-10.7	31	2.6
900	31	897	-7.9	-12.6	32	2.9
850	31	1,340	-9.5	-15.1	32	3.9
800	31	1,808	-10.7	-16.9	31	3.9
750	31	2,306	-12.7	-20.3	29	4.8
700	31	2,827	-15.0	-22.4	29	5.6
650	31	3,385	-17.6	-25.3	27	6.5
600	31	3,981	-20.6	-28.2	26	7.7
550	31	4,620	-24.4	-32.3	26	8.4
500	31	5,309	-28.7	-36.8	26	8.6
450	31	6,057	-33.6	-41.6	26	9.9
400	31	6,874	-39.4	-47.4	25	11.4
350	31	7,776	-45.4		25	13.7
300	31	8,791	-51.0		25	14.4
250	31	9,968	-53.9		26	14.3
200	31	11,405	-52.1		26	15.0
175	31	12,273	-50.8		26	15.5
150	31	13,277	-50.9		26	13.7
125	31	14,463	-51.5		26	13.5
100	31	15,910	-52.1		26	13.1
80	30	17,352	-52.9		26	10.6
70	30	18,211	-53.4		26	9.4
60	30	19,202	-53.8		26	7.1
50	30	20,373	-54.1		26	6.3
40	30	21,803	-54.6		26	4.3
30	30	23,645	-54.8		31	1.6
25	28	24,816	-54.2		33	.8
20	27	26,251	-53.3		13	.2
15	26	28,109	-52.0		34	1.1
10	22	30,767	-48.2		01	2.1
7	11	33,136	-45.1			
5						
4						
3						
2						

CHARLESTON, S. C. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	13	5.8	2.2	27	1.4
1000	31	132	7.8	1.0	30	2.7
950	31	555	7.4	[illegible]	31	4.0
900	31	999	5.2	-4.2	29	5.4
850	31	1,465	3.6	-7.2	27	[illegible]
800	31	1,955	1.6	-10.8	27	[illegible]
750	30	2,469	-1.0	-14.7	27	13.9
700	30	3,019	-3.0	-19.0	27	17.1
650	30	3,600	-5.7	-23.1	27	20.3
600	30	4,227	-9.3	-25.8	27	23.3
550	30	4,890	-13.5	-30.0	27	25.4
500	30	5,613	-18.3	-34.1	27	29.7
450	30	6,395	-23.7	-38.7	27	33.2
400	30	7,243	-29.5	-43.7	27	38.8
350	30	8,184	-35.7	-47.3	27	44.8
300	30	9,240	-42.5	-49.9	27	51.0
250	30	10,454	-49.0		27	56.1
200	30	11,902	-54.4		27	60.4
175	30	12,753	-55.7		27	58.1
150	30	13,730	-57.9		27	53.2
125	28	14,872	-60.1		27	44.3
100	27	16,255	-62.4		27	33.3
80	27	17,628	-63.3		27	27.8
70	27	18,449	-63.2		27	24.3
60	26	19,394	-62.2		27	18.7
50	26	20,536	-60.4		27	14.2
40	26	21,922	-58.8		27	12.3
30	25	23,733	-56.8		28	10.4
25	23	24,887	-56.1		28	9.2
20	21	26,316	-54.0		27	9.5
15	19	28,182	-49.3		28	11.1
10	17	30,886	-40.7		27	18.2

[illegible] — 851 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	1,428	5.5	-6.4	24	2.0
1000	31	[illegible]				
950	31	[illegible]				
900	31	[illegible]				
850	31	1,477	6.3	-5.9	[illegible]	1.7
800	31	[illegible]	7.1	-7.9	[illegible]	4.0
750	31	2,501	4.1	-11.0	26	6.6
700	31	[illegible]	.9	-14.0	27	8.9
650	31	[illegible]	-2.4	-18.6	27	10.8
600	31	4,285	-6.7	-22.6	27	12.9
550	31	4,952	-11.2	-27.3	27	[illegible]
500	31	[illegible]	-16.0	-31.1	27	18.3
450	31	6,471	-21.1	-34.7	27	21.7
400	31	7,330	-27.3	-39.0	27	[illegible]
350	31	[illegible]	-33.0	[illegible]	27	30.9
300	31	9,348	-40.2	[illegible]	28	28.9
250	31	10,570	-48.1		[illegible]	28.3
200	31	12,012	-56.2		[illegible]	28.0
175	31	[illegible]	-57.6		[illegible]	28.5
150	31	[illegible]	[illegible]		28	[illegible]
125	31	14,958	-62.9		28	31.2
100	31	16,323	-65.8		28	28.4
80	30	17,674	-67.0		28	22.8
70	[illegible]	[illegible]	-66.3		28	18.6
60	[illegible]	19,415	-66.2		29	[illegible]
50	27	20,534	-62.9		28	10.7
40	[illegible]	21,919	-60.0			
30	[illegible]	23,738	-57.0			
25	[illegible]	24,896	-55.8			
20	18	26,329	-54.0			
15	7	28,203	-49.6			

[illegible]

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	30	30	-.3	[illegible]	[illegible]	[illegible]
1000	30	47			28	[illegible]
950	[illegible]	[illegible]	[illegible]	-5.1	26	[illegible]
900	30	[illegible]	-4.9	[illegible]	27	[illegible]
850	30	1,331	-7.5	[illegible]	[illegible]	[illegible]
800	[illegible]	[illegible]	-9.6	[illegible]	[illegible]	[illegible]
750	30	2,294	-12.1	[illegible]	[illegible]	[illegible]
700	[illegible]	2,823	-15.0	[illegible]	[illegible]	[illegible]
650	30	[illegible]	-18.3	-26.9	25	[illegible]
600	30	3,973	-22.0	-30.9	24	[illegible]
550	[illegible]	[illegible]	-26.4	-35.0	[illegible]	[illegible]
500	30	5,289	-31.2	-38.5	[illegible]	[illegible]
450	30	6,023	-35.7	-41.8	[illegible]	[illegible]
400	30	[illegible]	[illegible]	-46.8	[illegible]	[illegible]
350	30	7,737	-46.3		[illegible]	[illegible]
300	30	[illegible]	-51.4		25	[illegible]
250	[illegible]	9,928	-52.3		[illegible]	[illegible]
200	[illegible]	[illegible]	-50.5		[illegible]	[illegible]
175	[illegible]	12,249	-49.2		[illegible]	[illegible]
150	[illegible]	[illegible]	-48.9		[illegible]	[illegible]
125	30	14,457	-48.9		23	[illegible]
100	[illegible]	15,922	-49.3		23	[illegible]
80	[illegible]	17,387	-49.7		23	[illegible]
70	29	[illegible]	-50.2		23	[illegible]
60	29	[illegible]	-51.3		23	[illegible]
50	28	[illegible]	-52.0		23	[illegible]
40	28	21,889	-52.2		[illegible]	[illegible]
30	[illegible]	23,755	-51.2		09	[illegible]
25	28	24,943	-50.2		09	[illegible]
20	[illegible]	26,404	-48.9		08	[illegible]
15	27	28,306	-46.7		[illegible]	[illegible]
10	[illegible]	31,017	-43.0		08	[illegible]
7	21	33,450	-40.5		[illegible]	[illegible]
5	20	35,748	-39.1		09	[illegible]
4	13	37,280	-39.2			
3	8	[illegible]	-40.5			
2	5	41,931	-40.4			

[illegible]

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	[illegible]	238	[illegible]	[illegible]	[illegible]	[illegible]
1000	31	[illegible]				
950	31	[illegible]	-.5	[illegible]	[illegible]	2.9
900	31	[illegible]	-2.2	[illegible]	[illegible]	4.7
850	31	[illegible]	-3.6	-12.6	29	[illegible]
800	31	[illegible]	-5.1	-15.2	29	7.7
750	31	[illegible]	-7.1	[illegible]	[illegible]	9.0
700	[illegible]	[illegible]	-9.6	[illegible]	[illegible]	[illegible]
650	31	[illegible]	-12.5	[illegible]	[illegible]	11.5
600	31	[illegible]	-15.7	-25.8	29	12.8
550	31	[illegible]	-19.7	-30.6	29	13.6
500	[illegible]	[illegible]	-24.7	-35.5	29	14.2
450	[illegible]	[illegible]	-30.4	[illegible]	[illegible]	15.6
400	[illegible]	[illegible]	-36.7	-45.6	28	18.0
350	[illegible]	7,992	-43.5	-50.3	[illegible]	20.5
300	31	9,013	-50.0		[illegible]	[illegible]
250	31	10,191	-54.6		27	28.2
200	31	11,614	-55.4		27	[illegible]
175	31	12,468	-54.5		[illegible]	32.5
150	31	13,454	-54.8		27	30.6
125	31	14,617	-55.8		27	28.1
100	[illegible]	16,028	-57.2		27	24.4
80	30	17,436	-55.2		27	19.8
70	29	18,273	[illegible]		27	17.1
60	29	19,241	-58.7		27	13.5
50	[illegible]	20,387	-58.6		27	11.4
40	27	21,788	-58.6		27	9.6
30	[illegible]	23,599	-57.8		[illegible]	8.1
25	25	24,753	-56.8		[illegible]	6.7
20	25	26,172	-55.4		[illegible]	4.6
15	17	28,009	-52.9		[illegible]	4.6
10	[illegible]	30,646	-47.7			

DAYTON, OHIO — 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	30	297	-2.5	-6.2	27	1.2
1000	30	137				
950	30	547	-1.3	-7.8	27	3.3
900	30	975	-3.7	-10.2	29	4.8
850	30	1,425	-5.6	-15.1	28	6.2
800	30	1,899	-7.5	-17.9	28	7.5
750	30	2,399	-9.5	-20.4	28	9.5
700	30	2,931	-11.6	-23.6	28	11.4
650	30	3,494	-14.3	-26.9	28	12.5
600	30	4,099	-17.6	-29.8	28	14.8
550	30	4,741	-21.6	-32.9	28	16.4
500	30	5,442	-26.3	-37.4	28	17.3
450	30	6,191	-31.5	-42.2	28	20.4
400	30	7,019	-37.5	-46.3	28	21.4
350	30	7,927	-44.2		28	23.5
300	30	8,946	-50.5		28	26.4
250	30	10,124	-54.0		27	29.9
200	30	11,556	-53.6		27	32.0
175	30	12,415	-53.1		27	30.8
150	30	13,408	-53.7		27	30.4
125	30	14,578	-54.9		27	28.5
100	30	15,999	-56.3		27	24.6
80	30	17,414	-57.2		27	21.0
70	29	18,258	-57.9		27	19.4
60	29	19,230	-57.9		27	16.3
50	29	20,380	-57.8		27	12.8
40	29	21,790	-57.3		27	9.6
30	28	23,616	-56.2		27	6.7
25	28	24,777	-55.6		28	5.6
20	[illegible]	26,204	-54.1		29	3.5
15	21	28,084	-50.9		30	2.5
10	15	30,784	-45.1		27	5.7
7						
5						

DEL RIO, TEXAS — 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	314	9.3	1.8	09	.9
1000	31	144				
950	31	570	9.3	-.2	14	2.6
900	31	1,018	7.8	-.9	19	3.4
850	31	1,488	6.2	-4.7	21	4.3
800	31	1,984	4.8	-8.0	24	5.8
750	31	2,505	3.3	-13.6	26	7.2
700	31	3,065	.1	-17.4	27	10.2
650	31	3,652	-3.8	-20.3	27	[illegible]
600	31	4,283	-8.0	-24.6	26	16.1
550	31	4,949	-12.4	-29.1	26	19.3
500	31	5,676	-17.0	-34.2	26	22.9
450	31	6,455	-22.0	-37.0	26	28.7
400	31	7,318	-27.4	-41.0	26	32.8
350	31	8,268	-33.6	-44.9	26	38.5
300	31	9,334	-40.6	-47.6	26	43.9
250	31	10,555	-48.7		26	48.7
200	31	11,994	-56.5		27	46.2
175	30	12,836	-58.4		27	44.9
150	30	13,801	-60.1		27	43.3
125	30	14,937	-63.0		27	36.6
100	29	16,302	-66.2		27	32.4
80	28	17,649	-66.7		27	23.9
70	28	18,455	-67.1		26	20.0
60	28	19,391	-64.3		27	15.9
50	28	20,509	-62.5		26	10.2
40	27	21,895	-60.5		26	7.9
30	26	23,697	-57.1		26	9.6
25	24	24,853	-56.3		27	9.8
20	21	26,273	-54.8		28	7.3
15	19	28,134	-49.9		27	10.6
10	16	30,854	-40.9		27	12.8

DENVER, COLO. — 836 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	1,611	-4.9	-7.8	20	1.2
1000	31	175				
950	31	589				
900	31	1,024				
850	31	1,476				
800	31	1,957	-2.9	-11.8	29	2.5
750	31	2,463	-4.9	-14.8	31	4.0
700	31	3,007	-8.0	-17.6	31	6.3
650	31	3,575	-11.4	-20.5	31	6.8
600	31	4,189	-15.4	-24.7	31	7.7
550	31	4,836	-19.7	-29.3	30	8.6
500	31	5,542	-24.7	-34.5	30	9.9
450	31	6,294	-30.4	-40.2	30	11.4
400	31	7,128	-36.8	-45.0	29	13.2
350	31	8,038	-44.1	-47.9	29	14.6
300	31	9,055	-51.6		29	15.7
250	31	10,223	-56.3		29	19.2
200	31	11,632	-58.5		28	20.2
175	31	12,473	-57.2		28	20.8
150	31	[illegible]	-56.2		28	21.4
125	31	14,610	-56.1		28	19.0
100	31	16,023	-57.9		28	16.5
80	31	17,427	-58.6		28	14.4
70	31	[illegible]	-59.0		28	12.4
60	31	19,233	-58.6		28	9.4
50	30	20,377	-58.8		28	7.8
40	30	21,779	-58.7		28	5.9
30	30	23,591	-57.6		30	4.5
25	30	24,744	-56.9		30	3.4
20	27	26,159	-55.5		33	2.7
15	21	28,011	-52.4		32	2.0
10	17	[illegible]	-46.2		36	2.0

DODGE CITY, KANS. — 925 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	791	-3.5	-5.6	35	1.4
1000	31	175				
950	31	583				
900	31	1,015	-1.4	-6.3	33	1.9
850	31	[illegible]	-2.0	-8.2	30	2.2
800	31	1,951	-3.1	-10.2	29	3.6
750	31	2,463	-5.2	-12.4	30	5.8
700	31	[illegible]	-7.9	-14.7	30	7.0
650	31	3,572	-11.2	-18.5	29	7.8
600	31	4,184	-15.0	-22.8	29	9.2
550	31	4,833	-19.2	-27.2	28	10.9
500	31	5,540	-24.0	-33.0	28	12.1
450	31	6,296	-29.9	-38.9	28	14.4
400	31	7,130	-36.5	-43.1	28	16.3
350	31	8,042	-43.4	-49.2	28	19.0
300	31	9,063	-50.4		27	[illegible]
250	31	10,239	-55.1		27	26.0
200	31	11,655	-57.1		27	29.0
175	31	12,500	-56.6		27	28.9
150	31	13,481	-56.1		27	27.3
125	30	14,637	-56.8		27	25.0
100	30	16,044	-58.8		27	20.9
80	30	17,443	-59.7		27	16.8
70	30	18,277	-60.0		27	14.6
60	29	19,240	-60.1		27	11.9
50	29	[illegible]	-59.6		27	9.4
40	28	21,781	-59.2		27	7.0
30	[illegible]	23,590	-58.0		28	5.3
25	[illegible]	24,742	-56.6		28	3.7
20	[illegible]	26,164	-55.2		28	3.3
15	14	28,013	-51.6		29	6.7
10	7	30,715	-43.4			

EL PASO, TEXAS — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	1,193	4.1	[illegible]	31	1.5
1000	31	138				
950	31	[illegible]				
900	31	1,012				
850	31	1,479	6.2	-5.9	[illegible]	1.8
800	31	1,974	3.9	[illegible]	[illegible]	[illegible]
750	31	[illegible]	1.2	-11.8	[illegible]	[illegible]
700	31	3,048	-2.8	-14.6	[illegible]	[illegible]
650	31	3,528	-6.8	-20.2	27	[illegible]
600	31	4,252	-10.8	-25.6	27	[illegible]
550	31	4,912	-14.9	-30.5	27	[illegible]
500	31	5,631	-19.7	-35.6	27	[illegible]
450	31	6,400	-25.0	-40.2	27	[illegible]
400	31	7,253	-30.9	-45.0	28	[illegible]
350	31	8,188	-37.5	-49.2	27	[illegible]
300	31	9,237	-44.2	-48.2	27	[illegible]
250	31	10,441	-50.8		27	[illegible]
200	31	11,877	-55.8		27	[illegible]
175	31	12,724	-57.5		28	[illegible]
150	31	13,695	-58.6		27	[illegible]
125	31	14,836	-60.4		27	[illegible]
100	31	16,216	-63.5		27	[illegible]
80	31	17,581	-64.6		27	[illegible]
70	31	18,398	-63.8		27	[illegible]
60	31	19,345	-63.5		28	[illegible]
50	31	[illegible]	-62.0		27	[illegible]
40	31	21,854	-60.4		26	[illegible]
30	31	23,658	-58.0		26	[illegible]
25	31	24,809	-56.8		27	[illegible]
20	31	26,229	-54.8		28	[illegible]
15	[illegible]	28,082	-51.7		27	[illegible]
10	[illegible]	30,739	-45.0		27	[illegible]
7	[illegible]	33,224	-39.5			
5	[illegible]	35,536	-35.3			

ELY, NEV. — 808 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	1,908	-9.0	-13.2	19	2.2
1000	31	223				
950	31	631				
900	31	1,060				
850	31	1,512				
800	31	1,986			21	1.7
750	31	2,496	-4.2	-11.4	35	3.1
700	31	3,037	-7.2	-15.6	35	4.3
650	31	3,608	-10.6	-19.9	33	5.9
600	31	4,222	-14.4	-23.9	33	6.9
550	31	4,870	-18.5	-29.6	32	8.6
500	31	5,581	-23.2	-34.4	31	9.4
450	31	6,339	-28.9	-39.3	31	10.2
400	31	7,177	-35.4	-42.9	31	10.3
350	31	8,093	-42.5	-47.4	31	12.7
300	31	9,118	-49.4		31	15.0
250	31	10,297	-55.2		30	17.9
200	31	11,728	-58.6		30	19.3
175	31	12,566	-58.4		29	19.6
150	30	13,526	-57.1		29	20.2
125	30	14,679	-57.2		29	18.1
100	30	16,086	-58.6		29	15.4
80	30	17,485	-59.7		28	13.0
70	[illegible]	18,321	-59.5		28	11.3
60	29	19,286	-59.0		29	8.2
50	29	20,429	-59.2		29	6.0
40	[illegible]	21,828	-58.5		29	3.1
30	[illegible]	23,643	-57.7		31	2.2
25	26	24,797	-56.5		31	1.7
20	25	26,219	-54.7		33	1.7
15	[illegible]	28,076	-51.9		35	2.1
10	15	30,732	-47.2		31	3.9
7						

EMPALME, MEXICO — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	12	12.3	2.1	32	1.6
1000	31	132	18.2	1.8	33	3.6
950	31	569	16.8	-.9	34	[illegible]
900	31	1,028	14.5	-4.3	33	4.2
850	31	1,507	11.0	-7.5	30	3.0
800	31	2,009	8.4	-12.4	28	2.7
750	31	2,538	5.5	-15.9	28	5.1
700	31	3,099	2.2	-19.4	28	6.9
650	31	3,691	-1.5	-22.9	28	9.4
600	31	4,325	-5.8	-26.3	28	11.4
550	31	4,998	-10.4	-29.5	28	13.7
500	31	5,728	-15.2	-33.3	28	18.1
450	31	6,512	-20.7	-37.1	28	21.9
400	31	7,377	-26.6	-41.4	27	25.6
350	31	8,327	-33.6	-45.0	27	31.9
300	31	9,394	-40.6	-46.1	27	39.7
250	31	10,614	-48.8		27	41.1
200	31	12,052	-56.7		28	[illegible]
175	31	12,894	-58.5		27	36.1
150	31	13,859	-60.2		27	35.3
125	31	14,988	-63.4		28	31.0
100	31	16,348	-66.2		27	24.0
80	31	17,692	-68.7		27	19.2
70	31	18,493	[illegible]		27	15.7
60	30	19,422	-66.3		28	13.6
50	30	[illegible]	-64.3		27	9.7
40	[illegible]	[illegible]	-60.9		26	7.0
30	30	23,718	-57.3		26	[illegible]
25	[illegible]	24,878	-55.6		27	7.1
20	[illegible]	26,309	-53.2		27	7.9
15	[illegible]	[illegible]	[illegible]		27	10.7
10	[illegible]	30,879	-40.5			

FAIRBANKS, ALASKA — 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	135	-15.2	-23.5	01	1.9
1000	31	113			02	2.3
950	31	509	-9.2	-15.9	09	3.2
900	31	926	-9.4	-15.4	23	2.7
850	31	[illegible]	-10.5	-16.8	[illegible]	2.3
800	31	1,832	-12.5	-18.8	23	3.5
750	31	2,325	-15.3	[illegible]	23	5.1
700	31	2,841	-18.3	-25.0	23	5.9
650	31	3,392	-21.6	-28.7	23	6.0
600	31	3,978	-25.0	-31.7	24	7.4
550	31	4,603	-28.7	-35.1	23	8.1
500	31	5,283	-33.0	-39.1	24	[illegible]
450	31	[illegible]	-37.8	-41.8	24	10.9
400	31	6,820	-43.3	-45.1	24	[illegible]
350	31	7,708	-48.9		24	11.6
300	31	[illegible]	-53.8		24	12.4
250	31	9,875	-55.0		24	12.8
200	31	[illegible]	-51.9		25	11.3
175	31	12,179	-50.5		25	11.5
150	31	13,185	-50.1		26	[illegible]
125	31	14,376	-50.1		26	10.9
100	31	15,835	-49.9		26	9.8
80	31	[illegible]	-49.9		27	9.4
70	31	18,167	-50.2		28	8.8
60	31	[illegible]	-50.3		28	8.8
50	31	20,361	-49.8		29	8.0
40	31	21,822	-49.7		29	7.2
30	[illegible]	23,708	-49.2		[illegible]	6.3
25	[illegible]	24,907	-48.1		[illegible]	6.0
20	[illegible]	26,393	-46.5		33	5.9
15	[illegible]	28,303	-44.5		35	8.4
10	[illegible]	[illegible]	-40.0		01	9.9
7	8	33,498	-38.8			

FLINT, MICH. — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	236	-4.1	-8.1	26	1.7
1000	31	124				
950	31	529	-3.8	-9.4	29	[illegible]
900	31	[illegible]	-5.6	-12.2	30	[illegible]
850	31	1,403	-7.8	-15.0	30	[illegible]
800	31	1,873	-9.4	-18.0	30	[illegible]
750	31	2,368	-11.4	-21.3	30	[illegible]
700	31	2,897	-13.7	-23.5	29	[illegible]
650	31	3,455	-16.5	-26.6	29	[illegible]
600	31	4,056	-19.9	-29.6	29	[illegible]
550	31	4,692	-23.8	-32.8	29	[illegible]
500	31	5,357	-28.3	-37.9	29	[illegible]
450	31	6,131	-33.4	-41.6	29	[illegible]
400	31	6,953	-38.9	-45.1	29	[illegible]
350	31	7,857	-45.2		28	[illegible]
300	31	[illegible]	-51.6		28	[illegible]
250	31	10,041	-55.1		28	[illegible]
200	31	11,470	-53.4		27	[illegible]
175	[illegible]	12,332	-52.3		27	[illegible]
150	[illegible]	[illegible]	-52.4		27	[illegible]
125	[illegible]	14,506	[illegible]		27	[illegible]
100	[illegible]	15,941	-53.9		27	[illegible]
80	[illegible]	17,372	-55.1		27	[illegible]
70	[illegible]	18,224	-55.5		27	[illegible]
60	[illegible]	[illegible]	-55.6		27	[illegible]
50	[illegible]	20,368	-56.0		27	[illegible]
40	[illegible]	21,790	-55.9		27	[illegible]
30	[illegible]	[illegible]	-55.5		[illegible]	[illegible]
25	[illegible]	[illegible]	-54.9		[illegible]	[illegible]
20	[illegible]	26,219	-53.6		[illegible]	[illegible]
15	[illegible]	[illegible]	-51.6		[illegible]	[illegible]
10	[illegible]	[illegible]	-46.8		[illegible]	[illegible]
7	[illegible]	[illegible]	[illegible]			

FORT WORTH, TEXAS — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (m.p.s.)
SURFACE	31	180	6.0	[illegible]	34	[illegible]
1000	31	[illegible]			[illegible]	[illegible]
950	31	577	[illegible]	[illegible]	[illegible]	[illegible]
900	31	[illegible]	[illegible]	[illegible]	31	[illegible]
850	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
800	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
750	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
700	[illegible]	[illegible]	-3.8	[illegible]	[illegible]	[illegible]
650	31	[illegible]	-7.0	[illegible]	[illegible]	[illegible]
600	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
550	31	[illegible]	-15.3	[illegible]	[illegible]	[illegible]
500	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
450	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
400	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
350	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
300	[illegible]	[illegible]	-44.0	-45.6	26	[illegible]
250	30	[illegible]	[illegible]		[illegible]	[illegible]
200	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
175	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
150	[illegible]	[illegible]	-58.6		[illegible]	[illegible]
125	[illegible]	[illegible]	[illegible]		27	[illegible]
100	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
80	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
70	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
60	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
50	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
40	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
30	[illegible]	[illegible]	-57.3		[illegible]	[illegible]
25	18	24,815	[illegible]		[illegible]	[illegible]
20	17	26,234	[illegible]		[illegible]	[illegible]
15	[illegible]	[illegible]	-50.9		[illegible]	[illegible]
10	[illegible]	[illegible]	[illegible]			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

MARCH 1969

GLASGOW, MONT. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	695	-10.4	-12.3	34	1.3
1000	31	[illegible]				
950	31	[illegible]				
900	31	1,006	-5.5	-9.[illegible]	31	3.1
850	31	1,457	-4.8	-11.0	31	6.5
800	31	1,93[illegible]	-6.2	-14.1	31	7.3
750	31	2,433	-8.7	-16.0	32	8.8
700	31	2,968	-11.7	-16.8	32	9.3
650	31	3,527	-15.0	-22.0	32	10.2
600	31	4,135	-18.5	-25.3	32	11.1
550	31	4,775	-22.7	-30.3	32	11.1
500	31	5,472	-27.3	-35.0	33	12.6
450	31	6,216	-32.6	-39.5	33	14.5
400	31	7,042	-38.7	-44.3	33	15.7
350	31	7,945	-45.4		33	16.2
300	31	8,956	-52.8		32	16.4
250	31	10,115	-58.4		32	17.5
200	31	11,515	-58.0		32	16.6
175	31	12,359	-56.4		31	14.1
150	31	13,342	-55.0		31	13.4
125	31	14,506	-55.2		31	11.6
100	31	15,931	-54.9		31	9.6
80	30	17,357	-55.3		31	10.0
70	30	18,206	-55.4		31	8.1
60	30	19,190	-55.5		31	6.6
50	30	20,352	-55.5		32	5.3
40	30	21,775	-55.1		34	4.5
30	29	23,612	-55.4		02	3.0
25	29	24,775	-55.0		04	3.5
20	27	26,200	-54.0		04	4.4
15	21	28,065	-52.1		04	4.9
10	11	30,735	-47.6			
7						
5						

GRAND JUNCTION, COLO. 851 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,472	-1.1	-7.3	12	1.8
1000	31	162				
950	31	577				
900	31	1,018				
850	31	1,480			11	1.9
800	31	1,966	-.4	-10.3	13	1.4
750	31	2,474	-3.5	-12.1	24	.7
700	31	3,021	-7.4	-14.5	29	2.1
650	31	3,592	-10.9	-17.7	30	3.9
600	31	4,205	-14.7	-22.7	29	5.6
550	31	4,855	-19.0	-28.4	29	7.5
500	31	5,562	-24.0	-33.4	29	8.6
450	31	6,318	-29.9	-38.7	29	9.6
400	31	7,151	-36.3	-43.3	29	11.4
350	31	8,063	-43.6	-46.9	29	12.8
300	31	9,082	-51.0		29	14.9
250	31	10,254	-55.6		29	18.3
200	31	11,665	-58.1		29	20.1
175	31	12,506	-57.6		29	19.9
150	31	13,482	-56.4		28	19.3
125	31	14,637	-56.9		28	18.7
100	31	16,045	-58.4		28	16.1
80	31	17,444	-59.2		28	14.5
70	31	18,281	-59.3		28	11.8
60	29	19,248	-59.4		28	8.7
50	29	20,389	-59.5		28	6.8
40	25	21,789	-59.2		28	4.5
30	23	23,596	-57.8		30	3.3
25	21	24,748	-56.9		31	2.1
20	19	26,162	-55.8		32	2.6
15	17	28,012	-52.6		35	2.5

* GREAT FALLS, MONT. 889 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,118	-6.2	-11.1	23	4.4
1000	31	189				
950	31	597				
900	31	1,028				
850	31	1,474	-2.7	-11.4	25	5.8
800	31	1,953	-4.6	-12.2	28	5.2
750	31	2,461	-7.2	-14.9	30	5.7
700	31	2,994	-10.6	-17.2	30	7.6
650	31	3,560	-13.6	-21.7	31	9.2
600	31	4,165	-17.0	-27.0	31	9.7
550	31	4,812	-21.1	-31.1	32	9.9
500	31	5,510	-25.9	-35.3	32	11.3
450	30	6,262	-31.4	-39.9	32	12.3
400	30	7,089	-37.6	-43.9	32	13.1
350	30	7,995	-44.7	-44.7	33	15.0
300	30	9,026	-52.3		32	15.6
250	30	10,168	-58.5		32	17.8
200	29	11,561	-60.7		31	16.8
175	28	12,397	-58.0		31	14.1
150	26	13,373	-55.8		30	11.3
125	26	14,534	-55.8		30	10.0
100	25	15,954	-55.1		30	8.8
80	25	17,378	-55.7		30	7.3
70	25	18,227	-56.2		31	6.9
60	25	19,207	-56.1		31	5.7
50	25	20,366	-55.9		32	4.6
40	24	21,790	-55.8		36	3.0
30	24	23,622	-55.7		04	4.0
25	23	24,786	-55.5		05	4.5
20	23	26,211	-54.6		05	5.3
15	21	28,068	-52.1		06	6.9
10	19	30,718	-48.2		06	7.2
7	7	33,091	-43.4			

GREEN BAY, WIS. 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	210	-7.8	-11.0	32	2.2
1000	31	134				
950	31	537	-5.4	-10.9	34	3.8
900	31	958	-6.7	-14.6	34	4.6
850	31	1,404	-8.3	-17.1	32	5.4
800	31	1,873	-9.9	-20.9	31	6.2
750	31	2,365	-12.1	-23.1	31	7.2
700	31	2,894	-14.4	-25.5	30	8.4
650	31	3,450	-17.2	-29.2	30	9.5
600	31	4,049	-20.4	-31.5	30	11.2
550	31	4,683	-24.2	-34.7	30	12.1
500	31	5,377	-28.5	-38.4	30	12.7
450	31	6,118	-33.7	-42.9	30	14.2
400	31	6,940	-39.6	-45.3	30	15.4
350	31	7,841	-46.1		30	15.6
300	31	8,852	-52.6		29	17.0
250	31	10,016	-56.9		29	16.9
200	31	11,433	-54.7		28	17.2
175	31	12,290	-53.5		28	17.4
150	31	13,283	-53.0		28	16.9
125	31	14,458	-53.3		28	15.9
100	31	15,892	-53.9		28	14.6
80	30	17,324	-54.5		28	12.7
70	30	18,178	-55.1		28	11.6
60	30	19,161	-55.5		28	10.5
50	29	20,323	-55.6		28	8.5
40	29	21,746	-55.3		29	5.5
30	28	23,584	-55.0		31	3.6
25	27	24,751	-54.4		33	2.8
20	27	26,183	-53.6		36	2.2
15	24	28,036	-51.7		01	3.6
10	22	30,692	-46.3		36	3.2
7	12	33,079	-43.2			
5	5	35,370	-42.4			

GREENSBORO, N. C. 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	273	1.5	-3.2	31	1.4
1000	31	131				
950	31	547	3.3	-6.5	32	4.2
900	31	983	1.0	-9.1	32	5.6
850	31	1,441	-1.5	-11.4	30	7.3
800	31	1,923	-2.7	-14.9	29	8.4
750	31	2,433	-4.4	-18.0	28	11.1
700	31	2,974	-7.1	-20.8	27	13.9
650	31	3,549	-10.0	-23.3	28	16.1
600	31	4,163	-13.1	-26.5	27	19.0
550	31	4,817	-17.4	-30.4	28	22.1
500	31	5,528	-22.0	-34.0	27	25.1
450	31	6,292	-27.4	-40.2	27	27.6
400	31	7,133	-33.7	-45.5	27	31.9
350	31	8,057	-39.8	-48.3	27	36.8
300	31	9,096	-46.1		27	39.8
250	31	10,293	-51.3		27	44.7
200	31	11,731	-54.0		27	44.5
175	31	12,587	-54.2		27	43.7
150	31	13,573	-55.2		27	39.9
125	31	14,733	-56.8		27	33.6
100	31	16,140	-59.2		26	27.6
80	30	17,536	-60.5		26	25.0
70	30	18,367	-60.5		27	20.7
60	30	19,329	-60.0		27	16.2
50	30	20,470	-59.2		27	12.5
40	30	21,872	-58.4		27	11.3
30	30	23,688	-56.9		28	8.1
25	30	24,844	-56.6		28	6.5
20	29	26,263	-54.6		27	8.1
15	28	28,127	-50.6		28	6.6
10	24	30,808	-43.0		27	13.4
7	15	33,249	-36.4			

* GUAM, MARIANA IS. 100[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	111	24.2	21.3	08	4.4
1000	31	117			08	4.8
950	31	54[illegible]	21.4	18.8	08	[illegible]
900	31	1,033	18.8	14.2	08	[illegible]
850	31	1,523	16.2	8.[illegible]	08	9.3
800	31	[illegible]	14.8	.2	08	7.5
750	31	[illegible]	13.9	-7.2	09	[illegible]
700	31	[illegible]	12.2	-11.3	09	6.2
650	31	3,777	9.3	-14.6	08	5.0
600	31	4,435	5.3	-17.4	09	4.8
550	31	5,135	.6	-20.9	09	4.4
500	31	5,896	-4.3	-25.1	10	4.4
450	31	6,713	-9.9	-29.6	10	3.6
400	31	7,615	-15.7	-34.9	13	2.8
350	31	8,609	-22.4	-40.4	08	.2
300	30	9,723	-30.7	-46.9	28	3.3
250	29	10,987	-41.0	-53.7	27	5.1
200	29	[illegible]	-53.0		26	7.5
175	25	13,310	-59.8		25	7.3
150	26	14,258	-67.1		25	7.2
125	26	15,335	-75.3		27	5.3
100	26	16,604	-82.0		27	1.6
80	25	17,845	-83.9		10	3.7
70	23	18,590	-80.3		10	4.7
60	22	19,479	-72.8		10	7.1
50	22	20,569	-66.1		10	10.7
40	22	21,935	-63.0		10	12.1
30	22	23,730	-57.4		10	3.4
25	20	24,903	-52.9		25	2.8
20	19	26,354	-49.2		27	[illegible]
15	19	28,256	-46.0		29	13.3
10	17	30,993	-42.3		27	14.3
7	16	33,429	-36.6		27	12.9
5	[illegible]	35,798	-30.7			

HILO, HAWAII 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	19.6	17.5	28	1.6
1000	31	158	20.0	17.2	19	.6
950	31	597	17.0	15.2	08	3.3
900	31	1,060	13.8	12.2	08	4.3
850	31	1,541	10.9	9.2	07	3.0
800	31	2,044	7.9	4.0	08	2.0
750	31	2,580	7.0	-4.0	07	1.2
700	31	3,142	4.7	-12.3	05	1.1
650	31	3,738	1.5	-14.8	36	.3
600	31	4,383	-2.2	-19.2	29	2.0
550	31	5,061	-6.4	-23.8	29	4.3
500	31	5,808	-11.7	-29.0	28	6.7
450	31	6,598	-17.6	-34.1	28	8.9
400	31	7,477	-24.1	-39.0	28	13.5
350	30	8,437	-30.7	-44.3	28	19.1
300	30	9,518	-36.9	-48.4	28	27.0
250	30	10,760	-44.4	-52.2	27	35.8
200	30	12,226	-53.6		27	39.5
175	30	13,075	-58.5		28	39.4
150	30	14,032	-64.0		28	36.7
125	30	15,134	-69.2		28	28.3
100	29	16,458	-72.8		27	19.5
80	29	17,761	-73.9		27	11.1
70	29	18,545	-71.2		26	7.1
60	29	19,467	-67.2		25	3.6
50	29	20,577	-63.6		20	.6
40	28	21,954	-62.2		05	1.1
30	28	23,745	-58.9		03	2.4
25	24	24,891	-55.5		31	2.3
20	19	26,338	-50.6		28	4.0
15	17	28,239	-45.7		27	9.1
10	11	30,957	-40.9			

HUNTINGTON, W. VA. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	-1.6	-5.2	27	1.2
1000	31	142				
950	31	553	.9	-6.4	29	3.1
900	31	987	-2.0	-8.4	29	4.8
850	31	1,439	-4.5	-11.9	28	6.3
800	31	1,915	-6.5	-14.1	28	8.3
750	31	2,416	-8.3	-17.6	28	10.5
700	31	2,952	-10.4	-21.5	28	12.6
650	31	3,517	-13.0	-24.7	28	14.6
600	31	4,127	-16.2	-28.9	28	16.0
550	31	4,773	-20.1	-32.2	28	17.7
500	31	5,478	-24.3	-36.6	28	20.9
450	31	6,231	-29.9	-42.0	28	24.8
400	31	7,067	-36.0	-46.9	27	27.3
350	31	7,981	-42.6	-50.2	27	30.8
300	31	9,008	-48.2		27	36.6
250	31	10,197	-52.1		27	40.0
200	31	11,634	-53.4		27	40.3
175	31	12,494	-53.0		27	39.2
150	31	13,487	-53.5		27	34.9
125	31	14,657	-54.9		27	32.3
100	31	16,078	-56.7		27	26.7
80	31	17,490	-57.3		27	22.0
70	31	18,335	-57.5		27	19.6
60	31	19,307	-57.7		27	16.6
50	31	20,460	-57.3		27	12.6
40	30	21,872	-57.4		28	8.8
30	30	23,695	-56.0		28	7.4
25	30	24,840	-55.5		29	6.5
20	27	26,288	-54.0		28	6.7
15	19	28,142	-50.8		29	4.7
10	12	30,641	-44.3		27	6.9

* INTERNATIONAL FALLS, MINN. 974 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	360	-11.4	-16.9	34	1.3
1000	31	158				
950	31	553	-9.3	-13.5	34	2.5
900	31	970	-9.9	-14.7	33	3.5
850	31	1,410	-11.1	-16.7	32	4.7
800	31	1,875	-12.1	-19.9	32	5.9
750	31	2,363	-13.5	-23.5	32	6.7
700	31	2,890	-16.0	-26.1	32	7.5
650	31	3,441	-18.5	-28.4	32	8.4
600	31	4,038	-21.9	-31.0	31	10.1
550	31	4,668	-25.6	-35.4	31	11.8
500	31	5,359	-30.0	-39.3	31	12.8
450	31	6,095	-35.1	-43.0	31	14.4
400	31	6,915	-40.6	-45.6	30	16.2
350	31	7,812	-46.7		30	16.4
300	31	8,820	-53.2		30	16.6
250	31	9,982	-57.4		30	15.2
200	31	11,394	-55.7		30	13.5
175	31	12,248	-53.9		30	12.9
150	31	13,240	-53.0		30	12.0
125	31	14,415	-53.1		30	11.4
100	31	15,851	-53.6		30	10.9
80	31	17,284	-54.1		29	9.3
70	31	18,140	-54.1		29	8.7
60	31	19,129	-54.1		30	7.2
50	31	20,299	-54.1		31	6.3
40	31	21,731	-54.1		32	4.0
30	31	23,574	-54.6		34	3.7
25	31	24,741	-54.3		01	3.3
20	31	26,175	-53.3		02	3.2
15	29	28,032	-51.4		03	4.7
10	27	30,687	-47.8		04	5.2
7	23	33,056	-44.4		03	6.0
5	13	35,276	-41.9		33	6.2
4	8	36,793	-39.3			

JACKSON, MISS. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	100	5.5	2.3	07	.8
1000	31	146			04	1.4
950	31	568	6.4	-.4	01	.8
900	31	1,010	4.6	-2.6	28	4.1
850	31	1,475	3.2	-5.1	28	6.5
800	31	1,966	1.5	-8.0	29	9.8
750	31	2,477	-.7	-10.8	29	11.9
700	31	3,033	-3.3	-14.5	28	13.9
650	31	3,612	-6.1	-18.6	27	16.8
600	31	4,239	-9.5	-22.9	27	19.8
550	31	4,901	-13.5	-26.4	26	23.3
500	31	5,626	-18.5	-30.3	26	25.5
450	31	6,396	-24.0	-35.1	26	29.7
400	31	7,256	-29.7	-40.9	26	34.6
350	31	8,195	-36.0	-45.2	26	41.0
300	31	9,251	-43.0	-48.3	26	47.9
250	31	10,459	-50.5		26	55.4
200	31	11,894	-56.1		26	57.8
175	31	12,740	-57.6		26	55.6
150	31	13,710	-59.0		26	47.7
125	31	14,848	-60.9		27	42.3
100	31	16,228	-63.3		26	33.8
80	31	17,592	-64.8		26	25.9
70	31	18,408	-64.3		27	20.6
60	30	19,356	-63.5		27	15.0
50	30	20,480	-61.0		27	12.7
40	29	21,875	-59.3		27	11.2
30	29	23,683	-57.7		27	9.6
25	29	24,836	-56.6		27	9.7
20	26	26,258	-54.9		27	10.0
15	21	28,122	-50.3		27	9.3
10	19	30,818	-41.6		27	16.0
7	7	33,258	-35.1			

JACKSONVILLE, FLA. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	8.1	5.9	30	2.2
1000	31	143	10.2	4.3	31	2.7
950	31	565	9.0	1.5	31	3.4
900	31	1,015	6.9	-1.5	29	5.0
850	31	1,483	5.7	-5.5	27	7.3
800	31	1,978	4.4	-10.0	27	9.6
750	31	2,498	2.7	-13.4	27	13.7
700	31	3,049	.5	-16.3	27	17.2
650	31	3,642	-3.0	-18.0	27	19.4
600	31	4,281	-6.8	-20.8	27	22.5
550	31	4,942	-10.9	-24.7	27	26.1
500	31	5,683	-15.6	-27.8	27	29.4
450	30	6,459	-20.8	-32.2	27	34.9
400	30	7,332	-26.4	-37.2	27	40.7
350	30	8,286	-32.2	-42.8	27	44.9
300	30	9,357	-39.7	-46.2	27	48.9
250	30	10,582	-47.8		27	54.6
200	30	12,030	-54.8		27	58.8
175	30	12,879	-57.5		27	57.4
150	30	13,847	-60.0		27	52.2
125	30	14,978	-62.4		27	42.5
100	29	16,342	-66.0		27	35.7
80	29	17,693	-66.5		26	24.7
70	29	18,503	-65.6		27	19.9
60	29	19,444	-64.2		27	14.2
50	29	20,567	-61.1		27	12.3
40	27	21,961	-60.3		27	13.1
30	26	23,765	-57.6		29	9.[illegible]
25	25	24,922	-56.2		29	8.9
20	24	26,347	-53.9		27	9.9
15	21	28,219	-48.7		27	13.9
10	16	30,926	-40.5			
7	5	33,424	-33.5			

JOHN F. KENNEDY INT. AP NY 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	.8	-6.1	30	3.7
1000	31	106			30	5.4
950	31	517	-1.6	-8.0	31	6.9
900	31	947	-3.4	-10.1	32	7.7
850	31	1,397	-5.2	-12.5	32	7.6
800	31	1,872	-6.9	-15.0	30	8.2
750	31	2,372	-9.1	-16.4	28	10.7
700	31	2,905	-11.2	-18.4	28	13.0
650	31	3,470	-14.0	-22.2	28	14.8
600	31	4,075	-17.2	-25.4	28	16.0
550	31	4,719	-21.0	-31.1	28	17.1
500	31	5,421	-25.5	-35.9	28	18.6
450	31	6,172	-30.6	-40.6	27	20.2
400	31	7,005	-36.7	-45.3	27	21.2
350	31	7,917	-43.0	-45.3	27	26.0
300	31	8,942	-49.3		27	32.0
250	31	10,126	-52.9		27	35.7
200	31	11,566	-51.9		27	32.9
175	30	12,431	-51.7		27	32.8
150	30	13,431	-52.1		27	29.9
125	28	14,611	-53.6		27	28.2
100	28	16,041	-55.2		26	24.2
80	28	17,461	-56.0		27	20.7
70	28	18,309	-56.8		27	18.0
60	28	19,286	-56.6		27	15.0
50	27	20,446	-56.5		27	10.0
40	27	21,861	-56.5		27	8.0
30	27	23,689	-56.1		27	4.0
25	26	24,848	-55.4		28	2.7
20	23	26,269	-54.0		34	.9
15	14	28,126	-50.5		32	.9
10	5	30,832	-44.4			

JOHNSTON IS., PACIFIC AREA 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	24.2	20.0	07	7.9
1000	31	136	23.1	19.3	07	9.0
950	31	584	19.4	17.5	08	10.3
900	31	1,046	16.4	13.6	08	10.4
850	31	1,532	13.6	9.5	08	9.3
800	31	2,041	11.1	3.6	08	7.9
750	31	2,581	9.4	-5.4	07	5.9
700	31	3,149	7.3	-13.3	06	3.9
650	31	3,752	4.5	-18.3	04	1.5
600	31	4,404	1.3	-21.7	35	2.1
550	31	5,092	-3.1	-24.9	32	5.0
500	31	5,846	-7.9	-28.3	31	8.0
450	31	6,650	-13.1	-32.6	31	10.7
400	31	7,545	-19.1	-37.2	30	14.8
350	31	8,526	-25.8	-42.4	29	18.7
300	31	9,624	-33.8	-49.3	28	24.6
250	31	10,880	-42.2		28	30.4
200	31	12,355	-52.7		27	33.4
175	31	13,205	-58.9		28	32.7
150	31	14,156	-65.5		28	30.7
125	31	15,246	-72.5		28	26.1
100	31	16,540	-77.4		29	17.3
80	30	17,813	-78.5		30	6.6
70	29	18,578	-75.6		30	3.1
60	29	19,483	-69.2		03	.4
50	29	20,586	-64.7		11	4.7
40	29	21,957	-61.6		09	6.8
30	2[illegible]	23,754	-57.3		09	2.8
25	27	24,914	-54.0		27	2.9
20	26	26,385	-49.8		27	6.0
15	23	28,261	-45.3		26	9.7
10	21	30,965	-41.0		27	11.6
7	10	33,409	-37.8			

KEY WEST, FLA. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	3	18.9	15.5	02	1.8
1000	26	131	18.7	14.6	04	2.6
950	26	568	16.0	12.1	12	1.2
900	26	1,030	14.3	7.2	23	2.4
850	26	1,513	13.6	-.4	24	5.5
800	26	2,022	12.0	-1.8	25	7.2
750	26	2,559	9.4	-6.1	25	9.3
700	26	3,129	6.3	-9.8	26	12.4
650	26	3,729	3.2	-13.3	26	15.5
600	26	4,378	-.3	-16.6	26	18.2
550	26	5,065	-4.5	-19.4	26	21.3
500	26	5,814	-9.1	-23.0	26	24.1
450	26	6,617	-14.4	-26.4	26	26.9
400	26	7,505	-20.5	-33.3	26	30.6
350	26	8,480	-27.3	-41.8	26	34.4
300	26	9,571	-35.7	-49.6	26	36.9
250	26	10,814	-45.1		26	41.5
200	26	12,268	-55.8		26	44.2
175	26	13,108	-60.9		27	47.4
150	26	14,055	-65.7		27	41.2
125	26	15,153	-69.0		26	34.9
100	26	16,477	-72.4		26	26.6
80	26	17,781	-73.1		27	16.9
70	26	18,565	-71.6		27	12.4
60	26	19,483	-67.1		26	7.8
50	25	20,593	-63.1		28	6.3
40	25	21,977	-59.9		29	4.8
30	25	23,785	-57.5		30	4.8
25	24	24,944	-55.6		30	4.3
20	24	26,377	-52.2		28	6.6
15	23	28,257	-47.7		26	11.4
10	20	30,973	-41.4		26	20.7
7	9	33,402	-37.1			

KING SALMON, ALASKA 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	-3.8	-8.0	11	1.5
1000	31	50			11	1.7
950	31	455	-3.1	-7.3	13	3.9
900	31	884	-5.2	-9.4	15	4.4
850	31	1,331	-7.8	-12.0	16	4.7
800	31	1,801	-10.2	-14.6	17	5.0
750	31	2,295	-12.8	-18.0	18	4.5
700	31	2,820	-15.7	-20.7	18	4.1
650	31	3,373	-19.0	-24.1	19	3.8
600	31	3,967	-22.9	-28.3	20	4.2
550	31	4,595	-26.8	-32.1	20	4.7
500	31	5,283	-31.2	-37.4	21	5.3
450	31	6,018	-36.3	-42.2	21	5.9
400	31	6,831	-42.1	-43.6	21	6.9
350	31	7,723	-48.1		22	7.8
300	31	8,728	-52.4		23	9.5
250	30	9,900	-52.6		23	9.8
200	30	11,351	-49.8		23	9.1
175	30	12,226	-49.0		23	9.3
150	30	13,239	-48.8		24	9.0
125	30	14,436	-49.0		23	8.2
100	30	15,900	-49.1		24	7.9
80	30	17,362	-49.8		24	6.4
70	30	18,235	-50.2		25	6.0
60	30	19,241	-50.6		25	4.2
50	30	20,429	-50.9		24	2.7
40	30	21,881	-51.1		25	.8
30	29	23,754	-50.2		06	1.5
25	29	24,949	-48.8		07	2.9
20	28	26,421	-46.8		06	5.9
15	25	28,342	-43.7		07	9.4
10	12	31,075	-40.6			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

KOROR, CAROLINE IS. 1006 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	30	30	27.8	23.9	07	4.0
1000	30	105	26.8	22.6	07	5.3
950	30	558	23.0	19.0	07	9.5
900	30	1,028	19.9	15.4	07	9.2
850	30	1,520	17.5	10.4	08	8.0
800	30	2,037	15.9	5.3	08	5.8
750	30	2,584	13.8	1.5	08	5.1
700	30	3,163	11.1	-4.0	09	4.9
650	30	3,779	7.7	-8.6	09	5.9
600	30	4,433	4.1	-12.3	09	7.1
550	30	5,131	.2	-17.3	09	7.7
500	30	5,893	-4.4	-21.5	10	7.4
450	30	6,714	-9.0	-25.9	10	8.1
400	30	7,619	-14.6	-30.9	10	7.8
350	30	8,617	-21.1	-37.5	10	7.2
300	30	9,736	-29.5	-45.4	10	5.6
250	30	11,0[illegible]9	-40.0	-53.9	12	6.0
200	30	12,492	-52.3		14	7.8
175	30	13,341	-59.2		13	7.3
150	30	14,290	-66.4		11	6.3
125	30	15,372	-74.3		08	3.9
100	30	16,645	-81.6		08	5.3
80	30	17,88[illegible]	-83.1		09	6.6
70	30	18,642	-76.6		08	5.4
60	30	19,543	-71.1		09	7.6
50	30	20,635	-66.2		09	14.3
40	30	22,010	-59.2		10	13.1
30	29	23,851	-51.7		27	4.0
25	28	25,042	-49.6		27	10.6
20	28	26,512	-46.8		27	14.8
15	28	28,427	-44.5		27	17.2
10	25	31,166	-39.4		27	19.2
7	1[illegible]	33,570	-37.0		27	12.8
5						

KOTZEBUE, ALASKA 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	5	-18.4	-24.8	06	2.4
1000	31	118	-15.6	-22.3	08	3.2
950	31	506	-14.6	-20.3	10	4.5
900	31	916	-14.4	-19.6	11	3.5
850	31	1,349	-14.3	-20.0	13	2.8
800	31	1,807	-16.0	-22.8	13	2.8
750	31	2,291	-18.3	-26.0	16	2.7
700	31	2,804	-21.0	-29.6	19	2.2
650	31	3,347	-23.8	-31.9	21	3.0
600	31	3,929	-27.5	-35.4	22	3.5
550	31	4,545	-31.5	-38.9	22	5.4
500	31	5,219	-35.5	-42.2	22	7.2
450	31	5,946	-40.3	-45.3	23	9.1
400	31	6,741	-45.3		23	10.5
350	31	7,621	-50.5		23	11.2
300	31	8,617	-54.3		23	11.6
250	31	9,783	-54.1		22	11.1
200	31	11,228	-50.5		23	8.5
175	31	12,100	-49.9		23	8.9
150	30	13,105	-49.5		24	9.2
125	30	14,301	-49.2		24	8.6
100	30	15,766	-48.8		24	8.6
80	30	17,234	-48.4		28	9.5
70	30	18,113	-48.6		26	8.8
60	30	19,126	-49.0		26	9.2
50	29	20,322	-49.1		26	8.1
40	29	21,787	-48.8		27	7.6
30	28	23,683	-47.8		27	6.1
25	27	24,885	-46.7		28	5.7
20	23	26,380	-43.8		29	4.8
15	23	28,327	-40.5		28	5.1
10	18	31,135	-35.4		32	6.4

KWAJALEIN, MARSHALL IS. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	4	26.8	2[illegible].5	07	8.4
1000	31	1[illegible]1	25.9	21.[illegible]	07	9.5
950	31	5[illegible]	22.1	19.0	07	11.6
900	31	1,0[illegible]	19.4	14.6	07	11.4
850	31	1,512	17.2	10.8	09	9.1
800	31	2,028	15.3	6.2	08	6.6
750	31	2,574	13.4	-.6	09	4.5
700	31	3,152	10.8	-8.7	09	3.6
650	31	3,766	7.5	-11.3	09	3.8
600	31	4,421	4.1	-15.2	09	6.1
550	31	5,125	.6	-21.1	08	8.7
500	31	5,863	-3.9	-25.1	07	9.3
450	31	6,706	-9.2	-29.4	07	9.4
400	31	7,608	-14.8	-32.2	04	7.6
350	31	8,6[illegible]5	-21.5	-37.1	07	6.0
300	31	9,722	-30.0	-43.5	11	2.3
250	31	10,993	-40.4	-52.0	13	3.4
200	31	12,473	-52.8	-63.1	20	5.7
175	31	13,322	-59.6	-69.5	20	5.6
150	31	14,266	-67.6		21	4.3
125	31	15,343	-76.0		29	.9
100	31	16,605	-83.3		04	3.6
80	2[illegible]	17,646	-82.9		07	[illegible].9
70	2[illegible]	18,599	-77.4		09	4.9
60	20	19,494	-72.2		09	7.4
50	2[illegible]	20,564	-66.6		09	15.0
40	20	21,952	-60.9		09	12.6
30	2[illegible]	23,778	-52.4		26	6.1
25	19	24,963	-50.4		27	11.6
20	18	26,432	-47.3		27	13.1
15	14	28,332	-44.1		27	15.6
10	12	31,081	-40.2		27	15.9
7	9	33,505	-38.2			

LAKE CHARLES, LA. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	5	8.1	5.9	04	1.3
1000	31	138	9.3	4.5	05	2.7
950	31	5[illegible]	8.8	1.9	04	1.0
900	31	1,011	7.9	-2.7	28	2.1
850	31	1,482	6.7	-6.5	28	4.9
800	31	1,975	4.7	-9.3	27	7.5
750	31	2,501	2.0	-12.1	27	10.3
700	31	3,065	-.8	-16.0	27	12.6
650	31	3,642	-3.9	-18.8	27	16.3
600	31	4,273	-7.6	-23.0	26	19.9
550	31	4,940	-11.8	-27.6	26	21.7
500	31	5,6[illegible]	-16.5	-31.8	26	25.3
450	31	6,451	-21.5	-35.[illegible]	26	30.[illegible]
400	31	7,313	-27.2	-39.6	26	34.[illegible]
350	31	8,2[illegible]	-33.5	-4[illegible]	26	41.2
300	31	9,327	-40.6	-4[illegible]	26	46.2
250	31	10,546	-48.9		26	49.2
200	31	11,981	-56.9		26	5[illegible]
175	31	12,824	-58.6		26	5[illegible]
150	31	13,767	-60.9		26	48.1
125	31	14,915	-63.0		26	37.6
100	31	16,281	-65.1		26	31.5
80	31	17,634	-66.6		26	22.8
70	31	18,442	-66.3		26	18.7
60	2[illegible]	19,375	-64.7		26	17.3
50	2[illegible]	20,497	-61.6		26	11.7
40	28	21,889	-58.9		26	9.9
30	28	23,701	-57.4		27	11.2
25	2[illegible]	24,857	-56.3		27	8.9
20	27	26,282	-54.3		27	10.0
15	2[illegible]	28,143	-50.3		27	12.4
10	25	30,840	-42.2		27	18.0
7	1[illegible]	33,280	-35.2		27	25.2
5	6	35,573	-30.6			

LANDER, WYO. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	[illegible]	-5.7	[illegible]	[illegible]	1.1
1000	31	[illegible]				
950	31	[illegible]				
900	31	1,027				
850	31	1,485				
800	31	1,964	-3.7	-1[illegible]	[illegible]	[illegible]
750	31	2,466	-6.1	-15.0	32	3.6
700	31	3,009	-9.4	-18.0	32	5.8
650	31	3,572	-12.8	-21.4	32	7.3
600	31	4,186	-16.2	-25.8	32	8.2
550	31	4,830	-20.5	-31.1	32	[illegible]
500	31	5,535	-25.5	[illegible]	32	[illegible]
450	31	6,285	-31.3	-40.7	32	10.7
400	31	7,116	-37.9	-45.1	31	10.9
350	31	8,022	-45.0	-47.6	31	11.7
300	31	9,035	-52.0		31	13.2
250	31	10,201	-57.3		31	17.1
200	31	11,603	-58.7		30	[illegible]
175	31	12,443	-57.8		30	16.4
150	31	13,417	-56.7		29	[illegible]
125	31	14,576	-55.9		29	[illegible]
100	31	15,992	-57.1		29	12.5
80	31	17,403	-57.5		29	10.5
70	31	18,245	-58.0		2[illegible]	9.4
60	31	19,217	-57.6		29	7.4
50	31	20,368	-57.8		30	5.1
40	31	21,775	-58.1		30	3.5
30	31	23,591	-57.4		34	2.2
25	31	24,745	-56.6		34	2.2
20	29	26,165	-55.2		03	2.8
15	23	28,023	-53.0		04	2.7
10	13	30,661	-49.1		33	4.[illegible]
7	[illegible]	[illegible]	-42.1			

LIHUE KAUAI, HAWAII 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	36	19.6	16.7	05	4.2
1000	31	168	20.4	15.8	05	6.2
950	31	604	16.9	14.6	06	7.9
900	31	1,069	13.6	11.4	06	7.0
850	31	1,549	10.5	8.1	06	5.7
800	31	2,052	8.3	-1.3	08	3.5
750	31	2,583	7.6	-11.5	07	2.1
700	31	3,150	5.0	-17.3	02	.9
650	31	3,749	1.9	-20.2	32	1.4
600	31	4,392	-2.3	-23.8	31	2.1
550	31	5,071	-6.8	-27.6	30	3.7
500	31	5,815	-11.9	-31.1	29	6.0
450	31	6,605	-18.0	-35.9	28	8.5
400	31	7,482	-24.9	-41.0	28	10.5
350	31	8,438	-31.8	-46.1	28	15.6
300	31	9,513	-38.7	-51.9	29	22.5
250	31	10,744	-45.9	-55.3	28	30.2
200	31	12,203	-54.0		28	36.5
175	31	13,052	-58.0		28	37.7
150	31	14,013	-62.5		28	36.9
125	31	15,124	-67.6		28	31.3
100	31	16,455	-71.2		28	22.3
80	31	17,767	-72.5		28	13.3
70	31	18,554	-70.8		27	9.0
60	31	19,475	-67.3		26	6.1
50	30	20,587	-63.3		26	5.2
40	30	21,963	-61.8		27	4.1
30	30	23,751	-59.5		28	3.0
25	29	24,898	-57.2		28	3.5
20	29	26,321	-53.3		27	5.5
15	29	28,194	-48.6		27	8.2
10	29	30,897	-42.6		26	12.3
7	25	33,323	-38.2		26	15.7
5	13	35,635	-33.8		26	17.5

LITTLE ROCK, ARK. 1009 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	79	4.0	-.6	34	1.1
1000	31	147			35	2.0
950	31	563	3.8	-4.8	36	1.6
900	31	1,003	1.8	-5.5	30	2.4
850	31	1,463	.4	-7.5	29	5.8
800	31	1,948	-1.4	-11.2	28	8.2
750	31	2,458	-3.2	-14.7	28	9.5
700	31	3,004	-6.1	-17.8	28	11.8
650	31	3,572	-9.3	-22.0	28	13.6
600	31	4,196	-12.9	-26.3	28	17.3
550	31	4,846	-17.0	-31.0	27	19.6
500	31	5,564	-21.9	-34.6	27	24.0
450	31	6,324	-26.9	-39.3	27	27.9
400	31	7,173	-32.8	-44.8	27	31.6
350	31	8,101	-39.0	-49.6	27	37.0
300	31	9,143	-45.6		26	43.2
250	31	10,340	-52.3		27	48.7
200	31	11,770	-56.0		27	52.5
175	31	12,619	-56.0		27	49.5
150	31	13,598	-56.9		27	43.6
125	29	14,740	-58.8		27	38.3
100	28	16,131	-60.5		27	30.4
80	28	17,517	-61.6		27	22.8
70	28	18,345	-61.4		27	19.4
60	27	19,302	-61.0		27	15.0
50	27	20,438	-60.1		27	12.4
40	27	21,835	-58.7		27	10.7
30	26	23,651	-57.4		27	9.8
25	25	24,804	-56.7		27	9.1
20	25	26,225	-54.7		27	8.5
15	24	28,076	-51.4		27	8.9
10	21	30,748	-43.9		27	11.0
7	8	33,122	-39.9			

MCGRATH, ALASKA [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	30	103	-11.8	-16.6	10	.6
1000	30	[illegible]9			05	.6
950	30	489	-8.1	-13.8	09	3.2
900	30	967	-8.3	-13.7	13	2.7
850	30	1,350	-9.6	-15.6	17	3.4
800	30	1,816	-11.9	-17.7	19	3.3
750	30	2,303	-14.9	-20.5	20	4.2
700	30	2,827	-17.8	-23.4	21	4.2
650	30	3,374	-21.1	-25.7	21	5.1
600	30	3,964	-24.8	-29.3	21	5.7
550	30	4,588	-28.8	-32.4	21	5.5
500	30	5,268	-33.2	-37.6	22	5.0
450	30	5,995	-38.0	-41.0	23	5.2
400	30	6,803	-43.4	-45.1	23	6.8
350	30	7,690	-49.3		23	7.4
300	30	8,688	-54.3		22	8.6
250	30	9,852	-54.9		23	9.7
200	30	11,292	-50.9		24	9.3
175	30	12,163	-49.9		24	9.9
150	30	13,172	-49.2		24	9.5
125	30	14,367	-49.7		25	9.5
100	30	15,828	-49.1		25	8.6
80	30	17,291	-49.5		26	8.4
70	29	18,165	-49.5		28	8.2
60	29	19,174	-49.9		27	6.5
50	29	20,365	-50.4		27	5.4
40	29	21,821	-50.1		28	4.2
30	29	23,703	-49.3		30	3.0
25	29	24,901	-48.3		33	1.9
20	28	26,374	-46.4		35	3.6
15	26	28,306	-42.8		04	6.0
10	13	31,061	-38.7			

MAJURO, MARSHALL IS. 1011 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	3	28.3	24.7	06	6.8
1000	31	100	26.8	22.0	06	7.8
950	31	551	23.1	18.5	07	12.0
900	31	1,023	20.3	15.2	07	11.4
850	31	1,516	17.9	11.7	09	10.7
800	31	2,034	16.0	7.7	08	7.9
750	31	2,585	13.6	2.5	09	5.9
700	31	3,161	10.9	-1.6	09	3.7
650	31	3,780	7.7	-4.6	10	3.2
600	31	4,432	4.4	-9.6	10	4.6
550	31	5,131	1.1	-14.5	09	5.8
500	31	5,899	-3.1	-19.5	07	5.4
450	31	6,715	-8.3	-25.2	07	6.7
400	31	7,631	-14.1	-30.4	07	4.9
350	31	8,632	-20.5	-36.2	08	2.6
300	31	9,755	-28.6	-43.3	18	1.9
250	31	11,034	-38.6	-52.1	21	4.4
200	31	12,528	-50.6		21	5.7
175	30	13,381	-58.0		22	4.7
150	30	14,334	-65.8		22	3.3
125	30	15,420	-73.6		34	2.6
100	30	16,700	-80.5		04	4.1
80	29	17,947	-81.9		08	5.9
70	29	18,706	-75.7		10	6.5
60	29	19,608	-71.4		09	7.7
50	29	20,702	-65.3		09	14.0
40	28	22,080	-58.1		10	11.3
30	26	23,927	-51.2		28	3.1
25	25	25,119	-49.1		27	9.1
20	25	26,594	-45.8		27	16.2
15	24	28,527	-42.3		27	17.1
10	17	31,3[illegible]	-37.0		27	19.4
7	6	33,817	-31.4			

MEDFORD, ORE. 97[illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	401	2.0	-[illegible].5	14	.2
1000	31	1[illegible]2				
950	31	5[illegible]3	4.9	-1.8	27	.2
900	31	1,040	4.5	-4.4	[illegible]	1.[illegible]
850	31	1,504	2.2	-7.7	22	1.1
800	31	1,9[illegible]2	-.4	-11.8	24	2.0
750	31	2,503	-3.6	-15.5	25	2.8
700	31	3,047	-6.7	-19.4	27	3.2
650	31	3,618	[illegible]	-23.6	28	3.7
600	31	4,234	-13.6	-27.0	29	5.0
550	31	4,887	-17.8	-31.7	29	6.9
500	31	5,595	-22.8	-35.6	29	7.4
450	31	6,354	-28.6	-40.8	30	8.8
400	31	7,192	-35.1	-44.6	30	[illegible]
350	31	8,110	-41.8	-49.[illegible]	31	12.3
300	31	9,137	-49.0		31	14.3
250	31	10,314	-56.0		31	16.8
200	31	11,712	-61.1		30	15.7
175	31	12,542	-60.2		29	14.2
150	31	13,509	-5[illegible]		29	15.7
125	31	14,660	-57.6		29	14.9
100	31	16,068	-57.6		29	12.9
80	31	17,476	-58.3		30	10.0
70	31	18,315	-58.7		30	8.4
60	31	19,253	-58.9		31	6.6
50	31	20,427	-58.8		32	4.4
40	31	21,832	-58.0		34	3.3
30	31	23,648	-57.3		01	2.1
25	29	24,804	-56.6		04	3.1
20	29	26,223	-55.4		08	4.1
15	2[illegible]	28,070	-52.6		06	5.5
10	20	30,719	-48.5		06	4.8
7	15	33,102	-44.3		06	5.4

MERIDA, MEXICO 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	11	20.3	18.4	06	2.1
1000	31	129	20.7	17.8	07	3.6
950	31	571	18.8	15.4	10	5.2
900	31	1,037	17.5	11.5	12	2.6
850	31	1,526	15.9	8.2	20	2.4
800	31	2,039	13.5	5.6	24	4.9
750	31	2,579	10.9	3.0	24	6.6
700	31	3,155	8.3	-3.2	24	8.1
650	31	3,765	5.3	-8.3	25	9.5
600	31	4,415	1.4	-11.6	26	10.8
550	31	5,105	-3.2	-16.2	26	13.0
500	31	5,859	-7.9	-20.5	26	14.4
450	31	6,667	-12.9	-27.1	25	18.8
400	31	7,562	-18.9	-33.9	25	21.0
350	31	8,543	-25.9	-40.1	25	23.3
300	31	9,642	-33.8	-47.8	26	26.[illegible]
250	31	10,895	-43.5			
200	31	12,359	-54.6			
175	30	13,201	-60.2			
150	29	14,149	-65.5			
125	29	15,243	-70.7			
100	27	16,551	-75.0			
80	27	17,840	-75.9			
70	26	18,617	-73.4			
60	25	19,533	-68.0			
50	25	20,642	-62.7			
40	24	22,029	-59.3			
30	23	23,841	-56.9			
25	2[illegible]	25,0[illegible]7	-53.8			
20	2[illegible]	26,455	-49.8			
15	2[illegible]	28,389	-45.3			
10	13	31,083	-40.0			
7	7	33,492	-36.7			

MIAMI, FLA. 1016 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	29	4	16.6	13.0	36	1.3
1000	29	139	16.8	11.9	01	1.6
950	29	574	14.7	9.2	34	.4
900	29	1,032	13.0	5.5	27	2.0
850	29	1,513	12.0	.9	26	4.5
800	29	2,019	10.5	-1.2	26	7.9
750	29	2,554	8.1	-4.1	27	10.1
700	29	3,172	5.4	-7.0	27	12.3
650	29	3,723	2.2	-9.8	27	16.1
600	29	4,368	-1.4	-13.6	27	20.3
550	29	5,052	-5.7	-17.0	27	23.9
500	28	5,799	-10.1	-20.4	27	27.2
450	28	6,601	-15.1	-24.4	27	30.7
400	28	7,486	-20.7	-30.4	27	33.0
350	28	8,461	-27.4	-37.9	27	35.4
300	28	9,553	-35.6	-45.8	27	37.3
250	28	10,797	-44.7		27	40.2
200	28	12,256	-54.8		27	43.2
175	28	13,101	-59.6		27	45.0
150	28	14,054	-64.3		27	40.8
125	28	15,160	-67.4		26	37.0
100	28	16,494	-70.8		26	27.1
80	28	17,809	-72.1		27	16.9
70	28	18,597	-70.7		26	12.6
60	29	19,519	-66.5		27	9.3
50	29	20,633	-62.7		27	5.0
40	27	22,016	-59.8		28	6.4
30	27	23,823	-57.5		30	5.7
25	26	24,983	-54.6		29	4.4
20	26	26,419	-51.8		28	7.8
15	23	28,310	-46.9		27	17.[illegible]
10	17	31,035	-40.0		27	19.7
7	6	33,461	-33.5			

MIDLAND, TEXAS 910 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	874	2.9	-2.1	04	.7
1000	31	153				
950	31	571				
900	31	1,014	4.5	-2.8	12	1.4
850	31	1,480	3.9	-4.8	21	2.5
800	31	1,972	2.6	-8.3	26	4.3
750	31	2,493	.4	-12.8	27	6.8
700	31	3,043	-2.6	-16.9	27	10.1
650	31	3,624	-6.6	-20.2	27	12.1
600	31	4,247	-11.0	-24.4	27	13.8
550	31	4,908	-15.3	-29.9	27	16.1
500	31	5,624	-19.9	-34.8	27	19.0
450	31	6,392	-25.4	-39.9	27	20.9
400	31	7,244	-30.6	-44.4	27	26.0
350	31	8,180	-37.0	-49.2	27	30.9
300	31	9,221	-43.8		27	35.7
250	31	10,437	-50.7		27	36.1
200	31	11,871	-56.3		27	31.5
175	31	12,717	-57.8		27	31.4
150	31	13,686	-58.9		27	32.1
125	31	14,827	-60.6		25	29.9
100	31	16,21[illegible]	-63.5		27	25.3
80	31	17,572	-64.5		26	22.4
70	31	18,391	-63.8		27	18.8
60	31	19,335	-63.8		27	13.2
50	31	20,459	-61.8		26	7.7
40	31	21,844	-6[illegible].2		26	7.8
30	2[illegible]	23,651	-58.3		27	[illegible]
25	2[illegible]	24,799	-56.9		27	7.2
20	2[illegible]	26,218	-55.3		28	6.3
15	2[illegible]	[illegible]	-51.0		28	8.8
10	2[illegible]	30,778	-42.3		27	1[illegible]
7	7	33,126	-37.8			

MONTERREY, MEXICO 94[illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	423	10.7	5.8	35	.9
1000	31	154				
950	31	583	11.7	5.0	07	1.2
900	31	1,035	10.4	2.6	12	1.6
850	31	1,511	9.5	-2.2	17	3.1
800	31	2,013	8.9	-6.2	23	4.1
750	31	2,549	7.1	-10.2	25	5.9
700	31	3,109	4.2	-13.3	26	9.3
650	31	3,707	.1	-16.6	26	12.9
600	31	4,345	-3.8	-20.9	26	16.5
550	31	5,022	-8.3	-22.9	26	20.2
500	31	5,761	-13.1	-27.4	26	24.[illegible]
450	31	6,5[illegible]	-17.9	-30.2	26	27.9
400	31	7,429	-23.6	-33.7	26	31.0
350	31	8,391	-30.3	-40.1	26	33.3
300	31	9,469	-38.5	-45.1	26	35.8
250	31	10,696	-47.3		26	38.1
200	31	12,141	-56.3		26	40.5
175	31	12,983	-59.5		26	42.9
150	3[illegible]	[illegible]	-62.9		26	41.7
125	3[illegible]	[illegible]	-66.2		26	34.3
100	3[illegible]	16,390	-69.7		26	27.3
80	29	17,712	-71.0		27	20.9
70	29	18,506	-69.5		26	18.0
60	27	19,435	-66.3		26	11.6
50	27	[illegible]	-63.1		26	6.7
40	25	21,933	-60.1		26	5.8
30	24	23,741	-57.6		26	6.7
25	23	[illegible]	-55.2		26	5.6
20	22	26,333	-51.6			
15	1[illegible]	[illegible]	-4[illegible]			
10	10	[illegible]	-3[illegible]			

MONTGOMERY, ALA. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	61	4.9	1.9	30	.7
1000	31	[illegible]	5.[illegible]	.2	34	2.4
950	31	570	5.6	-1.7	34	2.4
900	31	1,012	4.7	-4.2	29	4.2
850	31	1,477	3.2	-6.5	28	7.2
800	31	1,967	1.8	-10.5	28	10.7
750	31	2,485	.0	-14.1	28	13.4
700	31	3,0[illegible]	-2.3	-16.9	28	15.9
650	31	3,620	-5.1	-20.4	27	18.3
600	31	4,24[illegible]	-8.6	-23.3	27	21.8
550	31	4,914	-12.9	-27.5	27	24.8
500	31	5,637	-17.7	-31.1	27	27.9
450	31	6,416	-23.2	-35.2	26	31.8
400	30	7,276	-28.8	-39.8	26	37.4
350	30	8,219	-35.3	-44.9	26	43.1
300	30	9,276	-42.4	-45.9	26	51.1
250	3[illegible]	[illegible]	-50.2		26	5[illegible]
200	3[illegible]	[illegible]	-55.4		26	60.3
175	30	12,773	-5[illegible]		27	58.0
150	29	13,747	[illegible]		27	5[illegible]
125	29	14,885	[illegible]		27	45.3
100	29	16,263	[illegible]		26	37.9
80	[illegible]	[illegible]	-64.6		26	29.4
70	[illegible]	[illegible]	-64.0		27	2[illegible]
60	[illegible]	[illegible]	-62.9		27	18.3
50	[illegible]	[illegible]	-60.7		27	[illegible]
40	27	21,921	-59.2		27	12.6
30	26	[illegible]	-57.9		27	12.2
25	[illegible]	[illegible]	-56.7		28	11.3
20	25	[illegible]	-54.6		[illegible]	8.7
15	25	[illegible]	-50.0		27	[illegible]
10	24	[illegible]	-42.0		27	17.0
7	[illegible]	33,274	-35.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

* NANTUCKET, MASS. [illegible]

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	14	1.0	-2.7	[illegible]	2.4
1000	31	94			[illegible]	2.1
950	31	[illegible]	-1.3	-7.5	31	4.3
900	31	[illegible]	-3.5	-9.9	30	4.6
850	31	[illegible]	-5.1	-13.1	28	6.7
800	31	[illegible]	-6.7	-15.1	28	8.3
750	31	[illegible]	-8.7	-17.7	28	10.4
700	31	[illegible]	-11.4	-19.8	27	11.6
650	31	3,456	-14.2	-23.3	27	12.7
600	31	4,084	-17.5	-26.5	27	14.6
550	31	[illegible]	-21.6	[illegible]	27	15.8
500	31	[illegible]	-25.9	-36.3	26	17.4
450	31	[illegible]	-31.0	[illegible]	26	[illegible]
400	31	[illegible]	-37.1	-45.5	26	21.7
350	31	[illegible]	-43.5	-49.5	27	23.8
300	31	8,921	-49.0		26	26.1
250	31	[illegible]	-52.7		26	28.7
200	31	11,547	-52.5		26	29.7
175	31	[illegible]	-51.7		27	26.9
150	31	[illegible]	-52.6		26	25.6
125	31	[illegible]	-53.4		26	[illegible]
100	[illegible]	16,014	-54.6		26	21.8
80	[illegible]	17,438	-55.9		26	[illegible]
70	[illegible]	18,287	-56.2		26	16.8
60	[illegible]	19,266	-56.8		27	13.7
50	[illegible]	[illegible]	-56.7		27	11.7
40	28	21,834	-56.8		27	9.2
30	27	23,663	-56.1		27	6.3
25	26	24,819	-55.8		27	5.0
20	27	26,233	-54.8		29	7.8
15	21	28,073	-51.5		28	3.4
10	[illegible]	[illegible]	-46.6		27	5.4
7	[illegible]	[illegible]	-41.2			

NASHVILLE, TENN. 997 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	180	1.3	-3.6	30	.9
1000	31	151				
950	31	565	1.7	-5.8	30	2.0
900	31	998	-.4	-8.4	29	4.5
850	31	1,454	-2.5	-10.9	29	6.4
800	31	1,934	-3.7	-14.3	29	8.4
750	31	2,440	-5.5	-17.2	29	10.9
700	31	2,981	-7.9	-20.0	29	12.9
650	31	3,552	-10.8	-23.5	28	14.2
600	31	4,166	-14.5	-27.0	28	17.1
550	31	4,816	-18.6	-30.1	28	19.3
500	31	5,524	-23.0	-35.0	27	22.2
450	31	6,284	-28.0	-39.0	27	25.4
400	31	7,125	-33.9	-43.6	27	30.3
350	31	8,049	-40.0	-47.1	27	35.4
300	31	9,086	-46.6		27	39.9
250	31	10,279	-52.6		26	43.6
200	31	11,712	-54.6		26	45.7
175	31	12,569	-54.0		27	42.9
150	31	13,555	-55.2		27	38.0
125	31	14,714	-57.1		27	33.6
100	31	16,120	-59.1		26	28.2
80	31	17,513	-60.0		27	23.6
70	30	18,344	-59.7		27	19.4
60	[illegible]	[illegible]	-60.0		27	16.2
50	29	20,448	-59.0		27	13.7
40	29	21,647	-58.3		27	10.5
30	29	23,662	-57.2		27	9.1
25	29	24,817	-56.2		27	8.8
20	29	26,239	-54.5		28	7.1
15	27	28,089	-51.0		28	6.1
10	20	30,761	-43.1		27	10.9
7	11	33,205	-36.3			

* NOME, ALASKA 1011 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	-14.0	-17.1	05	3.2
1000	30	88			05	2.9
950	30	481	-11.5	-16.0	11	3.6
900	30	897	-11.1	-16.0	12	3.1
850	30	1,336	-11.7	-17.5	13	3.3
800	30	1,800	-13.6	-19.7	14	2.8
750	30	2,285	-16.0	-23.1	18	2.1
700	30	2,807	-18.8	-25.6	21	2.7
650	30	3,354	-22.1	-28.2	22	3.1
600	30	3,941	-25.7	-31.3	22	3.8
550	30	4,561	-29.5	-35.6	22	5.5
500	30	5,242	-33.8	-40.6	23	6.7
450	30	5,970	-38.9	-44.4	23	6.9
400	30	6,774	-44.4		22	8.8
350	30	7,658	-49.9		22	8.9
300	30	8,654	-54.7		22	9.4
250	30	9,819	-54.1		23	9.1
200	30	11,265	-50.2		23	8.6
175	30	12,140	-49.1		23	8.1
150	30	13,151	-49.0		23	8.4
125	30	14,349	-48.4		23	8.4
100	30	15,819	-48.2		23	8.3
80	30	17,292	-47.8		23	8.0
70	30	18,172	-48.3		24	7.3
60	30	19,187	-48.7		24	6.4
50	30	20,385	-49.1		25	5.9
40	30	21,850	-49.1		24	5.1
30	30	23,740	-48.4		26	3.9
25	29	24,945	-47.5		26	3.1
20	28	26,427	-45.7		27	2.3
15	[illegible]	28,356	-42.9		31	1.6
10	20	31,115	-40.0		03	2.2
7	9	33,594	-38.1			

NORTH PLATTE, NEBR. 919 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	847	-5.9	-8.1	34	1.4
1000	31	179				
950	31	586				
900	31	1,010	-4.4	-8.4	32	3.0
850	31	1,461	-3.9	-10.7	31	4.9
800	31	1,939	-5.4	-13.2	31	6.0
750	31	2,445	-7.4	-14.6	31	6.9
700	31	2,979	-10.0	-18.7	31	8.7
650	31	3,547	-13.3	-22.3	30	9.8
600	31	4,153	-16.7	-25.5	30	10.8
550	31	4,797	-20.8	-30.5	30	11.8
500	31	5,500	-25.7	-35.6	30	13.0
450	31	6,251	-31.5	-41.3	30	13.5
400	31	7,080	-37.9	-45.3	30	13.5
350	31	7,986	-45.0		29	15.0
300	31	9,001	-52.2		29	16.7
250	31	10,165	-57.4		29	18.6
200	31	11,573	-57.9		29	20.7
175	31	12,417	-56.2		28	20.1
150	31	13,398	-55.9		28	20.9
125	31	14,560	-55.9		28	19.1
100	31	15,978	-56.8		28	17.7
80	31	17,388	-58.0		28	14.8
70	31	18,229	-58.0		28	12.7
60	31	19,200	-58.2		28	10.3
50	29	20,348	-58.2		28	8.4
40	28	21,756	-57.9		29	7.0
30	26	23,566	-58.0		29	3.8
25	26	24,718	-57.1		31	3.1
20	25	26,135	-55.8		32	2.3
15	22	27,979	-52.7		35	1.7
10	16	30,648	-46.8			

OAKLAND, CALIF. 1019 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	6	8.2	5.3	34	.6
1000	31	163	9.3	4.0	33	.8
950	31	586	8.3	.4	33	2.6
900	31	1,033	6.8	-3.8	33	3.3
850	31	1,501	4.8	-9.9	31	3.3
800	31	1,993	2.5	-14.6	31	4.0
750	31	2,511	-.8	-17.4	31	4.9
700	31	3,060	-4.3	-19.9	31	6.0
650	31	3,636	-8.2	-24.0	31	7.0
600	31	4,257	-12.2	-28.4	30	8.7
550	31	4,910	-16.8	-31.9	30	10.3
500	31	5,626	-21.9	-34.4	30	12.1
450	31	6,387	-27.5	-39.3	30	14.7
400	31	7,232	-33.6	-44.1	30	17.1
350	31	8,156	-40.3	-48.3	30	18.7
300	31	9,191	-47.5		30	20.5
250	31	10,375	-54.7		30	21.4
200	31	11,783	-59.8		29	23.8
175	31	12,618	-59.5		29	22.3
150	31	13,586	-58.0		28	22.3
125	30	14,730	-58.1		28	20.8
100	30	16,129	-60.1		28	16.8
80	30	17,520	-60.6		28	13.6
70	30	18,350	-61.2		29	11.2
60	30	19,306	-61.3		29	9.0
50	30	20,438	-60.8		29	6.9
40	30	21,830	-59.6		30	4.5
30	30	23,636	-57.9		30	3.4
25	28	24,790	-56.9		30	2.3
20	27	26,207	-55.0		29	2.0
15	24	28,065	-51.7		30	1.5
10	19	30,722	-45.6			

OMAHA, NEBR. 970 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	403	-4.6	-7.6	32	2.4
1000	31	163				
950	31	517	-4.6	-7.2	31	3.2
900	31	994	-4.2	-10.7	32	6.2
850	31	1,444	-5.2	-13.0	32	6.6
800	31	1,919	-6.6	-15.9	32	7.8
750	31	[illegible]	-8.2	-18.2	32	9.3
700	31	2,956	-10.7	-20.8	31	10.4
650	31	3,521	-13.7	-22.9	31	10.9
600	31	4,128	-17.2	-26.7	30	13.0
550	31	4,770	-21.3	-30.5	30	13.4
500	31	5,474	-26.2	-34.8	30	13.7
450	31	6,221	-31.8	-40.4	30	14.6
400	31	7,052	-38.0	-45.2	29	15.7
350	31	7,958	-45.0		29	16.4
300	31	8,972	-52.2		29	18.2
250	31	10,136	-57.2		28	19.9
200	31	11,547	-56.3		28	21.5
175	30	12,399	-55.4		28	22.2
150	30	13,383	-54.6		28	21.1
125	30	14,549	-55.2		27	19.5
100	30	15,969	-56.3		28	18.7
80	30	17,384	-57.2		29	15.8
70	29	18,228	-57.2		29	13.7
60	29	19,203	-57.3		28	11.1
50	26	20,350	-57.6		28	8.3
40	26	21,760	-57.1		28	6.7
30	25	23,585	-57.0		29	4.7
25	23	24,737	-56.4		31	3.7
20	22	26,168	-54.5		34	2.7
15	19	28,011	-51.9		01	1.3
10	18	30,667	-45.9		33	3.3
7	6	32,997	-43.8			
5						

PAGO PAGO, AMERICAN SAMOA * 1011 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	29.5	25.7	09	2.6
1000	31	97	28.1	23.3	09	2.7
950	31	549	24.4	19.3	07	3.7
900	31	1,025	21.3	16.3	06	3.7
850	31	1,518	18.6	13.1	06	3.8
800	31	2,037	16.0	9.7	06	3.8
750	31	2,578	13.3	6.1	06	3.4
700	31	3,163	10.3	2.2	07	3.2
650	31	3,774	7.2	-2.9	06	3.2
600	31	4,432	3.4	-7.5	06	3.3
550	31	5,125	-.4	-12.0	07	2.8
500	31	5,891	-4.4	-16.8	08	2.8
450	31	6,706	-9.3	-22.3	09	2.2
400	31	7,617	-14.8	-28.5	11	1.2
350	31	8,615	-21.6	-35.7	15	1.6
300	31	9,732	-30.0	-43.5	17	2.5
250	31	11,004	-40.2	-51.7	19	3.9
200	31	12,487	-52.5		19	5.2
175	31	13,337	-59.4		19	5.9
150	31	14,285	-66.5		19	6.4
125	31	15,371	-73.0		19	4.9
100	30	16,658	-79.0		13	3.2
80	30	17,927	-77.5		09	7.9
70	30	18,699	-74.2		09	11.5
60	29	19,610	-69.3		09	16.0
50	26	20,715	-64.3		09	19.5
40	24	22,093	-60.2		09	22.9
30	21	23,915	-53.2		10	18.9
25	20	25,097	-50.0		09	16.4
20	17	26,575	-46.6		09	13.7
15	16	28,506	-42.9		09	12.8
10	7	31,240	-37.9			

* PEORIA, ILL. 993 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	200	-3.9	-6.2	32	1.4
1000	31	144				
950	31	553	-2.6	-8.8	31	3.6
900	31	979	-4.0	-12.1	31	5.3
850	31	1,429	-5.3	-15.0	30	6.6
800	31	1,904	-6.8	-16.4	30	7.6
750	31	2,407	-8.9	-19.4	29	9.3
700	31	2,938	-11.0	-21.4	29	11.0
650	31	3,503	-14.0	-24.8	30	11.8
600	31	4,108	-17.1	-28.0	29	12.7
550	31	4,753	-21.1	-32.0	29	13.3
500	31	5,452	-25.9	-35.6	29	15.2
450	31	6,203	-31.5	-40.3	29	16.8
400	31	7,030	-37.6	-45.4	29	18.1
350	31	7,937	-44.6	-47.8	28	19.9
300	31	8,953	-51.4		29	20.7
250	30	10,129	-55.6		28	25.4
200	30	11,553	-54.6		27	27.9
175	30	12,409	-53.5		27	27.6
150	30	13,400	-53.7		27	26.5
125	30	14,568	-54.7		27	24.4
100	30	15,993	-55.3		27	21.3
80	30	17,410	-56.8		27	17.9
70	30	18,256	-57.0		27	16.0
60	30	19,231	-57.0		27	13.6
50	30	20,384	-57.1		28	11.2
40	28	21,793	-56.7		28	8.6
30	27	23,619	-55.9		28	6.1
25	27	24,780	-55.2		29	5.7
20	25	26,207	-53.7		29	2.5
15	22	28,067	-51.4		32	2.5
10	22	30,732	-45.7		32	3.0
7	14	33,156	-40.1		28	9.2

* PITTSBURGH, PA. 972 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	359	-2.5	-7.3	27	2.5
1000	31	128				
950	31	537	-1.4	-8.0	28	4.1
900	31	966	-3.9	-10.1	29	6.4
850	31	1,415	-6.3	-12.7	29	8.2
800	31	1,887	-8.5	-16.3	29	10.3
750	31	2,388	-10.4	-19.0	29	10.8
700	31	2,915	-12.4	-22.0	29	12.3
650	31	3,478	-15.1	-26.0	29	13.5
600	31	4,080	-18.4	-29.4	28	15.4
550	31	4,723	-22.3	-33.4	28	16.8
500	31	5,419	-26.6	-38.5	28	18.3
450	31	6,172	-31.6	-42.7	28	20.2
400	31	6,997	-37.3	-47.3	28	20.4
350	31	7,908	-43.5		28	21.2
300	31	8,931	-49.6		27	23.6
250	31	10,114	-53.3		27	27.4
200	31	11,550	-52.7		27	29.7
175	31	12,413	-52.1		27	30.0
150	31	13,411	-52.4		27	29.5
125	31	14,586	-53.9		27	27.5
100	31	16,018	-54.6		27	23.2
80	31	17,443	-55.6		27	20.0
70	31	18,293	-56.2		27	17.9
60	31	19,270	-56.9		27	15.2
50	31	20,426	-56.7		27	12.2
40	31	21,843	-56.3		28	9.4
30	31	23,671	-55.8		28	6.8
25	31	24,834	-54.8		28	5.8
20	31	26,265	-53.6		28	5.5
15	30	28,123	-51.0		29	3.8
10	25	30,781	-46.0		29	5.4
7	20	33,188	-40.0		27	11.8
5	8	35,528	-35.2			

PONAPE, CAROLINE IS. * 1006 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	39	28.0	23.8	06	4.2
1000	31	91	27.1	22.2	06	5.2
950	31	537	23.1	18.4	07	8.2
900	31	1,013	20.0	15.0	07	8.7
850	31	1,505	17.5	10.5	08	7.1
800	31	2,022	16.2	4.5	08	4.1
750	31	2,569	13.7	.8	11	2.1
700	31	3,148	11.1	-4.4	09	2.2
650	31	3,760	7.9	-8.2	08	4.4
600	31	4,419	4.4	-12.4	08	6.3
550	31	5,116	.6	-16.6	08	8.9
500	31	5,882	-3.6	-21.2	08	10.7
450	31	6,705	-8.8	-25.8	08	10.7
400	31	7,613	-14.1	-31.1	08	9.2
350	31	8,614	-20.7	-36.1	08	7.4
300	31	9,735	-29.0	-43.9	09	5.2
250	31	11,012	-39.3	-52.7	11	5.0
200	31	12,500	-51.6		14	5.2
175	31	13,352	-58.8		14	5.8
150	31	14,302	-66.3		13	4.9
125	31	15,386	-74.1		08	3.6
100	31	16,662	-81.2		08	5.2
80	31	17,909	-80.7		09	7.8
70	31	18,670	-75.7		10	6.8
60	31	19,571	-71.2		09	7.4
50	30	20,661	-66.1		09	14.8
40	30	22,035	-59.1		10	12.4
30	29	23,868	-52.4		27	5.1
25	28	25,055	-49.8		27	10.6
20	28	26,521	-47.6		27	14.7
15	25	28,433	-44.6		27	17.7
10	24	31,170	-39.1		26	19.5
7	[illegible]	33,640	-33.6			

PORTLAND, MAINE 1009 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	20	-3.2	-9.5	29	1.7
1000	31	88			34	1.4
950	31	493	-3.7	-11.5	34	4.7
900	31	920	-5.6	-13.1	34	5.1
850	31	1,367	-7.4	-14.8	33	5.4
800	31	1,838	-9.4	-17.4	31	6.0
750	31	2,332	-11.3	-19.3	29	6.9
700	31	[illegible]	-13.8	-21.6	28	7.5
650	31	3,418	-16.7	-24.4	28	9.9
600	31	4,020	-19.7	-27.8	28	12.8
550	31	4,654	-23.1	-32.7	28	14.6
500	31	5,353	-27.7	-37.4	27	15.8
450	31	[illegible]	-32.7	-41.9	27	17.3
400	31	6,923	-38.5	-46.5	27	18.4
350	31	7,878	-44.6		27	19.5
300	31	8,845	-50.5		26	20.7
250	31	10,076	-53.3		26	23.3
200	31	11,466	-52.4		26	23.9
175	31	12,331	-51.4		26	22.5
150	31	13,331	-51.5		26	21.9
125	30	14,515	-52.6		26	20.2
100	30	15,954	-53.3		26	18.3
80	30	17,387	-54.4		26	14.4
70	30	18,241	-55.1		26	12.3
60	30	19,225	-55.4		26	10.7
50	30	20,386	-55.5		27	8.7
40	30	21,809	-55.6		26	5.5
30	29	23,638	-55.7		28	3.3
25	[illegible]	24,800	-55.5		27	2.1
20	28	26,227	-54.4		33	1.5
15	26	28,076	-51.8		34	1.8
10	23	30,740	-46.9		31	2.4
7	[illegible]	33,116	-42.4		27	[illegible]
5	[illegible]	35,416	-38.6			

* QUILLAYUTE, WASH. 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	58	3.1	2.1	13	1.0
1000	31	162	4.7	1.5	12	1.5
950	31	583	4.8	-2.2	17	3.2
900	31	1,021	2.6	-6.4	19	3.5
850	31	1,481	.1	-9.5	22	4.0
800	31	1,965	-2.1	-12.7	23	4.9
750	31	2,475	-5.0	-17.0	24	5.6
700	31	3,015	-8.1	-19.6	25	5.8
650	31	3,586	-11.3	-23.0	25	6.9
600	31	4,197	-15.1	-25.6	26	8.2
550	31	4,848	-19.4	-29.1	27	8.5
500	31	5,551	-24.1	-33.7	27	9.9
450	31	6,306	-29.5	-38.6	28	9.7
400	31	7,142	-35.7	-43.2	29	10.9
350	31	8,057	-42.7	-44.2	29	12.3
300	31	9,080	-50.7		29	12.1
250	31	10,248	-57.6		29	14.1
200	31	11,642	-61.2		29	13.7
175	31	12,472	-60.4		29	14.2
150	31	13,439	-57.5		29	12.2
125	31	14,595	-56.0		30	10.2
100	31	16,013	-56.5		30	8.7
80	31	17,428	-56.9		31	7.6
70	31	18,273	-56.9		31	7.3
60	31	19,250	-56.9		32	5.9
50	31	20,405	-57.0		33	5.1
40	31	21,819	-56.6		34	3.3
30	31	23,644	-56.3		[illegible]	3.7
25	31	24,804	-55.8		04	5.0
20	31	26,228	-54.8		05	6.0
15	26	28,078	-53.1		06	7.3
10	22	30,715	-49.4		06	10.5
7	12	[illegible]	-45.4			

RAPID CITY, S. DAK. 905 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	966	-6.3	-10.1	34	2.8
1000	31	180				
950	31	587				
900	31	1,011			34	3.2
850	31	1,462	-4.2	-10.5	32	5.9
800	31	1,939	-6.1	-12.7	32	6.2
750	31	2,438	-8.5	-14.9	32	6.8
700	31	2,975	-11.2	-17.9	32	8.1
650	31	3,536	-14.3	-21.8	32	9.2
600	31	4,144	-17.7	-25.4	31	9.8
550	31	4,786	-22.0	-29.4	31	10.6
500	31	5,465	-26.7	-33.8	30	12.6
450	31	6,230	-32.4	-38.6	30	13.5
400	31	7,057	-38.5	-43.5	30	13.9
350	31	7,962	-45.4		30	14.3
300	31	8,974	-52.6		30	15.3
250	31	10,135	-58.4		30	16.0
200	31	11,538	-58.1		30	15.6
175	31	12,381	-56.6		29	15.1
150	31	13,361	-55.6		29	14.3
125	31	14,523	-55.5		29	13.4
100	31	15,942	-56.4		29	12.8
80	31	17,358	-56.5		29	11.0
70	31	18,205	-56.7		29	9.7
60	31	19,181	-56.8		29	7.9
50	31	20,335	-57.1		29	6.2
40	30	21,747	-56.9		30	4.3
30	28	23,567	-56.8		34	2.2
25	27	24,724	-56.1		35	3.0
20	24	26,146	-54.8		03	3.1
15	22	27,988	-52.4		06	3.3
10	13	30,670	-46.9		04	3.9
7	6	33,027	-40.8			

ST CLOUD, MINN. 980 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	316	-9.1	-12.7	34	1.0
1000	31	156				
950	31	554	-6.5	-10.9	34	3.1
900	31	978	-6.7	-13.0	33	4.3
850	31	1,423	-8.0	-16.3	32	5.5
800	31	1,893	-9.9	-19.3	32	6.7
750	31	2,386	-11.6	-21.6	32	7.1
700	31	2,916	-13.7	-24.9	32	8.3
650	31	3,474	-16.3	-27.9	32	9.3
600	31	4,076	-19.5	-30.2	32	9.6
550	31	4,712	-23.4	-33.0	31	11.0
500	31	5,409	-27.9	-38.2	31	12.3
450	31	6,151	-33.4	-42.4	31	13.0
400	31	6,974	-39.5	-45.6	30	13.0
350	31	7,875	-46.2		30	13.5
300	31	8,884	-52.9		30	14.6
250	31	10,046	-57.6		30	16.1
200	31	11,456	-56.3		29	16.7
175	31	12,308	-54.4		29	15.6
150	31	13,298	-53.7		29	15.8
125	31	14,470	-53.7		29	13.8
100	31	15,903	-54.5		29	13.0
80	31	17,330	-54.7		29	11.2
70	31	18,183	-55.0		29	10.2
60	31	19,166	-55.4		29	8.7
50	31	20,328	-55.3		30	6.7
40	30	21,753	-55.2		31	4.5
30	30	23,591	-54.7		33	2.8
25	29	24,759	-54.5		35	2.0
20	29	26,191	-53.5		01	2.2
15	24	28,056	-50.6		05	4.4
10	10	30,708	-46.5			

* ST PAUL IS., ALASKA 1004 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	10	-3.5	-5.0	03	2.6
1000	31	40			15	.7
950	31	443	-6.2	-6.8	05	1.4
900	31	867	-7.2	-9.5	14	.8
850	31	1,311	-8.6	-13.3	18	1.5
800	31	1,780	-10.7	-16.4	20	1.8
750	31	2,275	-13.3	-20.2	20	2.1
700	31	2,797	-16.4	-24.3	21	2.2
650	31	3,347	-19.9	-27.6	22	2.4
600	31	3,940	-23.5	-31.5	22	2.6
550	31	4,567	-27.4	-36.1	21	2.9
500	31	5,252	-31.5	-40.1	22	3.6
450	31	5,986	-36.7	-43.3	22	4.9
400	31	6,796	-42.1	-46.0	23	6.3
350	31	7,689	-47.8		22	7.5
300	31	8,693	-53.0		22	10.3
250	31	9,865	-53.4		22	10.5
200	31	11,311	-50.8		23	10.3
175	31	12,184	-49.1		22	10.1
150	31	13,197	-48.6		22	9.8
125	31	14,395	-48.4		22	9.4
100	31	15,863	-48.5		22	8.4
80	31	17,331	-48.3		21	8.0
70	31	18,210	-48.7		22	6.3
60	31	19,221	-49.7		22	5.7
50	30	20,410	-50.5		22	3.1
40	30	21,863	-50.8		18	2.7
30	30	23,739	-50.3		14	2.6
25	30	24,931	-49.3		11	3.5
20	30	26,399	-47.5		10	6.7
15	29	28,316	-44.0		10	10.2
10	28	31,060	-40.7		09	15.2
7	25	33,495	-38.6		10	17.6
5	9	35,793	-38.7			

* See reference note at end of table.

RAWINSONDE DATA

Average monthly values

SALEM, OREG. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	61	3.1	.2	21	.8
1000	31	170	5.6	.5	21	1.0
950	31	588	5.5	-2.9	22	1.3
900	31	1,031	3.7	-6.0	23	2.2
850	31	1,493	1.1	-8.5	24	3.4
800	31	1,978	-1.2	-12.1	25	4.0
750	31	2,488	-3.9	-14.8	25	4.6
700	31	3,031	-7.4	-18.6	25	4.3
650	31	3,599	-11.2	-24.1	27	5.2
600	31	4,214	-15.1	-26.8	28	6.0
550	31	4,862	-19.3	-31.0	28	6.9
500	31	5,568	-24.3	-35.7	28	7.8
450	31	6,322	-29.9	-40.1	30	8.7
400	31	7,156	-36.1	-43.3	30	10.1
350	31	8,070	-42.9	-46.2	30	12.0
300	31	9,093	-50.1		30	12.7
250	31	10,264	-57.1		30	15.8
200	30	11,649	-62.0		30	14.3
175	30	12,478	-60.1		30	12.8
150	30	13,444	-58.2		30	12.9
125	30	14,596	-57.1		30	10.8
100	30	16,007	-57.2		30	10.5
80	29	17,421	-57.5		31	8.2
70	29	18,262	-58.2		31	7.2
60	29	19,233	-58.0		32	6.0
50	29	20,382	-57.9		33	4.3
40	29	21,792	-57.1		35	3.2
30	29	23,613	-56.7		04	3.7
25	29	24,770	-56.2		05	4.4
20	28	26,193	-54.7		06	5.3
15	24	28,043	-51.8		06	5.8
10	21	30,711	-46.8		07	6.2
7						

SALT LAKE CITY, UTAH 872 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,288	-.6	-5.5	16	1.6
1000	31	180				
950	31	599				
900	31	1,036				
850	31	1,495	1.0	-8.1	18	1.0
800	31	1,980	-1.4	-10.7	29	1.4
750	31	2,494	-4.9	-13.2	30	2.5
700	31	3,031	-8.2	-16.8	31	4.3
650	31	3,604	-11.8	-20.5	31	6.4
600	31	4,211	-15.7	-23.7	31	7.9
550	31	4,860	-19.8	-28.6	31	7.9
500	31	5,563	-24.7	-34.1	31	7.8
450	31	6,320	-30.4	-40.1	31	8.7
400	31	7,149	-36.4	-44.3	31	10.7
350	31	8,061	-43.4	-48.0	31	12.0
300	31	9,082	-50.6		31	14.3
250	31	10,254	-56.2		31	16.9
200	31	11,662	-58.4		30	17.8
175	31	12,501	-58.5		29	18.3
150	31	13,474	-56.8		29	17.4
125	31	14,630	-57.0		29	17.1
100	31	16,041	-57.3		28	14.8
80	31	17,449	-58.5		29	11.1
70	31	18,286	-59.1		29	10.2
60	31	19,255	-58.3		29	8.1
50	30	20,401	-58.6		29	5.7
40	30	21,804	-58.4		29	3.9
30	30	23,619	-57.2		32	2.3
25	29	24,775	-56.6		35	1.8
20	26	26,192	-55.1		03	2.2
15	26	28,042	-52.1		04	3.1
10	17	30,705	-47.0		33	1.9

SAN DIEGO, CALIF. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	124	8.7	6.9	04	[illegible]
1000	31	143			02	1.0
950	31	571	11.1	1.6	31	1.9
900	31	1,021	9.5	-3.5	31	[illegible]
850	31	1,493	7.0	-7.0	31	4.8
800	31	1,989	4.4	-12.1	30	5.2
750	31	2,510	1.5	-15.9	30	6.1
700	31	3,064	-1.8	-19.4	30	8.4
650	31	3,649	-5.3	-23.0	30	9.8
600	31	4,274	-9.4	-25.6	30	12.0
550	31	4,937	-14.1	-29.6	29	13.2
500	31	5,658	-19.4	-34.9	29	15.9
450	31	6,429	-25.1	-36.9	29	19.0
400	31	7,280	-31.0	-43.9	29	21.8
350	31	8,214	-37.7	-47.9	29	23.3
300	31	9,261	-44.8		28	27.0
250	31	10,460	-52.0		29	31.4
200	30	11,892	-57.2		28	36.7
175	29	12,738	-58.3		28	35.8
150	28	13,699	-58.4		27	32.9
125	28	14,842	-59.9		28	31.3
100	28	16,228	-62.5		27	25.3
80	28	17,600	-63.5		27	20.1
70	27	18,419	-63.5		27	16.5
60	27	19,366	-63.0		28	13.4
50	27	20,490	-62.1		28	10.0
40	25	21,876	-60.1		28	6.4
30	25	23,682	-57.9		27	4.0
25	25	24,835	-56.2		27	5.8
20	25	26,257	-54.5		27	5.3
15	25	28,115	-50.6		28	6.9
10	20	30,814	-44.0		27	13.9
7	8	33,244	-39.1			

SAN JUAN, P. R. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	6	23.0	20.6	10	[illegible]
1000	31	135	22.8	19.0	09	[illegible]
950	31	579	[illegible]	[illegible]	09	[illegible]
900	31	1,046	[illegible]	12.6	08	[illegible]
850	31	1,532	14.9	7.7	07	2.8
800	31	2,045	13.6	.9	07	[illegible]
750	31	2,586	12.4	-4.3	12	[illegible]
700	31	3,153	9.9	-9.1	22	[illegible]
650	31	3,770	7.1	-13.1	24	[illegible]
600	31	4,428	3.4	-16.9	27	[illegible]
550	31	5,122	-.6	-21.0	26	[illegible]
500	31	5,883	-5.4	-25.4	28	[illegible]
450	31	[illegible]	-10.9	-30.0	28	[illegible]
400	31	7,596	-17.1	-35.5	28	9.7
350	31	8,582	-24.6	-41.6	28	12.1
300	31	9,685	-33.0	[illegible]	28	[illegible]
250	31	10,940	-42.7		29	[illegible]
200	31	12,410	-53.6		28	[illegible]
175	31	13,255	-60.0		27	[illegible]
150	31	14,202	-66.6		27	21.2
125	31	15,287	-72.6		28	[illegible]
100	31	16,551	-77.0		28	13.4
80	31	17,858	-78.1		29	[illegible]
70	31	18,624	-75.5		29	2.3
60	31	[illegible]	-70.3		06	[illegible]
50	31	20,629	-63.9		08	4.4
40	31	22,012	-60.4		07	7.7
30	31	23,823	-56.1		08	6.2
25	31	24,992	-52.6		07	3.3
20	27	26,446	-49.0		25	2.8
15	27	28,359	-44.1		25	8.5
10	[illegible]	31,110	-39.4		27	14.9
7	12	33,611	-34.3			

[illegible], CALIF. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	174	[illegible]	5.1	31	[illegible]
1000	31	[illegible]				
950	31	576	12.2	-2.8	32	7.4
900	31	1,028	10.3	-7.8	31	[illegible]
850	31	1,500	7.4	-11.4	31	[illegible]
800	31	1,996	4.8	-15.8	31	[illegible]
750	31	2,519	1.7	-16.4	31	7.7
700	31	3,071	-2.0	-21.3	31	[illegible]
650	31	3,656	-5.3	-24.3	31	[illegible]
600	31	4,280	-9.5	-27.6	30	11.7
550	31	4,946	-14.3	-31.8	30	13.3
500	31	5,661	-19.9	-35.0	30	16.0
450	31	6,434	-25.7	-39.8	30	18.5
400	31	7,278	[illegible]	-44.5	29	20.2
350	31	8,210	[illegible]	-51.5	29	22.9
300	31	9,253	[illegible]	-58.5	29	24.2
250	31	10,445	[illegible]	-64.7	28	29.6
200	31	11,861	[illegible]	-67.2	28	34.4
175	31	12,699	[illegible]	-68.1	28	33.2
150	31	13,667	[illegible]		28	31.5
125	31	14,806	[illegible]		28	29.7
100	31	16,188	[illegible]		27	24.2
80	31	17,556	[illegible]		27	[illegible]
70	31	18,376	[illegible]		28	14.7
60	31	19,322	[illegible]		28	12.4
50	31	[illegible]	[illegible]		29	8.2
40	31	21,830	[illegible]		29	5.0
30	31	23,635	-57.9		29	3.3
25	31	24,789	-55.3		27	4.5
20	31	26,212	-54.2		28	4.6
15	[illegible]	[illegible]	-49.7		28	[illegible]
10	[illegible]	30,759	[illegible]		26	11.4
7	[illegible]	33,152	[illegible]		27	20.8

SAULT STE MARIE, MICH. 988 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	221	-7.9	-11.3	36	1.7
1000	31	125				
950	31	526	-6.7	-12.8	36	2.8
900	31	947	-8.1	-13.3	34	3.9
850	31	1,390	-9.8	-15.1	32	4.7
800	31	1,857	-11.2	-17.3	32	6.0
750	31	2,352	-13.1	-21.0	31	6.9
700	31	2,874	-15.5	-24.1	31	7.3
650	31	3,430	-18.6	-26.4	31	7.8
600	31	4,024	-21.9	-30.0	30	8.4
550	31	4,659	-25.2	-33.8	30	9.4
500	31	5,347	-29.5	-37.5	30	11.0
450	31	6,090	-34.5	-41.8	29	11.6
400	31	6,905	-40.2	-43.4	29	12.5
350	31	7,806	-46.4		29	13.7
300	31	8,813	-52.4		29	13.0
250	31	9,982	-55.4		29	13.9
200	31	11,410	-53.5		28	14.6
175	31	12,272	-52.1		28	14.9
150	31	13,271	-51.6		28	13.3
125	31	14,454	-52.0		28	12.6
100	31	15,898	-52.3		28	12.7
80	31	17,339	-53.1		28	10.0
70	31	18,199	-53.3		27	9.6
60	31	19,191	-53.4		28	8.0
50	30	20,364	-53.8		28	5.8
40	30	21,797	-53.7		29	3.6
30	30	23,646	-53.6		34	2.0
25	29	24,871	-53.2		01	2.1
20	29	26,261	-52.5		04	3.1
15	28	28,125	-50.8		05	3.8
10	27	30,789	-47.3		05	3.4
7	18	33,186	-42.2		32	2.6
5						
4						

SHEMYA, ALASKA 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	38	-.2	-4.1	24	1.8
1000	31	13			25	5.3
950	31	416	-3.2	-6.2	22	2.6
900	31	847	-6.5	-8.8	22	4.1
850	31	1,291	-9.8	-11.8	22	4.5
800	31	1,756	-12.7	-17.1	22	5.1
750	31	2,249	-15.3	-22.1	23	5.1
700	31	2,765	-18.0	-24.4	24	4.8
650	31	3,313	-21.1	-29.5	24	6.1
600	31	3,903	-24.7	-33.8	25	6.4
550	31	4,527	-28.8	-37.2	24	6.8
500	31	5,207	-33.1	-40.6	25	8.6
450	31	5,944	-37.8	-43.6	26	9.7
400	31	6,745	-43.2	-45.7	25	9.8
350	31	7,635	-48.2		25	10.9
300	31	8,641	-51.9		26	12.7
250	31	9,818	-52.7		25	12.6
200	31	11,266	-50.7		25	11.5
175	30	12,143	-49.8		25	10.9
150	30	13,153	-49.3		24	10.3
125	30	14,348	-49.0		24	10.1
100	30	15,812	-49.0		23	9.3
80	30	17,279	-49.1		23	8.2
70	30	18,155	-49.2		21	7.8
60	30	19,166	-49.3		21	7.2
50	30	20,359	-50.1		20	5.5
40	30	21,815	-50.9		19	4.3
30	29	23,683	-51.4		15	4.4
25	29	24,867	-51.3		14	4.2
20	29	26,321	-50.1		12	5.7
15	27	28,216	-48.3		12	9.6
10	25	30,915	-44.5		11	14.6
7	20	33,328	-42.4		10	18.7
5	9	35,552	-43.2			

SHREVEPORT, LA. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	79	6.4	2.5	02	1.1
1000	31	145			04	1.9
950	31	572	6.4	.2	08	.3
900	31	1,010	5.2	-2.3	28	2.8
850	31	1,477	4.4	-6.2	28	5.5
800	31	1,970	2.5	-9.7	29	8.4
750	31	2,491	[illegible]	-11.8	28	10.9
700	31	3,039	-3.5	-14.0	28	12.6
650	31	3,621	-6.6	-17.8	28	15.6
600	31	4,244	-10.0	-23.2	27	18.3
550	31	4,909	-14.2	-27.1	27	21.7
500	31	5,627	-18.9	-31.3	27	24.9
450	31	6,400	-24.2	-36.9	26	27.1
400	31	7,254	-30.2	-41.8	27	30.6
350	31	8,193	-36.2	-47.5	26	38.4
300	31	9,247	-43.0	-45.4	26	43.8
250	31	10,456	-50.4		27	46.1
200	30	11,896	-56.1		27	48.2
175	30	12,743	-57.1		27	48.5
150	30	13,717	-58.0		27	44.8
125	30	14,858	-61.0		27	36.4
100	30	16,237	-63.3		27	31.3
80	30	17,608	-63.3		27	27.4
70	29	18,425	-64.0		27	21.1
60	29	19,373	-62.5		28	14.0
50	29	20,504	-60.3		27	12.3
40	28	21,903	-58.4		26	12.5
30	28	23,719	-57.0		27	10.9
25	26	24,877	-56.1		27	9.7
20	25	26,310	-53.9		27	11.5
15	24	28,167	-50.6		29	9.3
10	24	30,854	-42.6		29	17.0
7	20	33,347	-33.7		27	24.2
5	12	35,730	-27.0			
4	5	37,323	-23.5			

SPOKANE, WASH. 934 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	720	-.6	-3.5	16	2.2
1000	31	171				
950	31	584				
900	31	1,020	2.4	-5.9	22	2.2
850	31	1,481	.3	-9.2	24	2.7
800	31	1,965	-2.9	-12.1	25	3.4
750	31	2,469	-5.9	-15.2	27	4.2
700	31	3,012	-8.6	-19.8	28	5.3
650	31	3,577	-11.7	-23.4	28	6.2
600	31	4,192	-15.5	-25.0	29	7.0
550	31	4,840	-19.8	-28.0	29	7.5
500	31	5,544	-25.0	-32.5	29	8.6
450	31	6,295	-30.9	-38.3	30	9.5
400	31	7,127	-37.3	-43.0	29	10.1
350	31	8,035	-44.3	-47.5	29	11.8
300	31	9,052	-51.6		30	13.6
250	31	10,217	-58.1		31	16.0
200	31	11,605	-61.6		30	17.9
175	31	12,439	-58.4		30	15.1
150	31	13,413	-56.9		31	13.0
125	31	14,570	-56.3		31	10.9
100	31	15,988	-56.4		30	9.7
80	31	17,405	-56.6		31	8.7
70	30	18,254	-56.3		31	7.2
60	30	19,234	-56.4		32	5.7
50	30	20,390	-56.7		32	4.4
40	29	21,809	-55.7		33	3.4
30	29	23,641	-55.9		03	4.3
25	28	24,800	-55.5		05	5.0
20	28	26,228	-53.8		06	5.8
15	27	28,085	-51.6		06	6.9
10	21	30,748	-47.6		07	10.4

SWAN ISLAND, W. I. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	10	25.4	21.7	11	3.5
1000	31	111	24.6	21.0	11	4.4
950	31	560	21.1	18.4	11	5.6
900	31	1,028	18.7	14.5	13	[illegible]
850	31	1,518	16.8	10.0	13	3.1
800	31	2,033	14.4	5.3	16	[illegible]
750	31	2,577	12.4	-.7	19	[illegible]
700	31	3,154	10.2	-6.7	20	[illegible]
650	31	3,765	7.1	-10.7	23	[illegible]
600	31	4,422	3.4	-14.0	24	2.7
550	31	5,116	-.9	-18.9	24	4.2
500	31	5,876	-5.6	-23.3	24	[illegible]
450	31	6,691	-11.0	-28.2	24	7.3
400	31	7,589	-16.9	-34.5	25	9.7
350	31	8,577	-23.9	-40.5	25	11.1
300	31	9,683	-32.4	-46.6	27	13.4
250	31	10,941	-42.6		26	[illegible]
200	31	12,409	-54.0		25	20.2
175	30	13,251	-60.3		25	22.1
150	31	14,197	-66.6		26	[illegible]
125	29	15,279	-72.9		26	19.8
100	29	16,571	-77.3		27	14.2
80	29	17,843	-78.7		27	5.9
70	29	18,608	-76.5		23	1.8
60	29	19,508	-71.2		10	2.5
50	29	[illegible]	-65.3		09	4.7
40	28	21,978	-61.0		08	5.7
30	27	23,782	-56.7		08	[illegible]
25	27	[illegible]	-53.4		05	2.6
20	26	26,396	-49.6		31	3.4
15	25	28,303	-45.2		26	[illegible]
10	[illegible]	31,044	-40.1		28	[illegible]
7	[illegible]	33,481	-36.3		25	[illegible]

TAMPA, FLA. 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	12.2	9.3	06	1.1
1000	31	141	13.3	7.6	07	2.1
950	31	573	12.0	4.7	35	.4
900	31	1,024	9.7	1.3	27	3.2
850	31	1,498	8.7	-3.7	27	6.5
800	31	2,000	8.0	-9.1	27	9.0
750	31	2,533	5.8	-11.5	27	11.8
700	31	3,092	2.9	-14.4	26	14.9
650	31	3,690	-.4	-16.0	27	18.9
600	31	4,325	-4.0	-19.1	27	22.0
550	31	5,002	-8.3	-22.7	27	26.1
500	31	5,741	-12.7	-26.5	26	31.4
450	31	6,537	-17.6	-30.5	26	34.5
400	31	7,412	-23.0	-35.3	27	39.6
350	31	8,377	-29.6	-41.7	27	45.2
300	31	9,459	-37.7	-47.2	26	46.8
250	31	10,691	-46.5		26	50.4
200	31	12,143	-55.1		27	55.5
175	31	12,988	-59.2		27	52.7
150	31	13,944	-62.8		26	[illegible]
125	31	15,059	-65.9		26	40.3
100	31	16,453	-69.1		26	33.4
80	31	17,734	-69.6		26	22.4
70	31	18,532	-68.4		26	15.8
60	30	19,463	-64.9		26	11.3
50	30	20,584	-62.4		28	6.8
40	30	21,969	-59.9		28	8.0
30	28	23,779	-57.4		28	8.0
25	26	24,938	-55.0		27	7.6
20	26	26,373	-52.6		27	7.2
15	21	28,259	-47.6		26	13.1
10	17	30,963	-38.8		27	21.3
7	7	33,457	-33.4			

TOPEKA, KANS. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	268	-1.5	-4.7	33	2.0
1000	31	164				
950	31	571	-1.0	-7.2	31	3.4
900	31	1,004	-2.2	-9.6	32	5.4
850	31	1,457	-3.6	-11.2	32	6.7
800	31	1,935	-5.2	-13.8	32	8.0
750	31	2,439	-6.7	-16.9	31	8.6
700	31	2,979	-9.0	-20.7	31	10.5
650	31	3,544	-12.2	-23.0	31	11.8
600	31	4,157	-15.9	-25.9	30	12.5
550	31	4,801	-20.0	-29.1	30	13.0
500	31	5,509	-24.6	-34.4	29	14.2
450	31	6,263	-30.2	-39.5	29	[illegible]
400	31	7,097	-36.6	-44.4	28	16.8
350	31	8,008	-43.7	-46.5	28	18.4
300	31	9,027	-50.9		28	21.9
250	31	10,201	-55.3		28	26.8
200	31	11,620	-56.1		27	28.3
175	31	[illegible]	-55.3		27	28.1
150	31	13,456	-54.8		27	[illegible]
125	31	14,619	-56.1		27	24.7
100	31	16,034	-57.3		27	21.5
80	30	17,437	-58.6		27	[illegible]
70	30	18,275	-58.8		27	15.3
60	30	19,243	-58.6		27	12.2
50	30	[illegible]	-58.5		27	9.7
40	30	21,793	-58.1		27	7.6
30	29	23,608	-57.6		29	5.4
25	27	24,765	-56.4		29	4.7
20	23	26,195	-54.7		30	3.9
15	20	28,035	-51.7		28	4.7
10	6	[illegible]	-46.4			

TRUK, CAROLINE IS. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	21	28.2	23.3	04	5.8
1000	31	103	26.7	20.8	05	7.2
950	31	554	22.5	17.3	06	9.8
900	31	1,024	19.7	13.4	06	8.4
850	31	1,516	17.3	9.5	07	6.2
800	31	2,033	15.6	3.9	08	4.0
750	31	2,579	13.8	-1.6	08	3.5
700	31	3,158	11.0	-6.3	09	4.1
650	31	3,771	7.9	-10.3	09	5.2
600	31	[illegible]	4.4	-14.6	09	7.5
550	31	5,123	.4	-19.9	09	9.7
500	31	5,892	-4.1	-23.4	09	[illegible]
450	31	6,707	-8.8	-28.5	09	[illegible]
400	31	7,620	-14.5	[illegible]	08	[illegible]
350	31	8,619	-21.0	-38.7	08	7.8
300	31	9,740	-29.4	-45.5	09	[illegible]
250	31	11,015	-39.6	-54.5	11	[illegible]
200	31	12,500	-51.9		13	[illegible]
175	30	13,351	-59.1		14	[illegible]
150	30	14,350	-67.0		11	[illegible]
125	30	15,379	[illegible]		08	[illegible]
100	30	16,651	[illegible]		09	[illegible]
80	30	17,896	-81.5		09	[illegible]
70	30	18,655	-76.1		10	[illegible]
60	30	19,556	[illegible]		09	[illegible]
50	30	20,648	[illegible]		09	[illegible]
40	[illegible]	22,023	[illegible]		09	[illegible]
30	29	23,862	-52.0		27	[illegible]
25	29	[illegible]	-50.1		27	[illegible]
20	29	26,514	-47.6		26	[illegible]
15	27	28,422	-44.2		26	[illegible]
10	27	[illegible]	[illegible]		27	[illegible]
7	17	[illegible]	-34.4		28	[illegible]

TUCSON, ARIZ. 924 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	789	6.1	-3.5	16	2.3
1000	31	135				
950	31	562				
900	31	1,008	10.3	-4.7	20	1.9
850	31	1,482	7.8	-7.2	29	2.3
800	31	1,979	4.4	-10.5	29	3.6
750	31	2,503	1.0	-14.4	27	4.8
700	31	3,053	-2.4	-18.2	28	6.5
650	31	3,635	-6.2	-22.3	28	8.7
600	31	4,260	-10.1	-27.4	28	11.2
550	31	4,921	-14.5	-31.2	28	[illegible]
500	31	5,642	-19.6	-35.3	28	[illegible]
450	31	6,409	-25.2	-40.4	28	[illegible]
400	31	7,263	-31.2	-44.6	28	[illegible]
350	31	8,197	-37.5	-49.2	28	[illegible]
300	31	9,245	-44.6		29	[illegible]
250	31	10,447	-51.2		27	[illegible]
200	31	11,877	-56.3		27	[illegible]
175	31	12,722	-57.5		27	[illegible]
150	31	13,694	-57.8		27	[illegible]
125	30	14,841	-59.7		27	[illegible]
100	30	16,224	-63.0		27	[illegible]
80	30	17,592	-64.2		27	[illegible]
70	29	18,407	-63.9		27	[illegible]
60	29	19,351	-64.1		27	[illegible]
50	28	20,469	-62.1		28	[illegible]
40	28	21,657	-60.1		27	[illegible]
30	27	23,663	-58.0		27	[illegible]
25	26	24,812	-56.8		27	[illegible]
20	26	26,233	-54.6		28	7.9
15	25	28,088	-51.8		28	[illegible]
10	[illegible]	30,755	-46.0		27	[illegible]
7	[illegible]	33,167	-39.4		27	16.1

VANDENBERG AFB, CALIF. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	100	7.0	5.8	02	.9
1000	30	157	8.9	5.5	02	1.4
950	30	585	10.6	.3	34	5.2
900	30	1,032	8.7	-5.7	34	[illegible]
850	30	1,503	6.4	-11.0	33	[illegible]
800	30	[illegible]	4.1	-15.7	32	[illegible]
750	30	2,518	1.1	-19.0	32	[illegible]
700	30	3,071	-2.4	-21.2	31	[illegible]
650	30	3,650	-5.9	-25.2	30	[illegible]
600	30	4,277	-10.2	-27.7	30	[illegible]
550	30	4,934	-14.8	-31.4	30	[illegible]
500	30	5,655	-20.3	[illegible]	30	[illegible]
450	30	6,417	-26.1	[illegible]	30	[illegible]
400	30	7,269	-32.3	[illegible]	30	[illegible]
350	30	8,198	-39.1	-48.5	30	[illegible]
300	30	9,236	-46.6		29	[illegible]
250	30	10,427	-54.2		29	[illegible]
200	30	[illegible]	[illegible]		29	[illegible]
175	30	12,678	-58.9		28	[illegible]
150	30	[illegible]	[illegible]		28	[illegible]
125	30	14,790	[illegible]		28	[illegible]
100	30	16,179	[illegible]		28	[illegible]
80	30	17,555	[illegible]		28	[illegible]
70	29	18,382	[illegible]		28	[illegible]
60	28	19,334	[illegible]		29	[illegible]
50	28	20,457	[illegible]		29	[illegible]
40	26	21,835	[illegible]		29	[illegible]
30	[illegible]	23,635	[illegible]		29	[illegible]
25	[illegible]	[illegible]	[illegible]		28	[illegible]
20	[illegible]	26,199	[illegible]		28	[illegible]
15	[illegible]	28,034	[illegible]		28	[illegible]
10	19	30,689	[illegible]		28	[illegible]
7	13	33,100	[illegible]		27	13.4

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	VICTORIA, TEXAS 1013 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	33	10.2	7.7	05	1.5
1000	31	138	11.0	6.6	06	2.7
950	31	565	10.7	4.3	11	1.8
900	31	1,018	9.3	-.7	19	1.0
850	31	1,491	7.8	-2.1	24	2.8
800	31	1,990	5.8	-6.6	26	5.3
750	31	2,515	3.6	-11.1	27	7.8
700	31	3,074	.8	-14.1	27	10.3
650	31	3,663	-2.4	-17.2	27	13.9
600	31	4,298	-6.4	-21.4	26	17.3
550	31	4,969	-10.9	-25.8	26	21.3
500	31	5,700	-15.3	-30.4	26	25.0
450	31	6,485	-20.7	-33.9	25	29.6
400	31	7,350	-26.3	-37.9	26	34.7
350	31	8,303	-32.6	-42.4	26	41.4
300	31	9,373	-39.9	-45.5	26	47.9
250	31	10,597	-48.2		26	54.2
200	31	12,037	-57.0		26	56.2
175	31	12,878	-59.2		26	54.4
150	31	13,839	-61.6		26	50.3
125	31	14,964	-63.6		26	41.4
100	31	16,324	-66.9		26	31.6
80	30	17,666	-66.4		27	21.7
70	28	18,466	-67.9		27	18.6
60	29	19,398	-65.9		27	14.9
50	27	20,513	-62.7		26	11.7
40	27	21,897	-60.3		26	11.7
30	27	23,700	-58.4		26	9.4
25	25	24,854	-57.1		27	8.6
20	22	26,283	-54.2		27	8.9
15	18	28,155	-49.2		28	10.6
10	8	30,842	-42.1			
7	5	33,221	-37.3			
5						

Standard pressure surface (mb)	* WAKE IS., PACIFIC AREA 1017 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	25.0	21.4	08	5.6
1000	31	150	23.6	19.4	08	6.8
950	31	594	19.7	17.6	08	8.2
900	31	1,062	16.6	13.0	09	7.8
850	31	1,547	14.2	6.7	09	7.1
800	31	2,059	12.7	-1.2	09	5.7
750	31	2,596	11.5	-6.0	09	5.2
700	31	3,174	9.5	-13.2	07	3.8
650	31	3,784	6.8	-17.3	05	1.7
600	31	4,439	3.3	-20.0	35	1.7
550	31	5,133	-1.1	-23.7	32	3.8
500	31	5,892	-6.0	-27.2	31	6.6
450	31	6,702	-11.4	-31.4	30	9.9
400	31	7,601	-17.7	-36.9	29	12.4
350	31	8,586	-24.7	-42.4	29	16.3
300	31	9,689	-32.6	-48.6	29	19.9
250	31	10,949	-42.0	-54.9	29	23.3
200	31	12,423	-53.0		28	25.1
175	31	13,272	-59.2		28	25.8
150	31	14,222	-65.7		28	25.3
125	30	15,311	-72.4		28	21.0
100	30	16,600	-78.9		28	13.4
80	28	17,862	-80.6		28	4.1
70	28	18,622	-77.2		23	.1
60	28	19,519	-71.4		11	2.4
50	28	20,613	-65.6		10	2.8
40	26	21,984	-62.1		10	3.4
30	25	23,771	-58.7		02	.9
25	25	24,926	-55.2		31	2.3
20	24	26,371	-49.8		27	6.3
15	23	28,269	-46.5		28	10.0
10	21	30,996	-42.4		27	12.3
7	16	33,450	-37.0		26	14.4
5	10	35,811	-32.2			

Standard pressure surface (mb)	* WALLOPS IS., VA. NASA 1013 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	3	1.7	-1.4	32	2.8
1000	29	108	3.1	-4.6	30	3.4
950	29	522	2.2	-6.3	32	6.9
900	29	958	-.3	-8.0	31	7.5
850	29	1,414	-2.7	-10.6	30	7.8
800	29	1,894	-4.2	-14.1	29	9.5
750	29	2,403	-6.0	-16.6	28	11.3
700	29	2,940	-8.6	-19.1	28	13.2
650	29	3,509	-11.5	-22.6	28	14.6
600	29	4,123	-14.5	-25.5	27	18.1
550	29	4,774	-18.5	-29.7	27	21.2
500	29	5,483	-22.8	-34.4	27	23.6
450	29	6,242	-28.0	-39.4	27	25.9
400	29	7,084	-34.0	-44.5	27	28.1
350	29	8,006	-40.4	-45.5	27	29.1
300	29	9,042	-47.0		27	33.7
250	29	10,235	-52.0		27	34.4
200	28	11,681	-53.7		26	37.0
175	28	12,540	-53.5		26	35.6
150	28	13,530	-54.0		27	32.4
125	28	14,697	-55.7		27	30.0
100	28	16,112	-57.5		26	26.7
80	28	17,516	-58.6		26	20.9
70	28	18,355	-58.7		27	16.5
60	27	19,321	-59.0		26	13.0
50	27	20,466	-58.6		26	11.2
40	26	21,872	-57.6		27	9.5
30	25	23,689	-56.8		27	6.9
25	24	24,850	-56.0		27	6.9
20	22	26,272	-54.4		27	7.1
15	21	28,121	-51.8		27	7.7
10	18	30,784	-46.1		28	7.4
7	8	33,247	-39.4			
5						

Standard pressure surface (mb)	WASHINGTON DULLES INT. AP 1005 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	65	-.7	-5.3	30	1.7
1000	31	121			29	2.2
950	31	535	.7	-7.8	30	5.9
900	31	966	-2.0	-10.2	30	7.9
850	31	1,419	-4.5	-12.7	30	8.9
800	31	1,895	-6.4	-14.5	30	9.7
750	31	2,402	-8.0	-18.5	29	10.7
700	31	2,933	-10.2	-21.3	28	11.8
650	31	3,504	-13.0	-24.8	28	13.4
600	31	4,108	-16.0	-29.7	28	16.3
550	31	4,758	-20.2	-33.2	27	18.6
500	31	5,460	-24.9	-37.8	28	20.1
450	31	6,217	-30.2	-41.8	27	23.0
400	31	7,047	-36.1	-45.9	27	26.3
350	31	7,962	-42.2	-47.0	27	29.5
300	31	8,991	-48.3		27	34.2
250	31	10,178	-52.6		27	38.0
200	31	11,616	-53.0		27	38.1
175	31	12,478	-52.5		27	36.4
150	31	13,474	-52.9		27	33.6
125	31	14,646	-54.4		27	29.5
100	31	16,070	-56.2		27	25.3
80	31	17,480	-57.9		27	21.3
70	31	18,322	-58.1		27	17.3
60	31	19,293	-57.4		27	15.7
50	30	20,447	-57.5		27	12.4
40	30	21,854	-57.4		27	9.4
30	28	23,677	-56.7		27	7.0
25	27	24,835	-56.4		28	5.2
20	25	26,261	-54.8		27	4.4
15	21	28,112	-51.5		29	4.0
10	15	30,782	-44.6		27	7.5
7	9	33,186	-40.6			
5						

Standard pressure surface (mb)	WINNEMUCCA, NEV. 871 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,312	-1.8	-7.4	08	.6
1000	31	192				
950	31	606				
900	31	1,046				
850	31	1,504	1.1	-7.1	17	.3
800	31	1,990	-1.0	-10.3	26	2.0
750	31	2,500	-4.2	-13.9	30	2.4
700	31	3,044	-7.5	-18.3	30	4.0
650	31	3,615	-11.2	-22.4	31	6.0
600	31	4,227	-14.7	-27.4	31	6.6
550	31	4,876	-19.0	-31.6	31	7.1
500	31	5,584	-23.9	-36.2	31	8.3
450	31	6,341	-29.7	-40.2	31	8.8
400	31	7,174	-36.2	-43.5	31	9.4
350	31	8,087	-43.1	-48.9	31	11.3
300	31	9,110	-49.6		30	14.0
250	31	10,287	-55.7		31	16.0
200	31	11,690	-60.3		30	19.0
175	31	12,523	-59.3		29	18.7
150	31	13,493	-57.4		29	18.2
125	31	14,645	-57.3		29	16.8
100	31	16,052	-58.7		29	14.5
80	31	17,453	-59.0		29	11.5
70	31	18,290	-59.2		29	9.1
60	31	19,255	-59.3		29	7.4
50	31	20,398	-58.8		30	5.2
40	31	21,799	-58.4		31	3.2
30	31	23,612	-57.5		34	2.0
25	29	24,765	-57.0		36	1.7
20	26	26,186	-55.3		04	2.3
15	20	28,033	-52.5		06	3.5
10	12	30,676	-48.1		02	2.4
7						
5						

Standard pressure surface (mb)	WINSLOW, ARIZ. 849 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,487	-1.7	-7.6	25	1.4
1000	31	164				
950	31	579				
900	31	1,022				
850	31	1,481			28	1.4
800	31	1,971	2.0	-9.1	29	3.7
750	31	2,[illegible]	-1.4	-12.3	29	4.7
700	31	3,[illegible]35	-5.2	-16.2	29	5.2
650	31	3,607	-8.9	-22.1	29	5.8
600	31	4,228	-12.8	-26.3	28	7.1
550	31	4,880	-16.9	-30.5	29	9.3
500	31	5,595	-22.2	-34.4	29	11.2
450	31	6,358	-27.9	-39.4	29	12.4
400	31	7,198	-33.9	-44.3	29	15.6
350	31	8,120	-40.4	-47.5	28	19.3
300	31	9,157	-47.0		28	24.3
250	31	10,348	-53.3		28	27.5
200	31	11,771	-56.9		28	30.0
175	31	12,616	-57.3		28	31.5
150	31	13,590	-57.4		28	30.5
125	31	14,741	-58.4		28	25.3
100	31	16,136	-60.9		28	20.9
80	31	17,518	-62.6		27	17.1
70	31	18,342	-62.3		28	15.1
60	31	19,296	-61.9		27	12.7
50	31	20,425	-61.4		27	10.0
40	31	21,814	-60.1		27	6.4
30	29	23,618	-58.3		28	4.8
25	29	24,769	-57.1		27	5.5
20	29	26,188	-55.3		28	5.7
15	25	28,035	-51.8		28	7.0
10	7	30,704	-46.1			
7						

Standard pressure surface (mb)	YAKUTAT, ALASKA 1012 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	12	-2.2	-4.4	11	1.2
1000	31	110	-.4	-3.2	12	2.5
950	31	517	-1.2	-3.9	14	5.2
900	31	951	-3.8	-5.7	16	5.9
850	31	1,400	-6.4	-8.1	17	5.6
800	31	1,872	-8.8	-12.4	19	5.3
750	31	2,371	-11.4	-15.7	20	5.8
700	31	2,897	-14.1	-19.0	22	6.4
650	31	3,455	-17.5	-23.2	22	8.2
600	31	4,052	-21.0	-28.4	24	9.2
550	31	4,688	-24.9	-31.9	24	10.8
500	31	5,377	-29.5	-34.5	24	12.6
450	31	6,121	-34.7	-38.1	25	12.9
400	31	6,936	-40.1	-42.5	25	14.9
350	31	7,835	-45.9		25	15.1
300	31	8,847	-51.8		25	16.4
250	31	10,016	-56.0		25	17.0
200	31	11,440	-53.2		25	13.3
175	31	12,302	-52.2		26	13.0
150	31	13,303	-50.9		26	11.5
125	31	14,489	-51.2		27	11.7
100	31	15,936	-51.9		27	11.9
80	31	17,382	-51.8		29	10.3
70	31	18,248	-51.8		28	9.2
60	31	19,246	-51.8		29	7.7
50	31	20,428	-51.7		30	6.8
40	30	21,876	-51.5		32	4.4
30	30	23,745	-50.6		34	4.2
25	27	24,938	-49.7		35	4.4
20	27	25,402	-48.4		03	5.8
15	23	28,301	-45.4		04	8.1
10	19	31,053	-40.5		04	15.2
7	11	33,486	-38.8			

Standard pressure surface (mb)	+ YAP, CAROLINE IS. 1010 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	14	27.9	22.8	07	5.5
1000	31	104	26.6	20.9	07	7.3
950	31	549	22.6	17.7	07	10.3
900	31	1,025	19.7	13.1	07	10.4
850	31	1,516	16.7	9.6	08	8.8
800	31	2,031	15.2	4.0	08	6.9
750	31	2,572	13.6	-1.0	08	6.5
700	31	3,155	11.3	-6.1	09	6.3
650	31	3,766	8.3	-10.8	09	7.4
600	31	4,427	4.7	-15.4	10	8.2
550	31	5,128	.6	-20.4	09	8.8
500	31	5,889	-4.1	-24.3	10	8.2
450	31	6,707	-9.0	-28.4	11	7.8
400	31	7,615	-14.8	-33.6	11	7.0
350	31	8,613	-21.2	-40.0	10	6.3
300	31	9,732	-29.6	-46.9	09	4.1
250	31	11,004	-40.1	-55.3	07	1.5
200	31	12,487	-52.3		16	4.6
175	31	13,337	-59.2		16	3.6
150	31	14,286	-66.6		14	2.4
125	31	15,367	-74.5		07	1.9
100	31	16,640	-81.9		09	4.1
80	31	17,881	-82.8		10	6.3
70	31	18,636	-77.8		09	5.9
60	31	19,532	-71.7		08	7.2
50	31	20,625	-65.7		09	14.0
40	31	21,999	-60.1		09	14.0
30	31	23,827	-53.0		27	.4
25	31	25,011	-50.0		27	6.6
20	30	26,483	-47.3		27	12.6
15	30	28,396	-44.7		26	16.4
10	27	31,147	-38.2		26	19.8
7	19	33,603	-34.8		27	15.0

Standard pressure surface (mb)	YUCCA FLAT, NEV. 882 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,198	.7	-4.3	32	2.3
1000	31	171				
950	31	587				
900	31	1,031				
850	31	1,495	4.2	-6.7	35	5.1
800	31	1,986	1.5	-11.9	36	4.9
750	31	2,503	-1.7	-14.5	36	5.2
700	31	3,049	-5.0	-18.0	35	5.4
650	31	3,625	-8.6	-22.0	33	4.9
600	31	4,243	-12.8	-26.3	32	5.4
550	31	4,895	-17.3	-30.9	31	7.6
500	31	5,606	-22.7	-35.3	31	9.7
450	31	6,364	-28.6	-40.2	31	11.4
400	31	7,205	-35.1	-45.5	30	13.5
350	31	8,123	-41.3	-48.5	31	14.9
300	31	9,154	-47.9		30	17.2
250	30	10,349	-54.0		30	19.8
200	30	11,766	-57.8		29	23.8
175	30	12,607	-57.6		29	24.1
150	30	13,579	-57.3		28	25.2
125	30	14,728	-58.2		28	22.9
100	30	16,129	-59.3		28	19.4
80	30	17,520	-60.3		28	14.7
70	30	18,350	-60.8		28	12.2
60	29	19,307	-61.0		28	9.5
50	29	20,441	-60.2		28	7.0
40	28	21,835	-58.7		29	4.5
30	28	23,646	-57.6		30	2.9
25	27	24,801	-56.5		29	3.1
20	21	26,224	-54.8		29	4.4
15	11	28,084	-52.0			
10	5	30,710	-47.7			
7						

Standard pressure surface (mb)	YUMA, ARIZ. 1000 MB — No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	15	131	10.1	-3.2	34	1.1
1000	15	129				
950	15	558	13.5	-4.2	34	3.7
900	15	1,013	10.8	-6.4	33	4.3
850	15	1,486	7.3	-8.7	33	4.9
800	15	1,982	3.6	-11.3	32	5.5
750	15	2,500	.8	-16.8	31	6.3
700	15	3,053	-2.7	-21.1	31	8.1
650	15	3,630	-6.4	-25.1	31	9.6
600	15	4,257	-10.9	-28.8	30	11.3
550	15	4,910	-16.0	-31.3	30	13.2
500	15	5,630	-21.1	-36.4	30	15.5
450	15	6,387	-26.6	-41.2	29	16.9
400	15	7,241	-32.8	-45.3	29	21.5
350	15	8,167	-39.5	-49.1	29	25.3
300	15	9,205	-46.8		28	27.6
250	15	10,393	-53.7		28	31.7
200	15	11,812	-57.7		28	33.8
175	10	12,671	-59.5			
150	7	13,622	-58.5			

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Mar.									
1	0.97	----	----	1.35	----	----	----	----	----
2	----	----	----	----	----	----	0.99	0.90	0.74
3	.80	.92	1.03	1.21	----	----	.97	.79	----
6	----	----	----	1.33	1.46	----	----	----	----
7	----	1.13	1.27	1.40	----	----	----	----	----
8	----	----	----	1.38	1.44	----	----	----	----
12	.81	.92	1.08	1.22	----	1.31	1.19	1.06	.95
13	.92	1.04	1.17	----	----	1.28	----	----	----
14	----	----	----	1.27	----	----	----	----	----
16	.89	1.00	1.12	1.28	1.46	1.29	1.14	1.03	.90
17	.98	1.08	1.18	1.33	1.45	1.30	----	----	----
18	.86	1.08	1.20	1.32	1.49	1.35	1.20	1.08	.97
19	.89	----	1.11	1.26	1.29	1.22	1.02	.87	.73
20	----	----	----	----	----	----	.96	.77	.65
21	----	----	----	----	1.43	1.22	1.04	.88	----
22	----	----	----	1.22	----	----	----	----	----
23	off sun	----	----	----	1.41	----	----	----	----
24	----	----	----	----	----	1.26	1.10	.94	----
25	.97	1.06	1.17	1.31	1.47	1.31	1.16	1.02	.90
26	.91	1.01	1.12	1.27	1.47	1.31	----	.88	.74
27	.95	1.04	1.18	1.32	1.46	off sun	----	----	----
28	.98	1.11	1.21	1.34	----	1.31	1.13	.97	----
29	.97	1.06	1.18	1.33	1.44	1.32	1.16	1.03	.93
30	.97	1.07	1.20	1.35	1.50	off sun	----	----	----
Averages	0.92	1.04	1.16	1.31	1.44	1.29	1.09	0.94	0.83

BLUE HILL OBS., MASS.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Mar.									
4	----	0.84	1.00	1.23	1.37	1.27	1.07	0.95	0.87
5	0.96	1.06	1.17	1.34	1.44	1.33	1.16	1.05	.95
6	----	----	----	----	----	1.05	.83	.66	.55
9	.84	.96	1.13	1.32	1.41	1.28	1.11	.96	.88
10	.79	.89	1.01	1.24	1.36	----	----	----	----
11	.89	.99	1.11	1.25	1.36	----	----	----	----
23	.84	.94	1.10	1.25	1.37	1.21	1.04	.89	.78
24	.72	.82	.94	1.15	----	----	----	----	----
27	----	----	----	1.13	1.25	1.00	.84	.72	.65
28	.89	.98	1.08	1.25	1.40	1.20	.98	.82	.75
30	----	----	.94	1.16	1.40	1.23	1.04	.89	.78
Averages	0.85	0.94	1.05	1.23	1.37	1.20	1.01	0.87	0.78

GUAM, M. I.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

Cloudiness prevalent all month
Recorder inoperative from November 23, 1968

HS Slight haze
HM Moderate haze
KS Slight smoke
H Haze
* Values corresponding to true solar noon

TUCSON, ARIZ.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Mar.									
1	0.90	1.01	1.14	1.24	1.38	1.23	1.11	0.99	0.88
2	.99	1.09	1.19	1.34	1.47	1.32	1.16	1.05	.94
3	.85	.97	1.10	1.27	1.38	1.25	1.08	.95	.83
4	.76	.86	.96	1.19	----	----	----	----	----
5	----	.77	.90	----	----	----	----	.82	----
6	.84	.93	1.10	1.27	1.42	1.22	.92	.85	.66
7	.67	.77	.92	----	----	----	----	----	----
8	----	----	----	----	----	----	----	.83	----
9	.70	----	----	1.17	----	1.24	1.05	.90	.83
11	.85	.96	----	1.27	1.47	1.27	1.08	----	----
12	.83	.94	1.06	1.25	1.40	1.29	1.13	.99	.88
13	.87	.98	1.11	1.27	1.43	----	----	----	----
14	----	----	----	----	1.40	----	----	----	----
15	.76	.86	.98	----	1.32	1.15	----	----	----
16	.84	.94	1.08	1.27	1.43	1.28	1.13	1.00	.89
17	.92	1.01	1.14	1.29	1.44	----	----	.98	.85
18	.90	1.00	1.13	1.30	1.46	1.27	1.11	.97	.86
19	----	----	----	----	1.31	1.15	.99	----	.83
21	----	----	----	----	----	1.22	1.06	.93	.77
22	----	----	----	----	----	----	----	----	.78
23	.65	.77	.91	1.15	1.33	1.17	.99	.87	.76
24	.84	.94	1.09	1.22	1.44	1.32	1.17	1.02	----
25	.91	----	1.18	----	1.48	1.29	1.10	.95	.85
26	.95	1.06	1.18	1.28	1.47	1.33	1.15	1.03	.91
27	.90	1.00	1.12	1.24	1.44	1.25	1.05	.94	----
28	.87	.97	1.10	1.27	1.41	1.28	1.09	.98	.88
29	.90	1.00	1.13	1.30	1.44	1.23	----	.98	----
30	.89	1.00	1.13	1.28	1.43	1.26	1.10	.98	.86
31	.86	.95	----	----	----	----	----	----	----
Averages	0.85	0.94	1.08	1.26	1.42	1.25	1.08	0.95	0.84

OMAHA, NEBR.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Mar.									
10	----	----	----	----	H 1.38	----	----	----	----
11	0.91	1.01	1.13	1.31	1.42	1.09	----	0.53	0.44
12	----	----	1.04	1.18	----	----	----	----	----
14	HS .87	HS .97	1.08	1.20	1.38	HS1.04	HS0.89	HS .54	HS .31
15	HS .92	HS .98	HS1.08	HS1.18	HS1.33	HS .95	HS .59	HS .46	HS .37
16	----	----	----	----	----	----	----	HS .94	HS .81
17	KS .84	HS .96	HS1.08	HS1.22	HS1.33	HS1.12	HS .93	HS .82	HM .69
18	HS .78	HS .90	HS1.05	HS1.21	HS1.35	----	----	----	----
26	----	----	.91	1.20	----	----	----	----	----
28	----	----	----	----	1.34	----	----	----	----
Averages	0.86	0.96	1.05	1.21	1.36	1.05	0.80	0.66	0.52

MADISON, WIS.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69

No observations due to instrument being inoperative

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
	Day of month																															
ALBUQUERQUE N.M.	399	363	467	230	430	477	336	425	465	359	401	538	535	477	456	557	536	559	555	465	524	---	554	434	615	607	607	615	608	616	560	492
AMES IOWA	356	428	231	407	273	217	342	442	459	457	469	440	451	473	453	351	442	336	280	183	468	358	66	69	158	511	122	315	459	524	131	344
ANNETTE ALASKA	130	81	83	195	270	295	121	250	216	277	236	303	128	173	134	363	132	313	176	41	181	396	176	64	157	81	298	311	340	110	210	201
APALACHICOLA FLORIDA	456	529	205	413	258	49	523	312	554	540	492	166	584	450	152	85	37	253	583	590	493	569	321	615	---	415	643	555	619	624	595	423
ARGONNE NAT. LAB.	398	412	377	434	319	220	297	135	373	200	489	466	353	389	521	410	489	464	455	45	540	502	335	41	171	378	582	194	551	604	360	371
ASTORIA OREGON	226	83	201	176	122	188	368	207	426	447	422	470	445	308	371	---	---	181	243	474	423	106	488	499	493	509	301	481	238	301	226	325
ATLANTA GEORGIA	401	448	169	386	354	28	473	396	103	519	528	441	496	409	362	142	314	56	521	498	512	524	153	484	145	538	501	575	556	421	566	388
BARROW ALASKA	47	54	59	64	58	60	114	83	130	146	189	182	172	---	---	208	159	116	132	184	221	213	218	256	232	277	205	217	---	244	212	159
BETHEL ALASKA	149	147	147	98	78	151	152	154	158	177	157	202	191	335	328	305	315	203	166	353	217	332	370	373	213	242	305	372	271	303	327	235
BISMARCK N.DAK.	311	251	423	438	393	257	492	330	313	502	512	405	504	515	503	513	481	402	284	554	543	541	363	476	408	191	199	554	601	612	411	429
BLUE HILL MASS.	158	126	121	422	457	398	118	394	462	409	428	309	280	248	306	420	422	334	111	112	63	310	512	341	70	173	496	534	331	530	390	316
BOISE IDAHO	339	337	222	421	144	---	375	216	259	435	441	412	452	404	449	321	---	---	479	---	472	471	325	522	518	515	365	529	457	500	290	395
BROWNSVILLE TEXAS	96	226	359	266	155	550	281	391	388	86	60	293	526	122	83	164	531	605	614	505	---	---	579	532	486	613	476	575	324	278	560	370
BURLINGTON VERMONT	368	260	184	407	415	415	396	234	407	187	263	251	202	284	301	305	196	354	232	168	63	116	472	368	57	113	315	521	112	265	291	275
CAPE HATTERAS N.C.	52	92	464	455	523	338	366	507	231	536	523	573	543	547	560	267	537	119	---	528	312	555	596	185	577	500	601	618	579	499	613	447
CARIBOU MAINE	414	411	172	374	454	458	463	333	416	246	271	306	422	499	452	349	479	340	227	376	114	302	370	507	227	232	300	593	239	461	472	364
CHARLESTON S.C.	143	540	268	543	524	129	585	607	522	---	---	573	566	571	497	88	276	31	563	589	377	601	464	396	609	448	633	615	527	465	623	461
CLEVELAND OHIO	204	178	398	442	423	258	442	206	283	154	318	409	475	263	378	428	471	450	---	248	61	505	422	71	---	211	501	333	273	305	501	331
COLUMBIA MISSOURI	413	442	439	458	302	262	239	188	506	399	577	497	553	413	546	530	525	516	427	275	530	482	54	53	103	526	191	196	509	455	234	382
DODGE CITY KANSAS	194	247	426	363	249	337	118	553	561	---	328	444	465	239	415	490	582	569	528	562	539	393	65	459	578	523	576	554	391	230	376	412
E. LANSING MICHIGAN	349	441	244	451	396	119	330	363	344	192	315	460	472	252	480	402	470	395	472	---	155	526	405	52	81	291	564	99	306	271	562	342
EL CENTRO CALIF. NPF	495	495	493	438	519	502	492	508	441	441	544	532	405	554	564	564	533	526	547	550	550	571	571	571	597	597	597	597	570	570	531	531
EL PASO TEXAS	536	554	549	542	530	573	397	510	582	585	565	607	592	570	169	612	610	609	520	387	539	288	600	653	643	641	646	656	656	649	631	555
ELY NEVADA	353	515	369	537	522	434	510	534	564	543	596	588	603	621	632	584	519	577	628	567	350	633	653	656	642	647	643	643	622	634	475	561
EPPLEY NEWPORT R.I.	147	138	115	406	443	352	76	417	448	374	451	368	324	304	312	464	461	---	138	115	66	330	507	300	111	326	508	534	453	475	388	328
FAIRBANKS ALASKA	143	154	151	149	162	74	108	153	157	166	170	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FORT WORTH TEXAS	487	51	245	422	56	448	251	481*	528	402	443	482	---	60*	70	296	123	587	580	513	570	201	226	206	639	617	607	598	167	89	374	361*
FRESNO CALIFORNIA	372	366	354	356	424	432	436	428	276	160	436	233	386	427	480	431	429	452	463	161	421	465	377	489	508	518	516	509	505	493	485	412
GAINESVILLE FLORIDA	488	476	68	436	282	83	474	293	457	492	464	318	518	392	154	70	16	61	536	560	512	---	---	---	356	368	625	556	562	543	480	380
GENEVA NEW YORK	194	226	346	395	370	187	384	274	366	333	311	217	171	212	351	262	403	409	216	285	36	397	476	73	95	145	460	466	200	418	306	290
GLASGOW MONTANA	365	372	401	414	399	265	432	289	334	464	432	386	479	454	395	454	433	439	481	483	510	507	193	490	526	521	365	494	433	529	439	425
GRAND JUNCTION COLO.	95	488	364	156	537	268	351	474	475	493	369	407	441	536	542	543	469	508	564	563	---	431	428	431	583	582	585	---	593	598	426	459
GREAT FALLS MONTANA	394	451	380	437	277	224	386	413	357	471	456	480	507	461	168	250	436	336	505	481	490	251	125	487	500	517	386	460	281	517	438	398
GREENSBORO N.C.	128	481	371	415	480	88	441	433	165	479	467	527	509	510	452	375	---	---	508	464	431	527	516	123	413	414	319	565	452	560	580	420
INDIANAPOLIS INDIANA	326	449	364	444	385	248	267	39	298	252	529	510	444	445	535	515	513	500	506	394	385	527	158	95	112	260	577	238	327	614	499	379
ITHACA NEW YORK	206	216	344	444	427	262	443	349	457	231	359	211	143	139	194	261	526	436	283	346	61	362	529	82	92	56	352	542	107	329	380	296
LAKELAND FLORIDA	369	524	181	484	---	---	---	199	467	509	---	313	505	538	161	18	65	---	---	---	466	526	403	---	281	---	---	---	---	---	---	---
LANDER WYOMING	378	424	367	222	446	256	308	493	493	482	521	455	486	531	456	491	463	461	464	537	500	537	216	427	568	553	447	549	568	460	432	451
LARAMIE WYOMING	281	332	413	294	379	313	249	434	445	454	468	326	465	492	473	467	440	448	383	498	500	486	228	410	487	446	427	356	435	440	532	413
LAS VEGAS NEVADA	468	488	318	311	515	242	419	486	379	180	540	480	333	575	577	560	523	443	585	582	361	567	611	624	616	616	584	613	626	593	470	493
LEXINGTON KENTUCKY	90	189	313	387	449	62	298	154	57	270	429	494	481	428	513	519	514	207	488	326	503	534	341	172	79	296	491	511	155	522	573	350
LITTLE ROCK ARKANSAS	229	453	301	483	187	59	490	247	611	531	542	434	527	323	131	528	396	324	494	480	505	452	34	160	522	588	524	552	111	543	205	386
LOS ANGELES CALIF.	484	502	---	---	511*	422	---	412	477	467	486	384	416	537	553	540	537	426	501	388	256	565	395	560	583	610	597	495	501	489	475	485*
LOS ANGELES CALIF. U	419	576	529	522	---	496	531	210	420	420	---	282	458	551	529	559	---	---	---	---	---	---	371	560	565	---	---	549	527	437	446	---
MADISON WISCONSIN	393	426	438	450	328	259	286	428	465	475	502	496	452	464	501	365	491	415	462	65	541	499	234	59	280	554	544	185	607	610	343	407
MANHATTAN KANSAS	93	235	296	283	184	134	---	473	430	316	505	420	486	360	493	471	483	469	420	314	160	42	334	286	470	489	527	343	437	253	212	347
MATANUSKA ALASKA	203	169	105	223	196	50	178	126	122	222	175	278	245	297	307	300	276	285	135	174	77	119	268	270	133	293	319	392	324	255	184	216
MEDFORD OREGON	398	143	244	461	273	218	465	457	317	470	457	450	479	431	486	251	214	405	441	104	506	377	555	565	555	549	540	539	369	556	288	405
MIAMI FLORIDA	510	573	166	633	637	505	590	140	558	649	621	431	148	609	---	399	271	563	534	323	439	591	605	565	348	152	374	363	355*	404	---	450*
MIDLAND TEXAS	494	461	442	185	438	534	525	534	352	519	320	550	482	405	153	121	438	557	470	465	443	421	543	542	587	595	598	597	602	309	419	455
NASHVILLE TENNESSEE	83	357	180	437	299	24	403	141	146	260	500	358	491	491	341	499	470	97	497	---	546	529	187	201	67	180	447	565	61	570	584	334
NEW YORK N.Y. U	264	87	237	445	477	283	264	435	431	440	483	490	385	374	359	486	452	424	399	120	366	297	523	112	105	213	571	553	186	570	585	368
NORTH OMAHA NEBRASKA	189	375	---	---	144	107	143	---	---	---	507	480	477	512	501	427	483	468	201	306	309	305	101	290	280	536	---	419	382	521	260	349
OAK RIDGE TENNESSEE	122	307	251	230	370	52	415	263	114	347	444	426	544	522	416	553	496	105	497	418	584	574	329	313	64	243	495	592	117	601	616	368
OKLAHOMA CITY OKLA.	475	38	369	504	62	131	195	436	533	501	500	191	532	98	227	535	542	557	528	543	568	246	48	146	578	607	595	553	493	133	189	376

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PALMER AAES ALASKA	196	170	116	216	181	56	252	116	131	195	170	259	222	286	290	276	264	260	132	149	98	164	242	198	129	318	318	363	282	233	195	209
PHOENIX ARIZONA	462	507	504	413	500	418	402	542	381	289	528	545	483	433	551	572	568	563	538	474	551	233	584	613	618	611	609	607	607	610	483	510
PORTLAND MAINE	418	179	84	437	462	462	205	425	472	366	205	276	281	342	264	353	300	93	36	168	39	317	527	462	21	204	533	563	162	382	502	308
PROSSER WASHINGTON	238	182	284	340	212	136	341	381	428	430	426	417	431	263	350	267	53	145	204	241	225	191	200	251	252	238	91	259	197	190	212	261
RAPID CITY S.DAK.	256	316	334	---	449	341	369	430	319	502	516	386	520	503	475	457	442	401	355	244	511	498	261	459	527	511	386	252	264	315	460	402
RENO NEVADA	413	299	161	393	423	233	251	407	143	370	470	263	414	497	505	348	432	530	527	245	241	521	548	554	547	541	540	540	473	525	435	413
RICHLAND 25 NW WASH.	238	218	347	373	245	163	421	439	462	435	442	453	438	229	268	255	155	263	409	498	462	342	485	494	507	482	247	521	382	452	526	376
RIVERSIDE CALIFORNIA	198	532	396	533	543	380	488	397	381	313	561	459	376	606	604	596	556	533	593	575	198	560	280	667	663	661	645	635	600	533	500	502
RUSTON LOUISIANA	448	357	177	440	83	81	456	441	514	491	505	360	501	120	22	204	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAINT CLOUD MINN.	421	432	366	420	176	402	504	402	318	505	487	495	309	538	531	510	472	496	341	511	573	473	508	353	403	572	149	606	644	662	156	443
SALT LAKE CITY	101	374	442	410	445	274	369	475	487	490	515	506	637	544	546	520	402	337	432	541	394	572	318	581	590	584	519	574	384	581	339	458
SAN ANTONIO TEXAS	355	97	387	398	111	574	293	589	555	207	153	607	501	61	95	139	421	626	623	421	294	82	606	646	677	624	650	567	440	442	579	414
SANTA MARIA CALIF.	432	462	484	488	488	503	520	506	507	325	507	---	538	534	541	518	532	---	554	436	300	535	490	557	553	586	585	530	556	490	575	505
SAULT STE MARIE MICH	345	341	369	377	357	403	311	388	326	414	367	344	314	272	409	344	261	405	425	35	324	---	74	80	172	475	485	138	423	417	550	332
SEATTLE TACOMA WASH.	185	144	65	128	196	214	323	345	396	415	408	400	398	153	128	125	158	222	293	453	417	125	477	470	474	459	302	385	303	351	182	293
SEATTLE WASH. UNIV.	162	122	38	97	252	276	268	326	370	379	357	373	364	133	71	144	170	184	179	404	385	124	446	426	424	410	232	395	277	354	235	270
SPOKANE WASHINGTON	276	292	384	212	---	234	385	394	415	416	438	430	447	347	165	268	232	383	416	462	420	191	475	474	476	469	453	471	434	399	340	373
STATE COLLEGE PENN.	80	176	472	461	475	196	271	303	411	267	374	320	288	329	340	470	491	465	410	411	122	472	550	29	95	221	362	612	163	460	534	343
STERLING VIRGINIA	56	261	437	426	438	184	382	318	90	264	416	475	416	338	483	478	482	240	426	387	477	504	509	37	136	156	448	541	169	186	552	346
SWAN ISLAND W.I.	518	562	550	366	---	558	487	569	534	421	---	596*	560	---	528	612	603	595	482	467	609	538	570	572	---	585	332	493	497	620	549	532
TALLAHASSEE FLORIDA	476	478	121	367	274	38	474	358	522	477	496	235	530	514	206	58	54	202	525	521	392	519	274	559	537	395	590	398	553	563	550	395
TAMPA FLORIDA	318	448	161	475	235	204	500	182	381	---	---	---	552	593	183	27	82	333	446	596	569	572	556	82	437	273	526	551	564	604	549	393
TUCSON ARIZONA	471	539	532	413	387	545	251	389	443	364	559	565	548	342	559	588	581	590	564	446	532	202	589	619	620	622	616	618	616	620	500	511
WAKE ISLAND PACIFIC	499	568	567	593	599	600	598	497	445	569	609	617	562	511	610	599	512	627	644	481	264	621	598	614	610	630	594	---	391	652	497	559

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A, and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a. m.) at Palmer, Alaska

MARCH 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-73	-49	-42	-69	-25	-28	-34	-15	-28	24	7	-32	-16	-29	-10	10	23	35	10	38	-13	10	56	11	4	43	39	51	60	30	3	-0.3

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (<3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	16.28	18.55	12.92	18.25	13.52	11.15	15.49	18.95	19.44	19.64	19.74	18.06	18.25	19.64	18.65	15.29	16.77	13.81	10.95	9.27	19.74	14.01	3.94	4.24	8.54	20.13	6.90	13.71	18.06	20.33	7.30	14.88

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

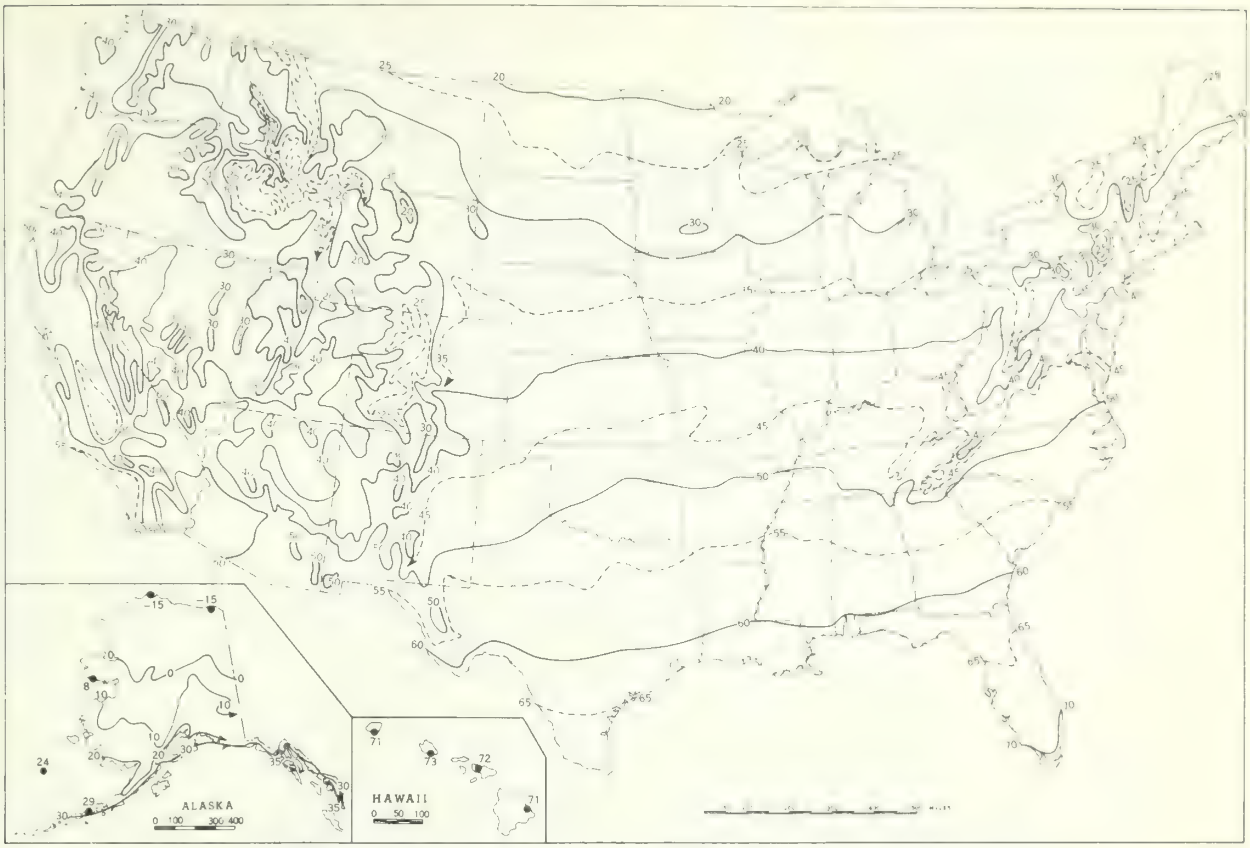
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code $\lambda s \Omega \Omega \Omega$ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\Omega \Omega \Omega$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e g , 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), March



B. Temperature Departure from 30 - Year Mean (°F 1931-60), March 1969.

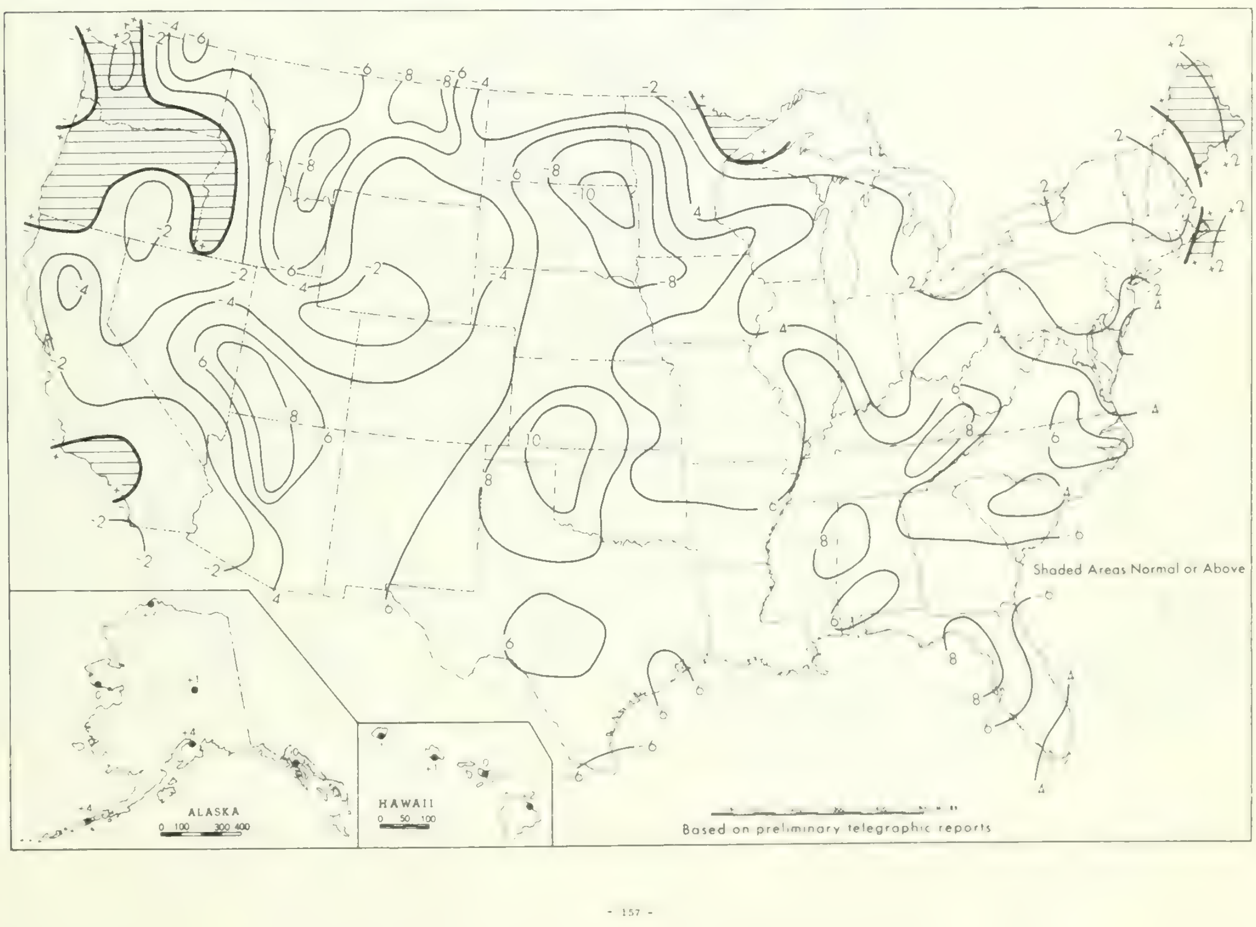


Chart II. Total Precipitation (Inches), March 1969.

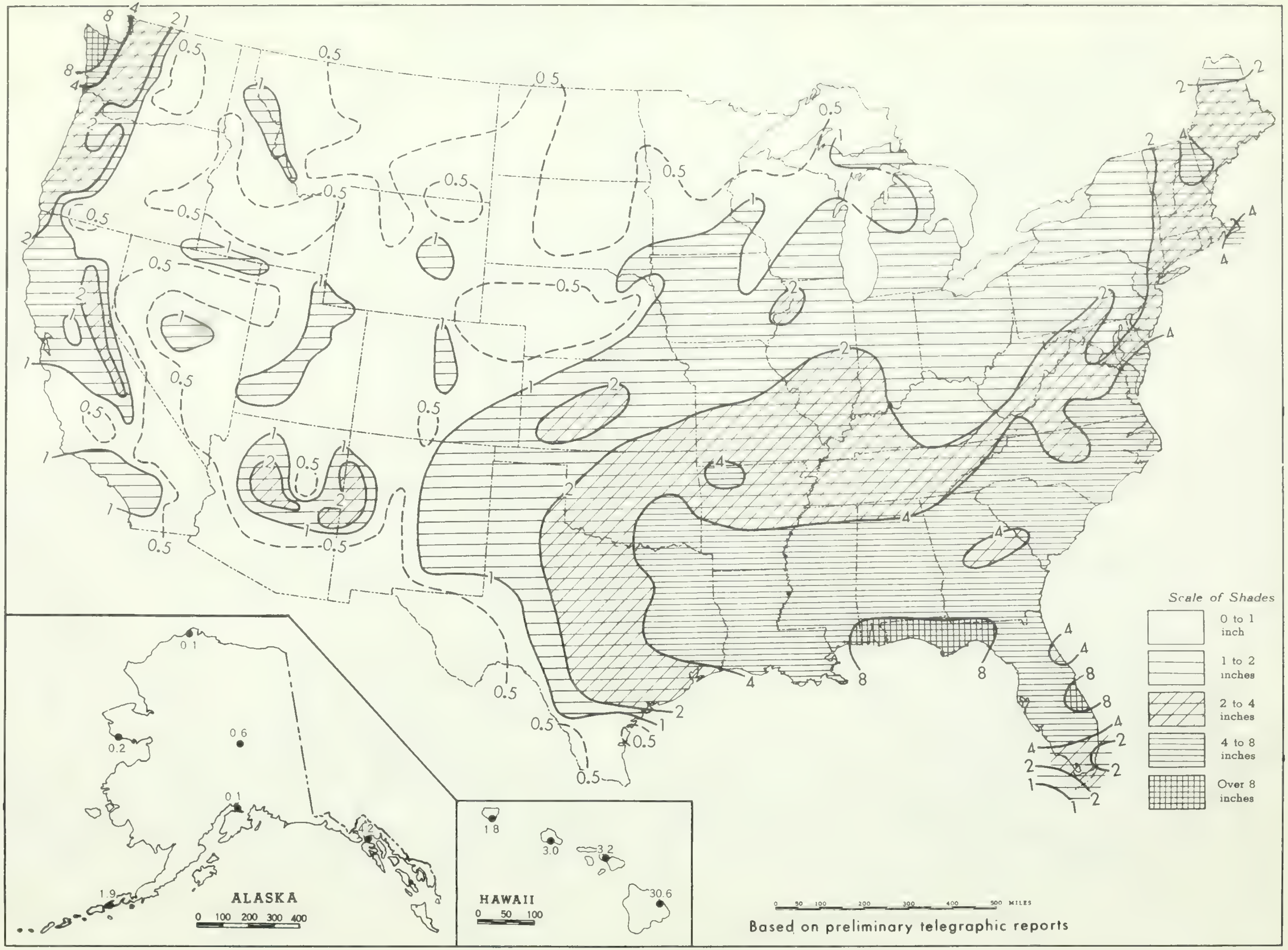


Chart III. Percentage of Normal Precipitation, March 1969.

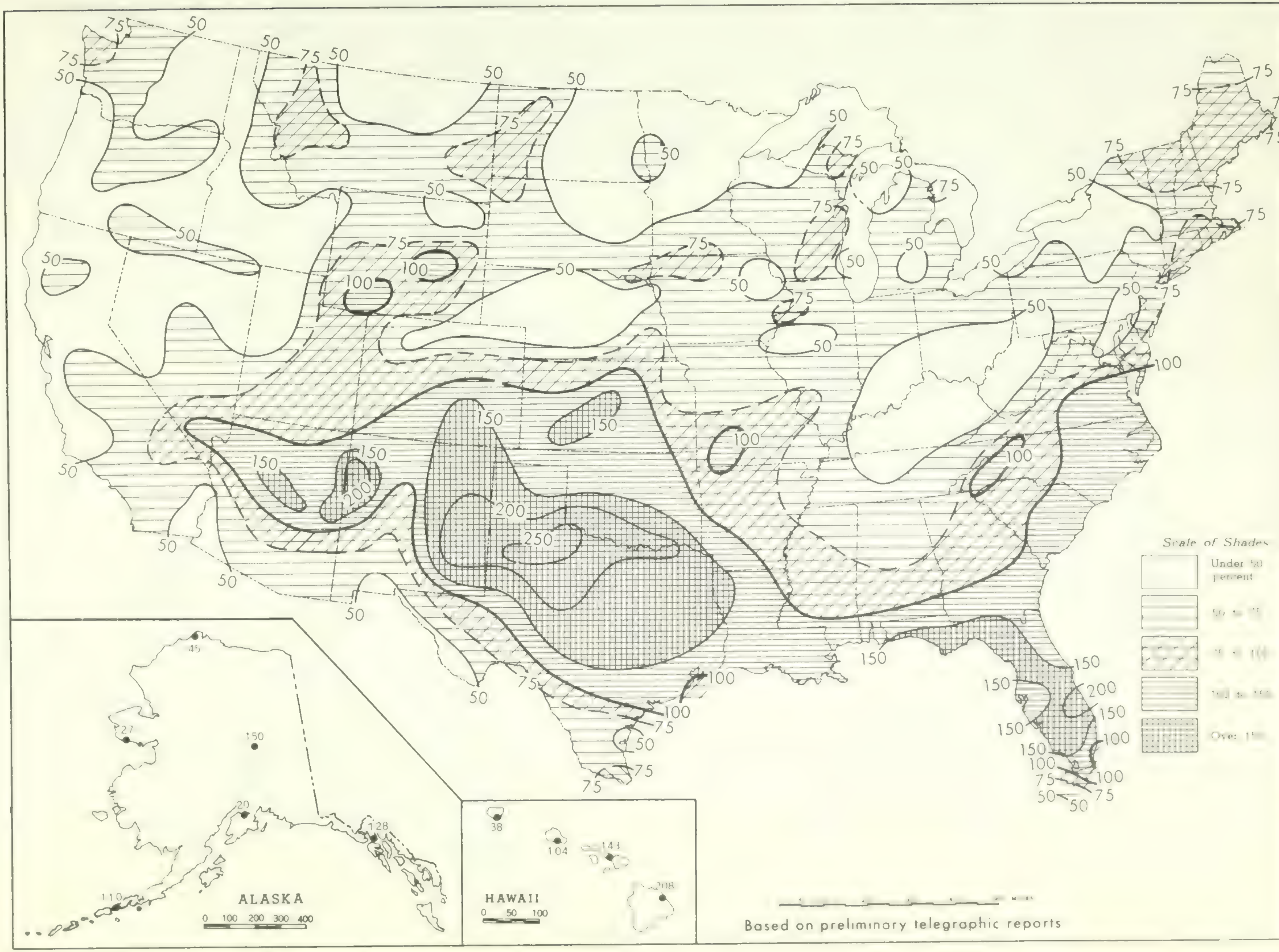
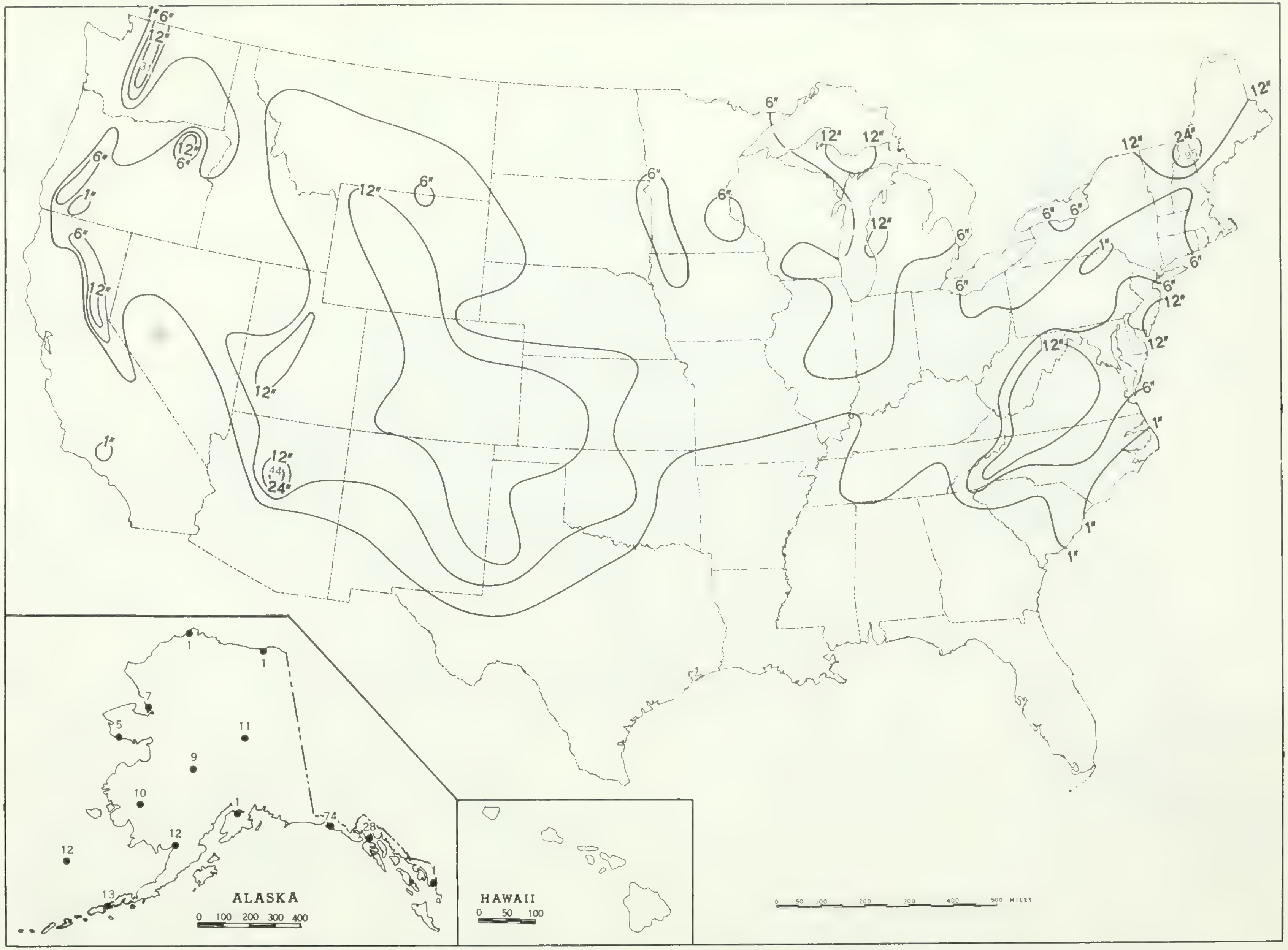
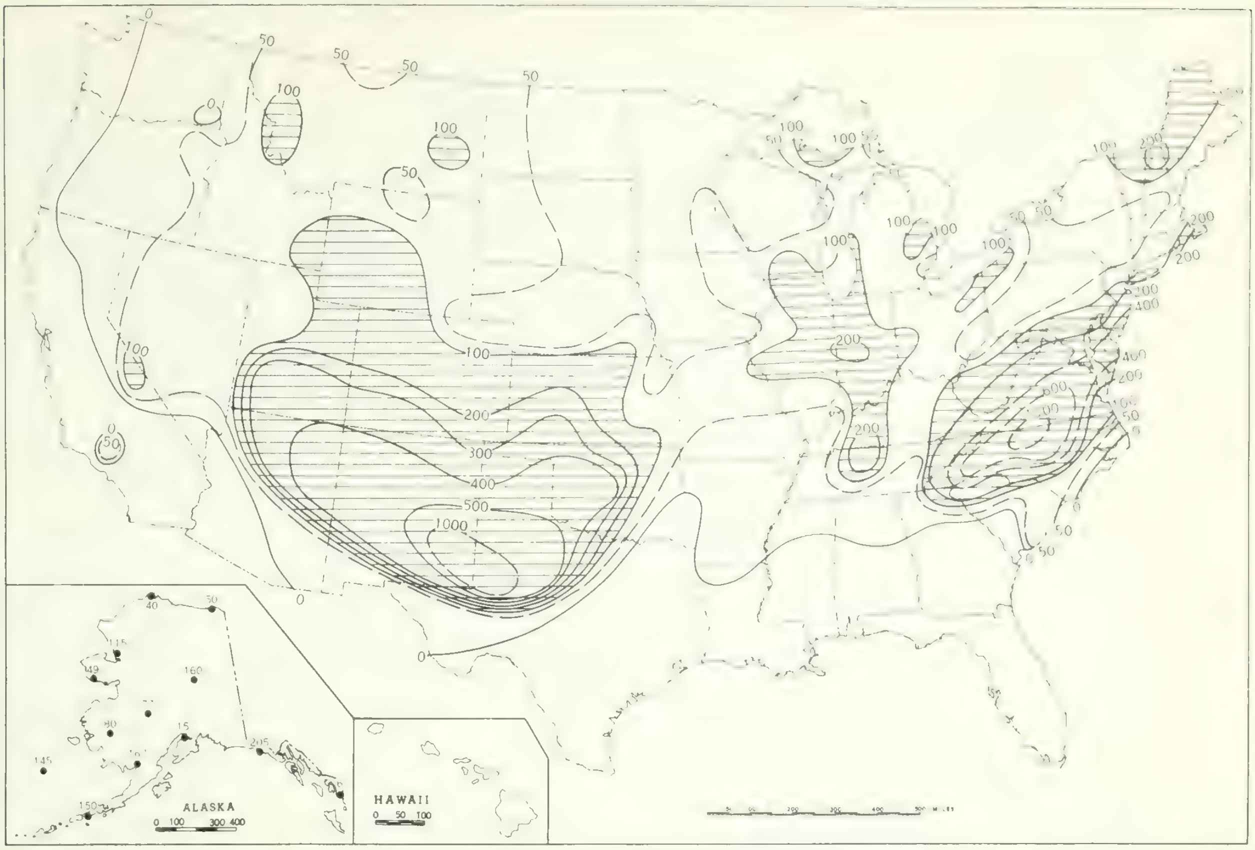


Chart IV. Total Snowfall (Inches), March 1969.

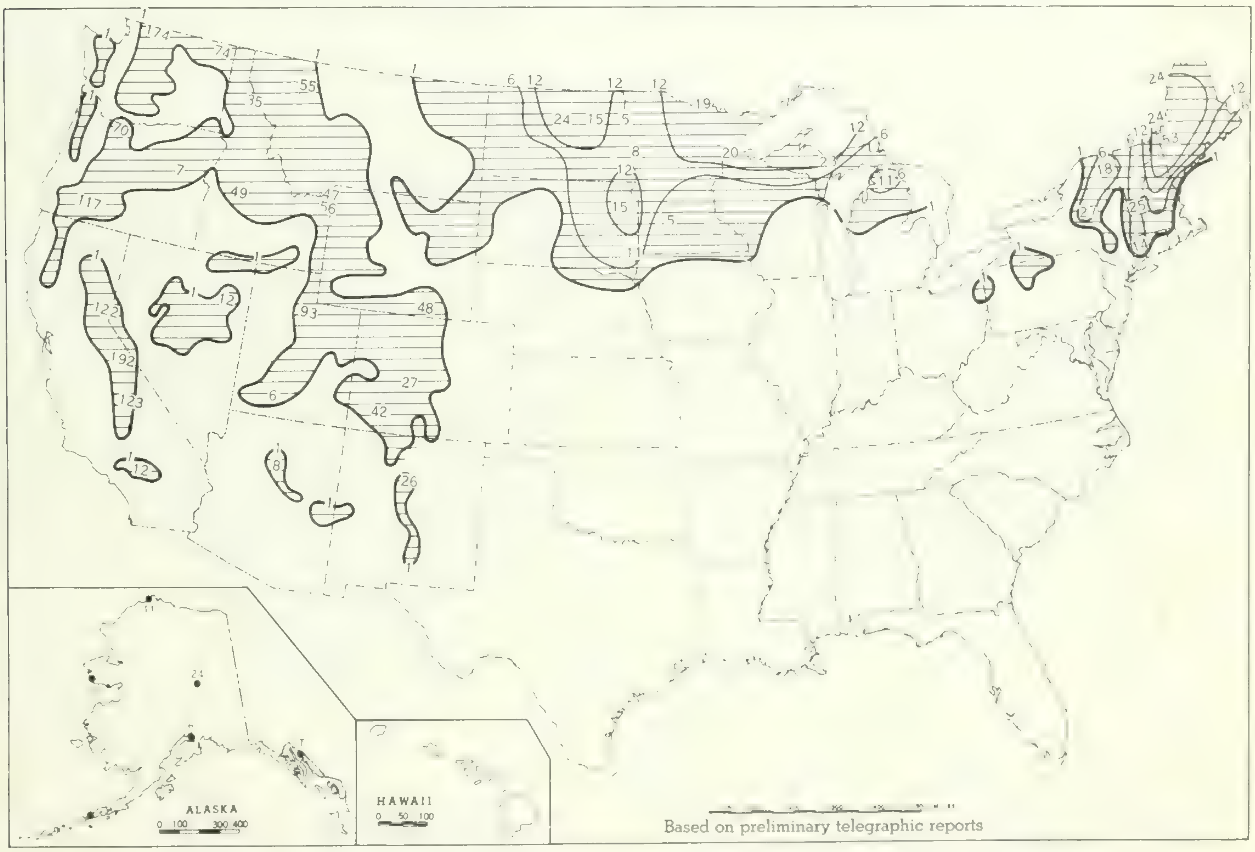


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, March 1969.

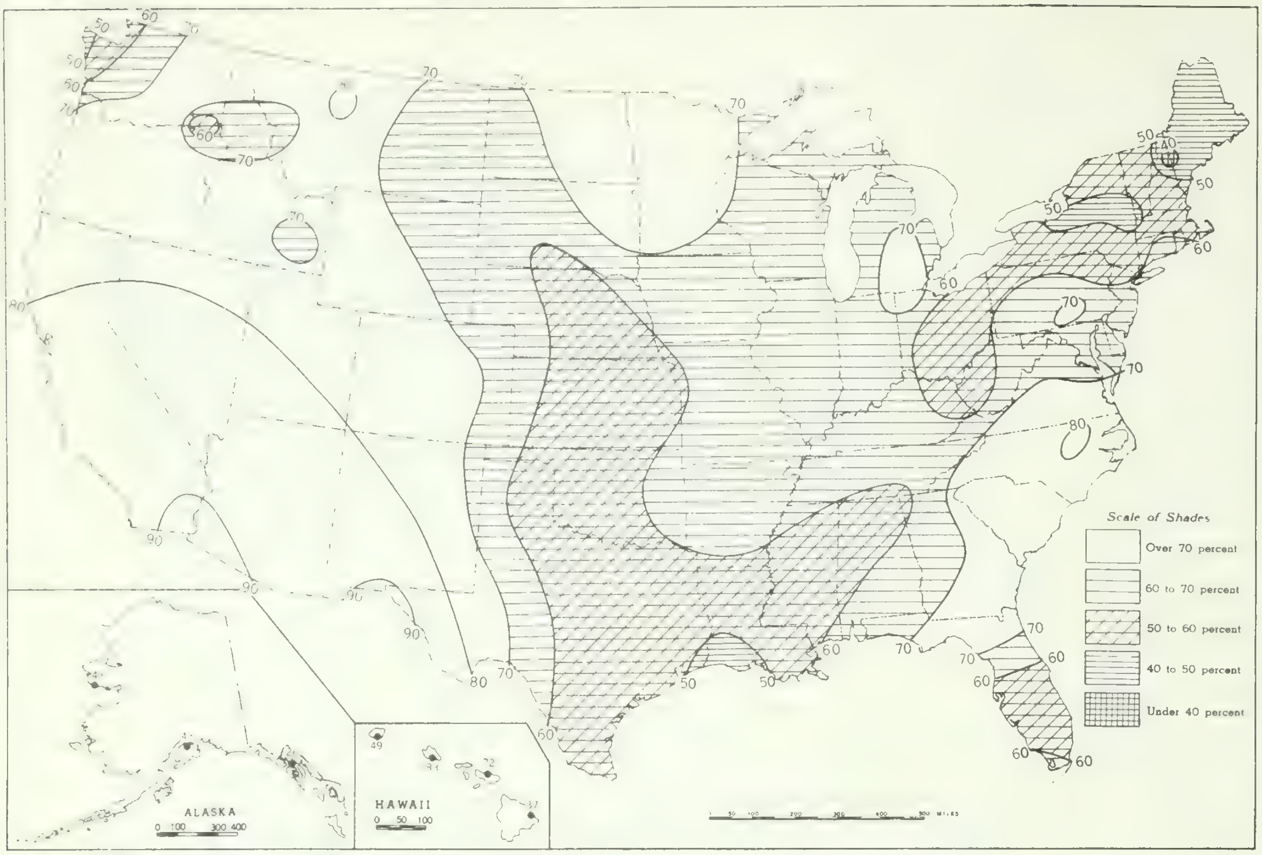


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., March 31, 1969.

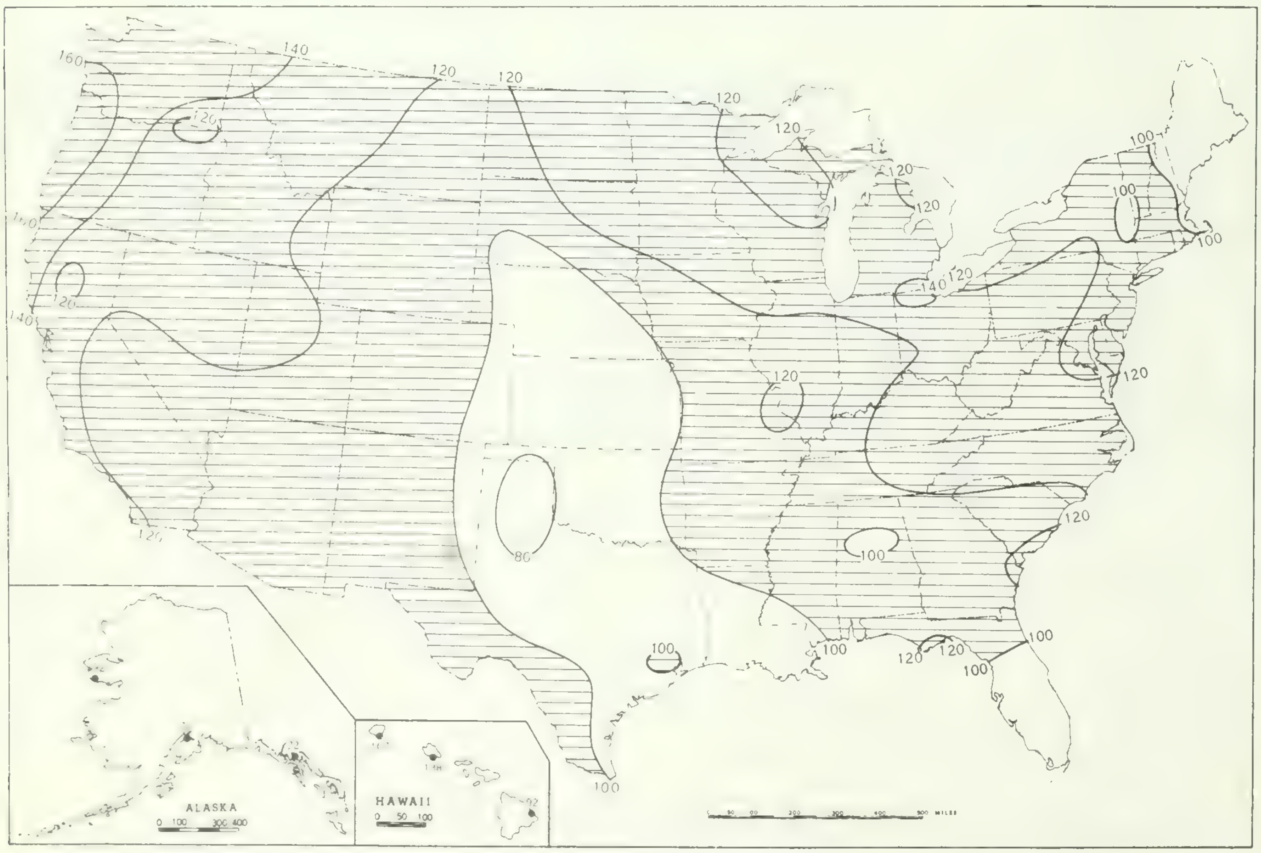


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, March 1969.

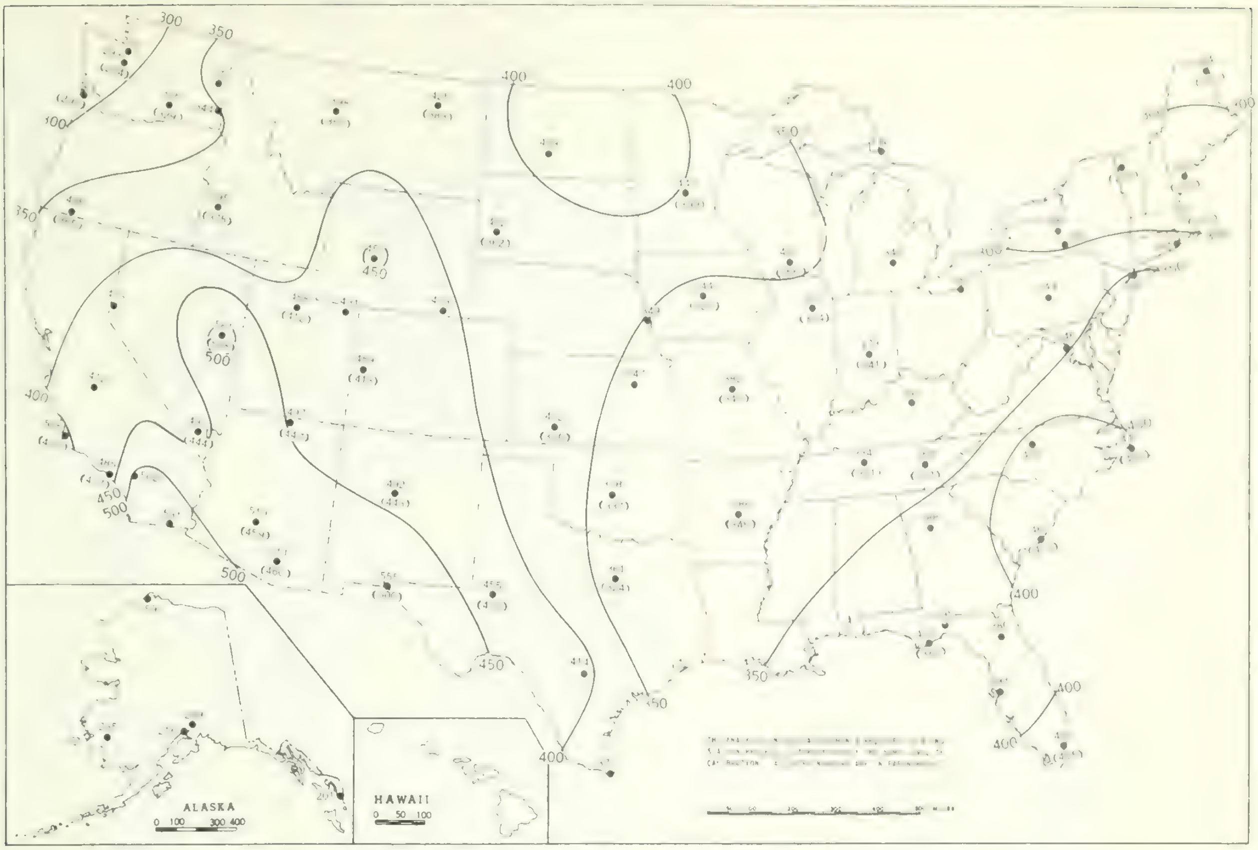


B. Percentage of Mean Monthly Sunshine, March 1969.

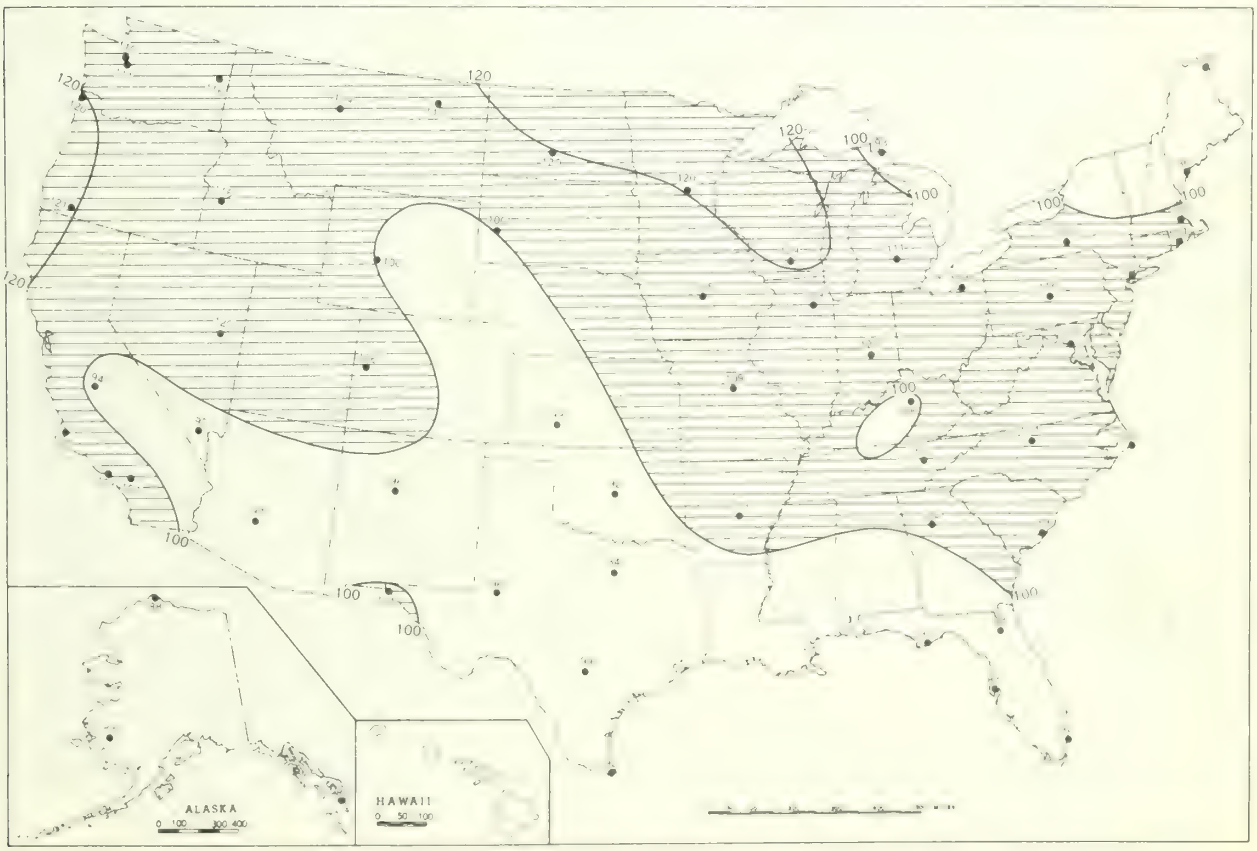


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, March 1969.

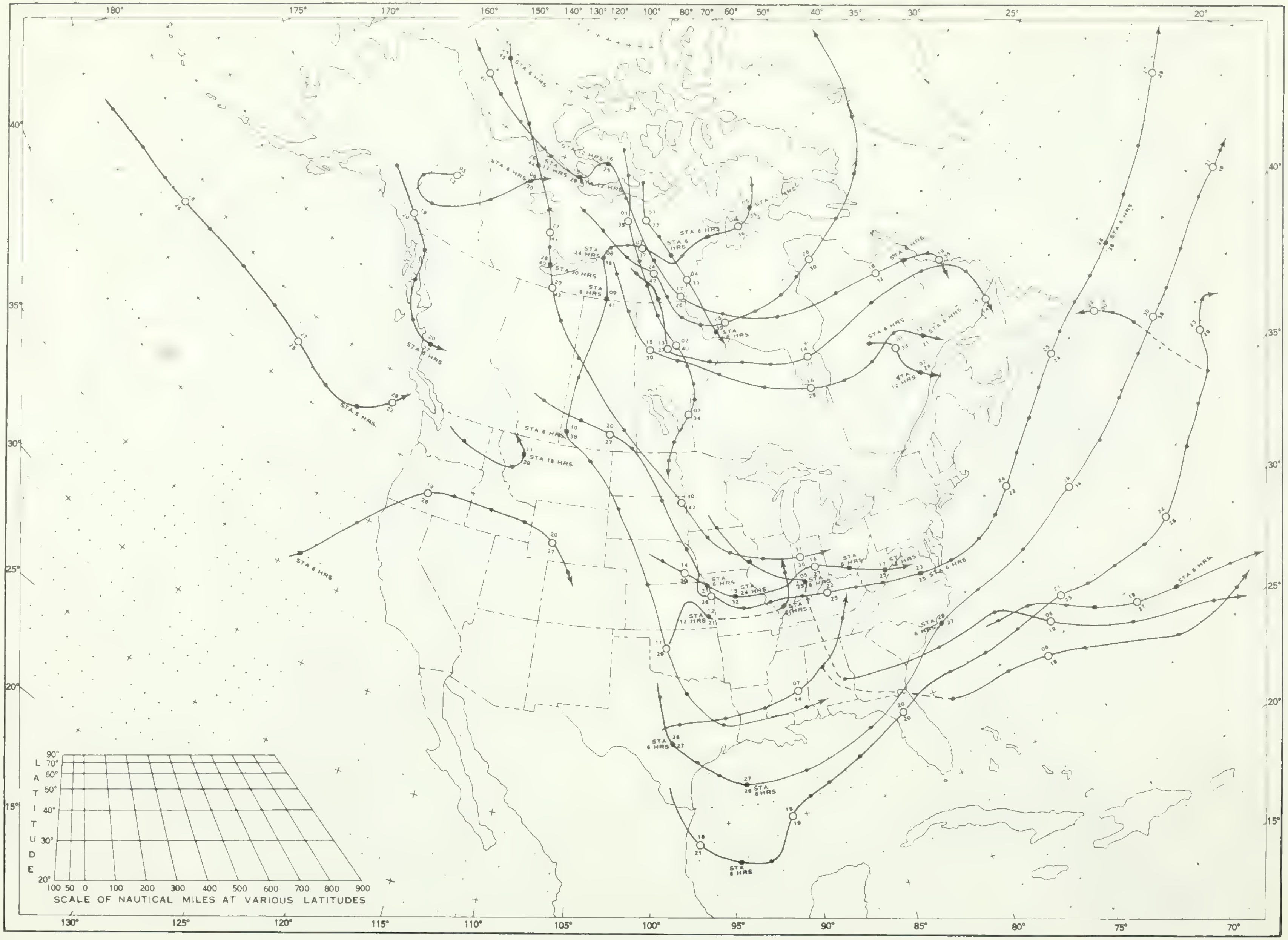


B. Percentage of Mean Daily Solar Radiation, March 1969.



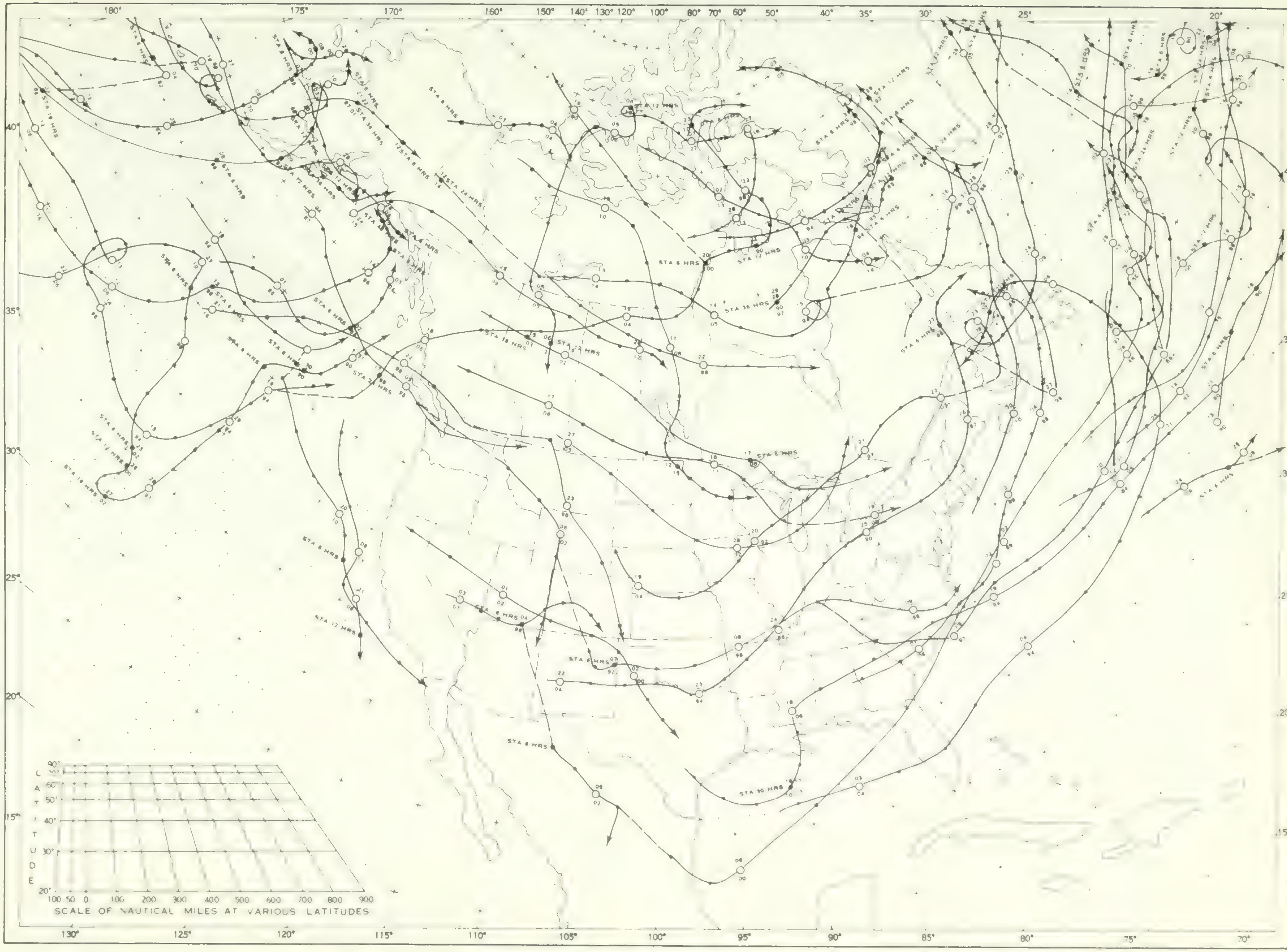
A Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, March 1969.



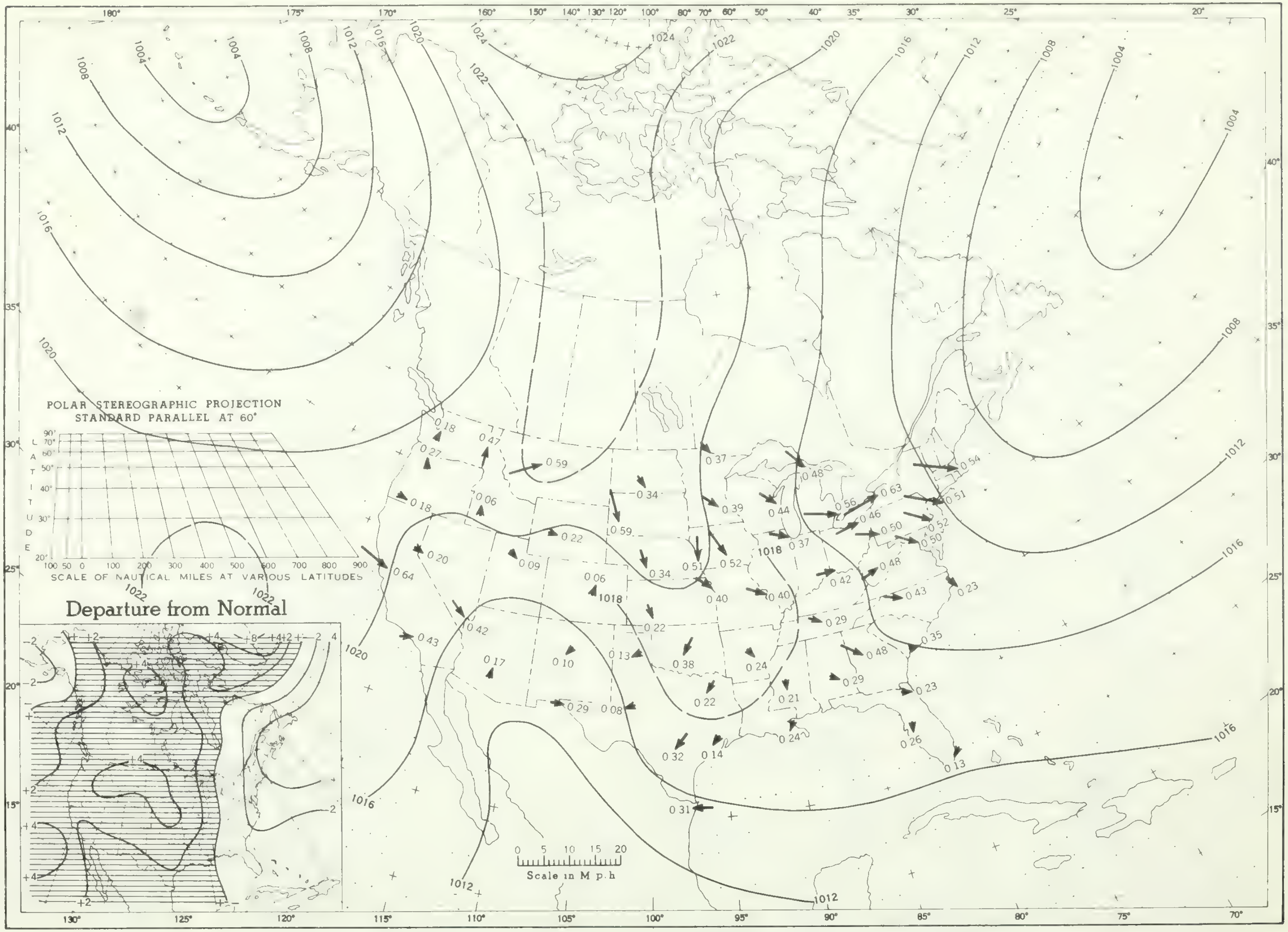
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, March 1969.



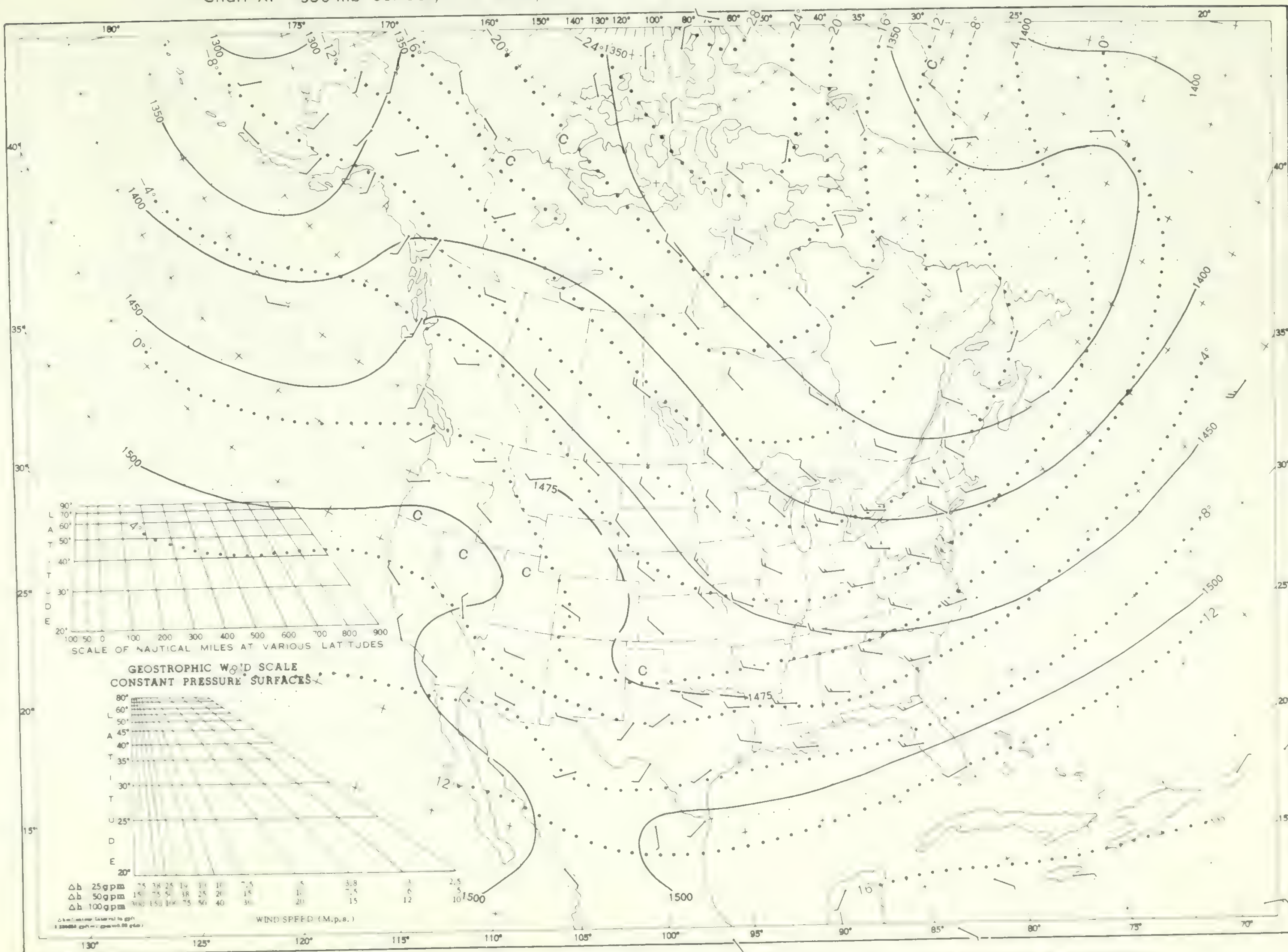
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X Average Sea Level Pressure (mb) and Resultant Surface Wind, March 1969. Inset Departure of Average Pressure (mb) from Normal, July 1969.



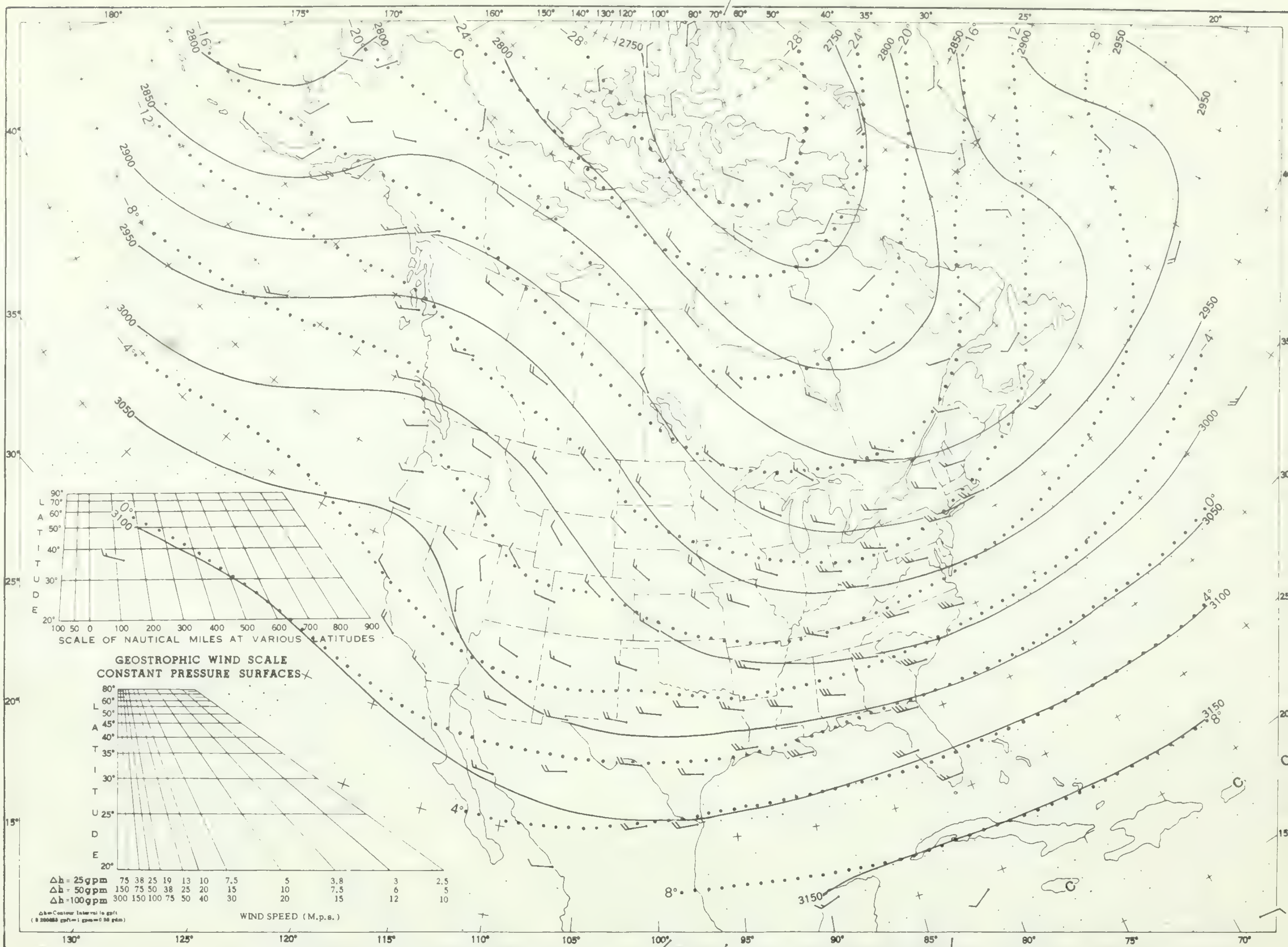
Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI 850-mb Surface, 1200 GMT, March 1969. Average Height and Temperature, and Resultant Winds



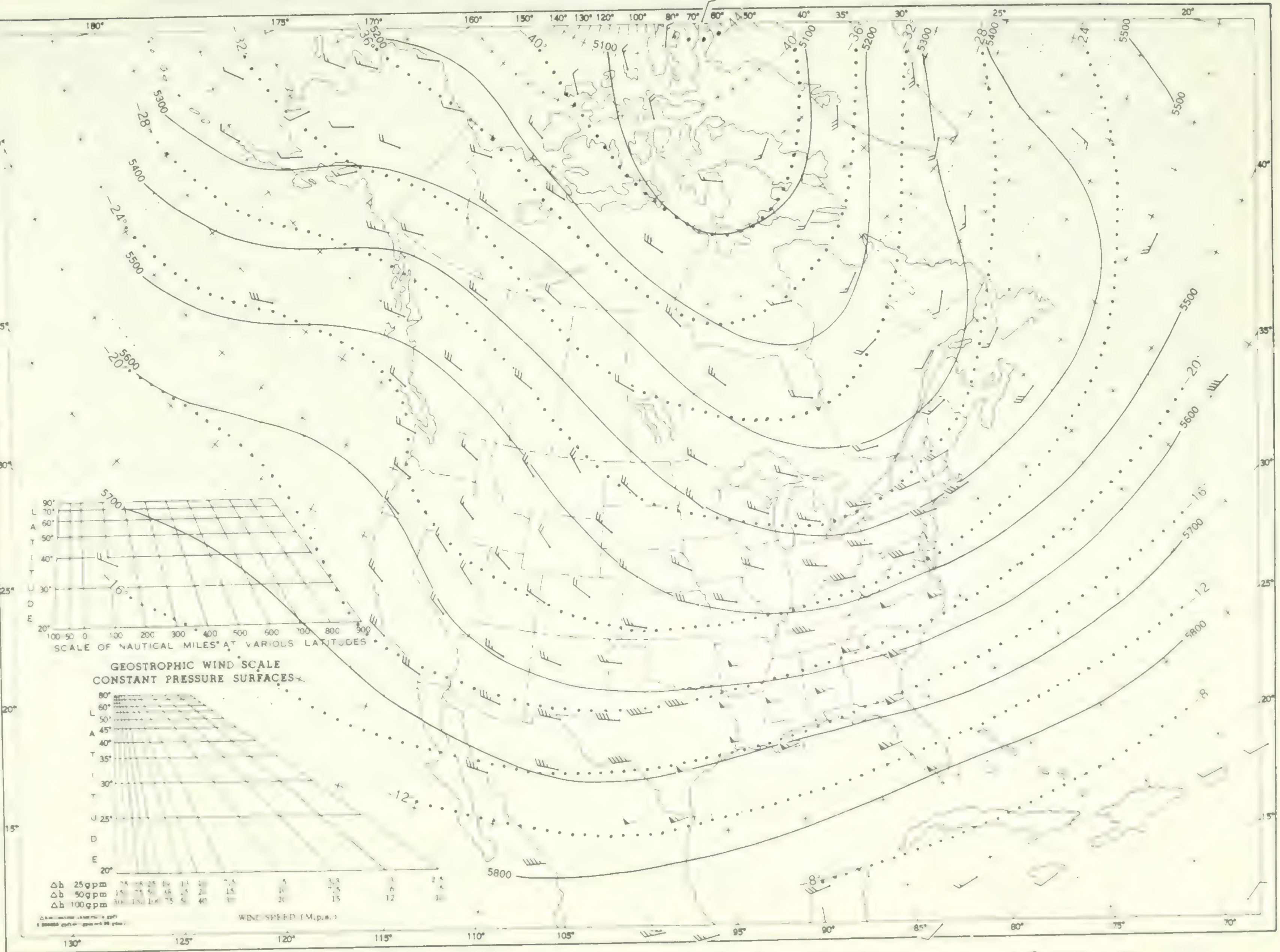
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb Surface, 1200 GMT, March 1969. Average Height and Temperature, and Resultant Winds.



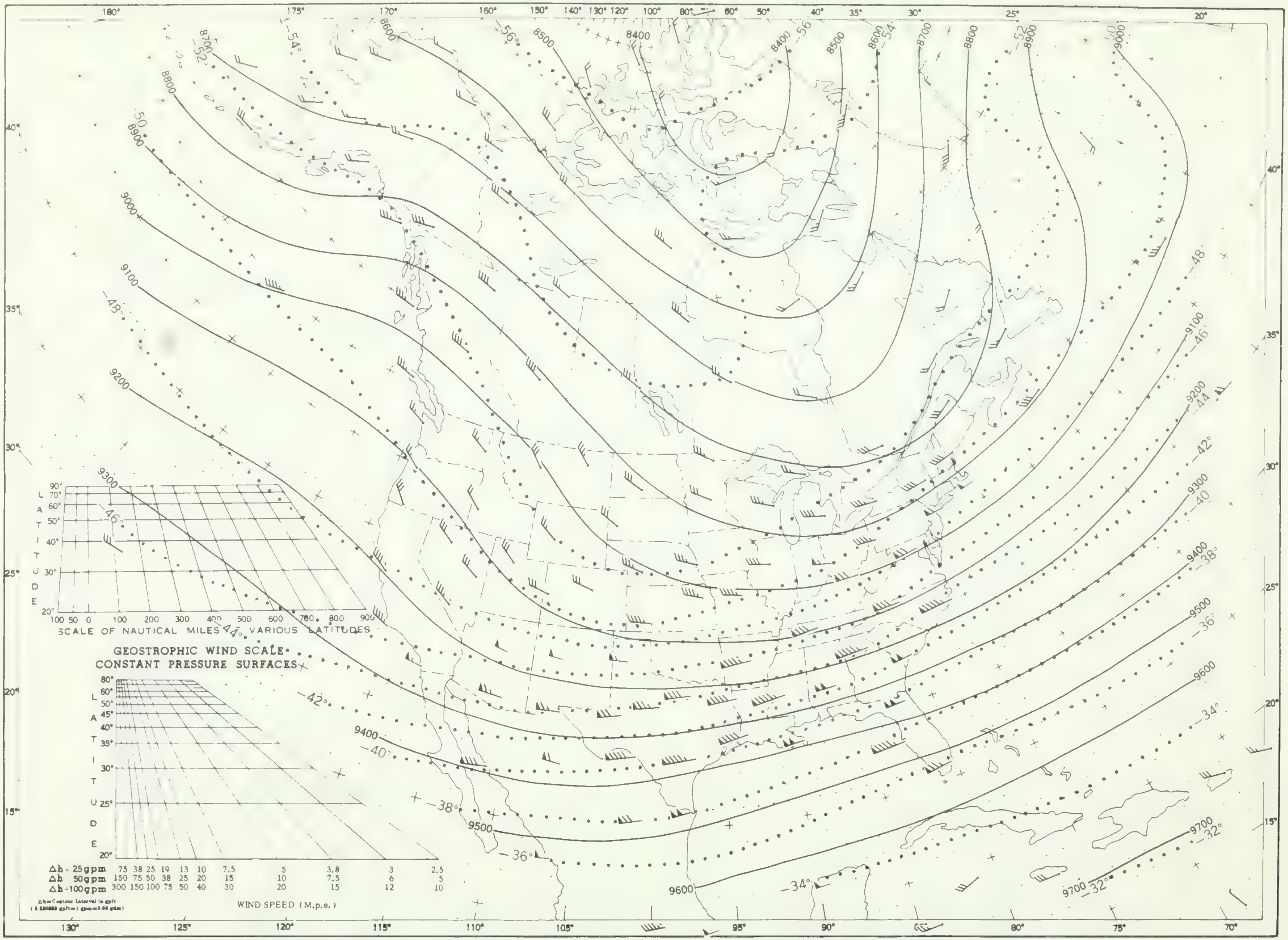
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, March 1969. Average Height and Temperature, and Resultant Winds



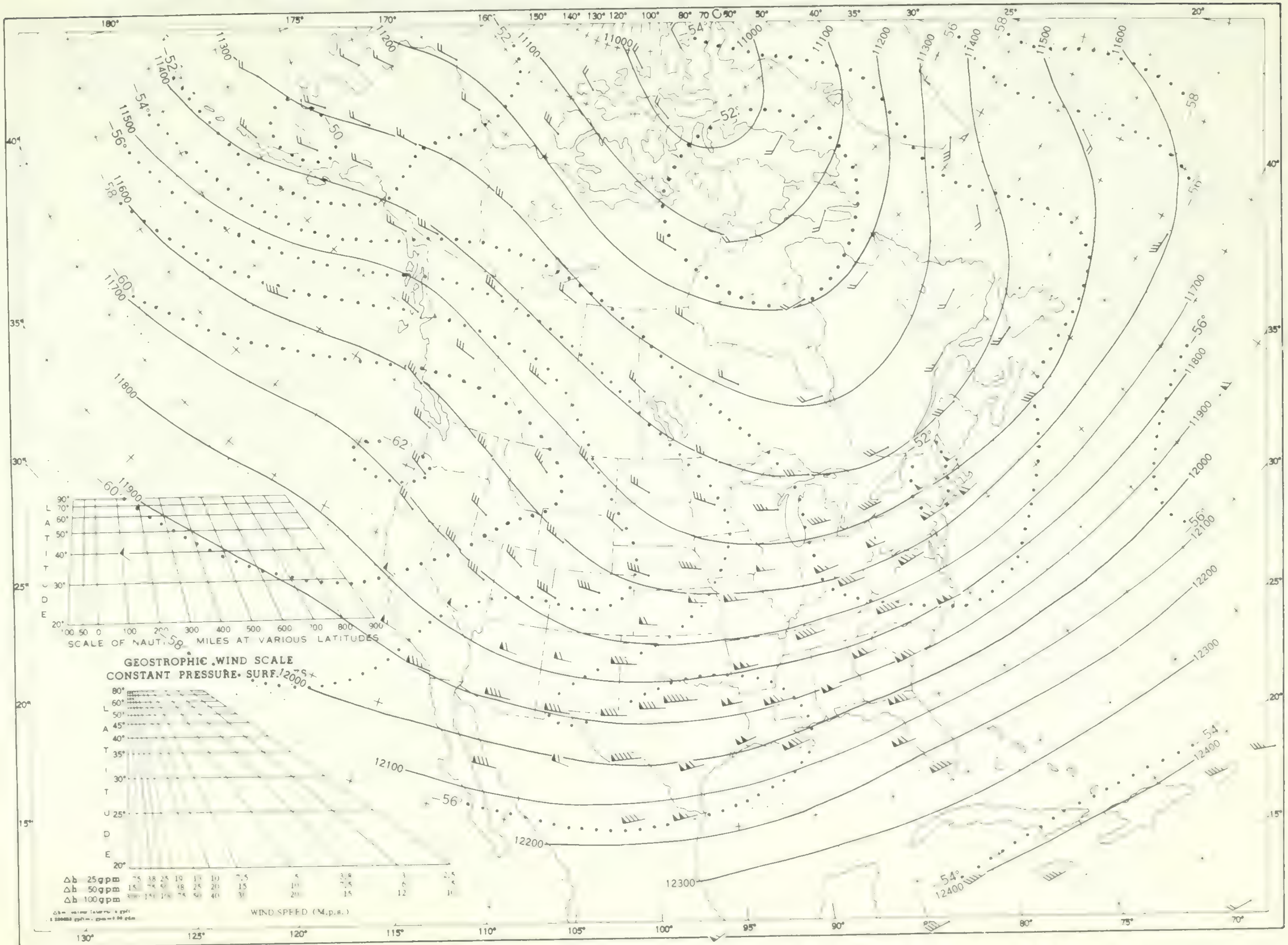
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV   300-mb. Surface, 1200 GMT, March 1969. Average Height and Temperature, and Resultant Winds



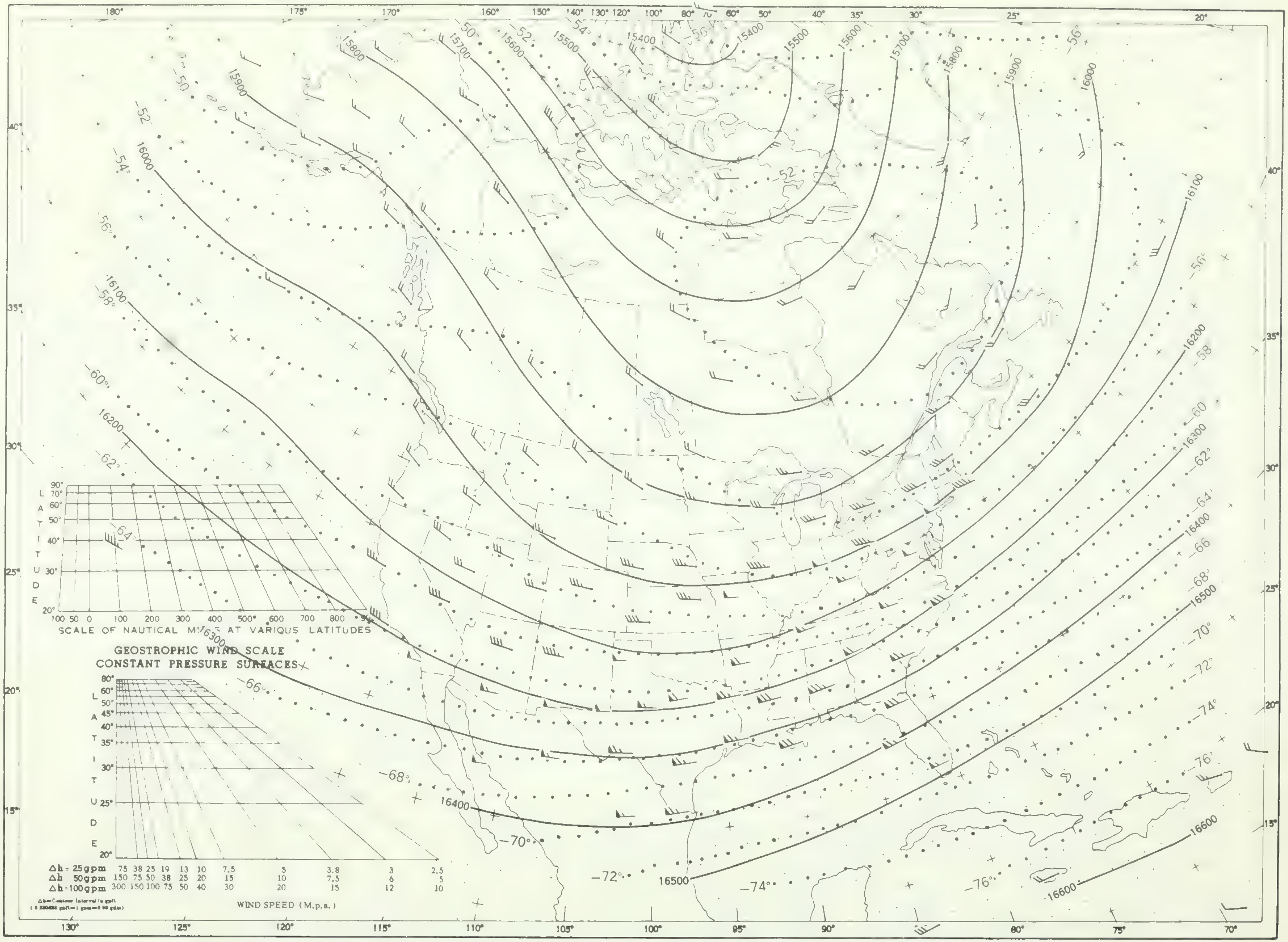
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, March 1969. Average Height and Temperature, and Resultant Winds.



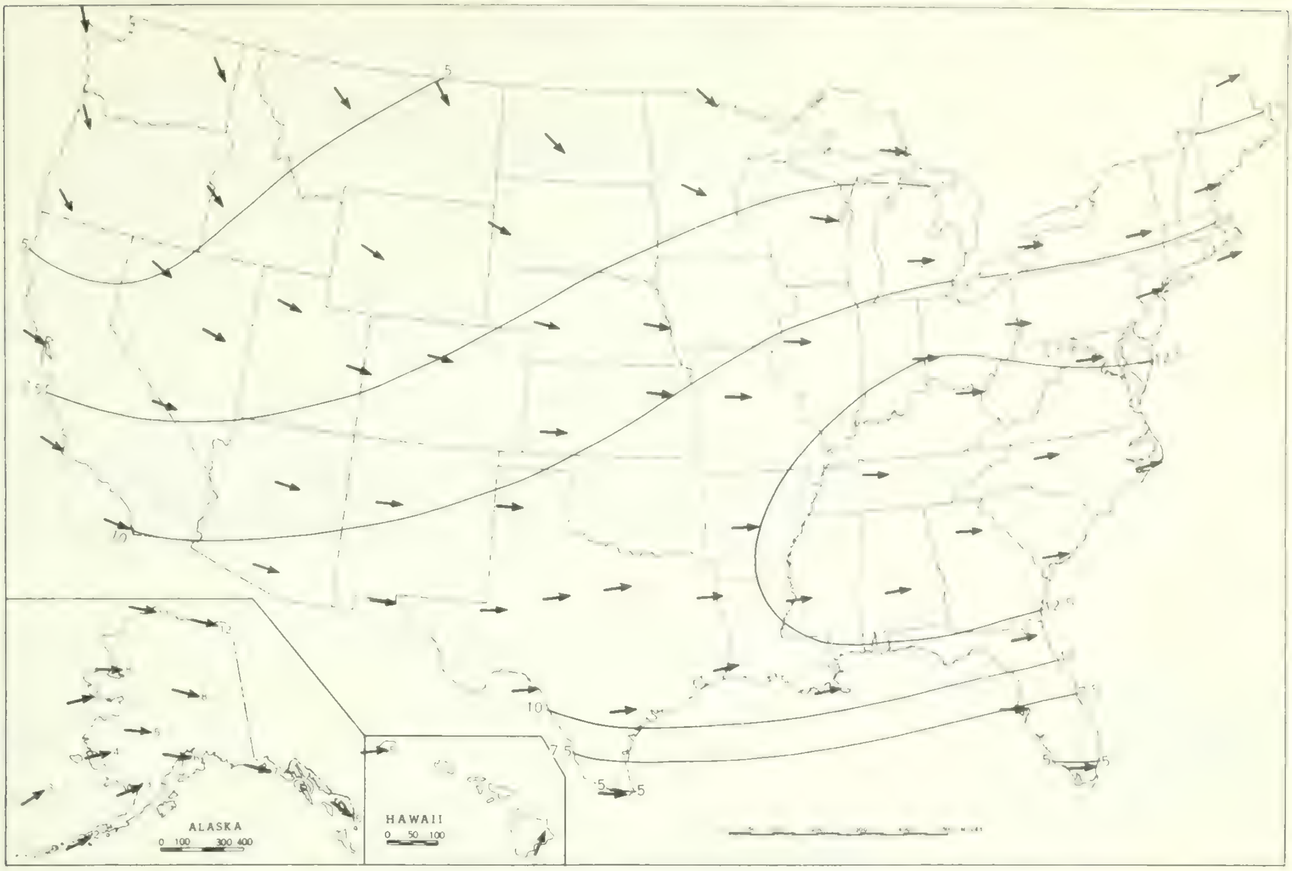
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI 100-mb. Surface, 1200 GMT, March 1969 Average Height and Temperature, and Resultant Winds.

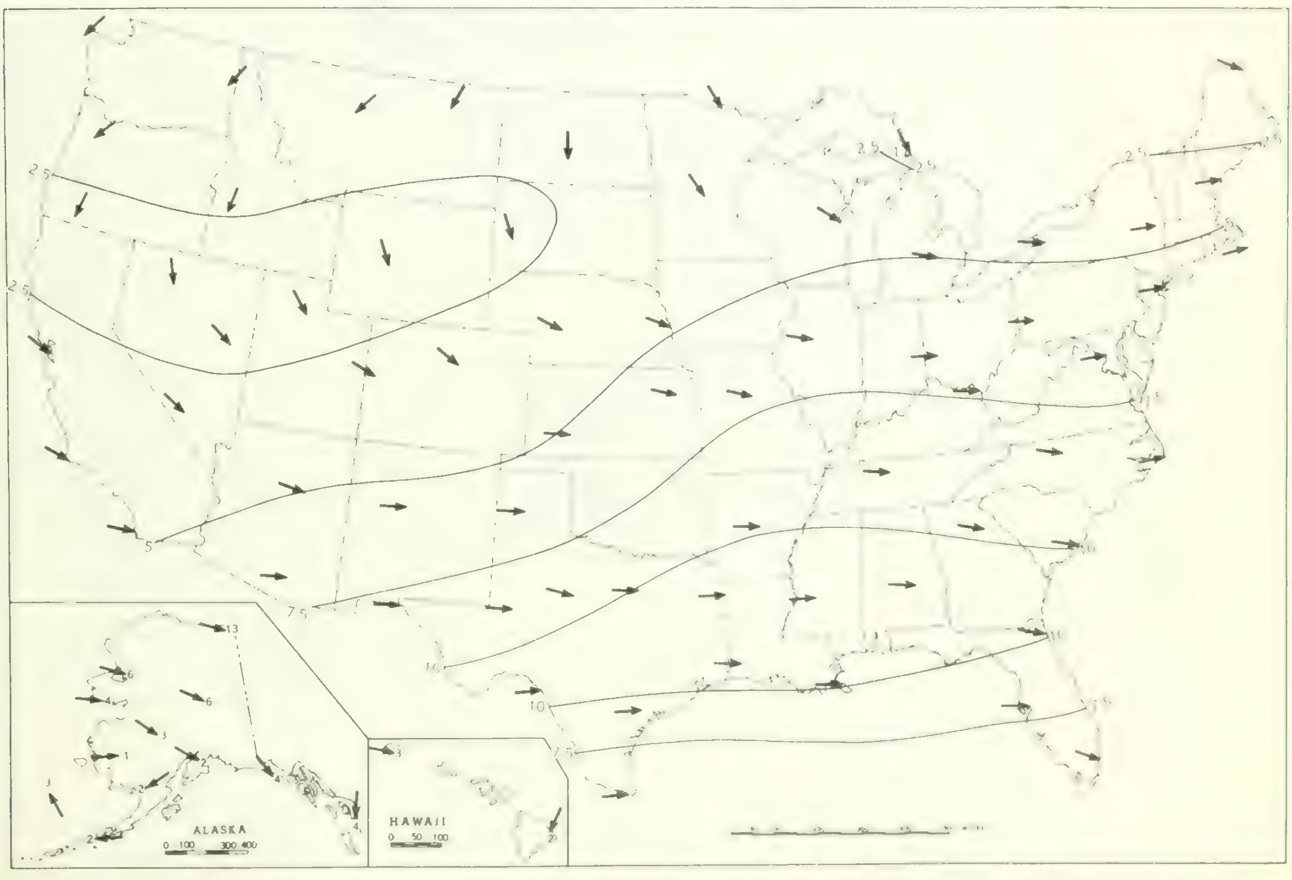


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, March 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, March 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

APRIL 1969
Volume 20 No. 4

Asheville 1969

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 4 APRIL 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:
1. Warm temperatures early in April caused rapid thawing of the deep snow cover in the north-central Great Plains, producing record flooding.
2. Damaging hailstorms, windstorms, and tornadoes hit the central States and the Deep South.
3. Temperatures averaged above normal in April, following one of the coldest Marches of record.

TEMPERATURE.--Most of the Nation averaged warmer than normal in April. The northern edge of the Country from the Continental Divide to Lake Superior, the eastern slopes of the northern and central Rocky Mountains, and the western edge of the northern and central Great Plains averaged several degrees warmer than normal. Warmer-than-normal temperatures prevailed over almost the entire Nation in the first 2 weeks of April. The West and the southern Great Plains cooled in the third week and much of the East cooled in the last week.

Widespread sunshine brought the warmest weather of the season to much of the Nation early in April. Most of the area from the Rocky Mountains to the Appalachians averaged 12° or more warmer in the first week of April than in the last week of March. Parts of the central Great Plains averaged 16° to 23° warmer. The warm temperatues melted much of the snow in the northern Great Plains, causing increased streamflow and flooding of low-lying areas. The warming trend continued in the 2d week of April. Afternoon temperatures climbed to the 80's over the southern Great Plains and to the 60's and 70's in the northern and central Great Plains by April 13.

The warming trend was interrupted in the 3d week of April as Canadian air cooled the West and the North Central States, tumbling temperatures sharply. Moist Gulf air continued to warm the East but the warmest spots were in the Southwestern Deserts where maximums reached the 90's on 2 or 3 days. As the slow-moving cold front advanced across the central part of the Nation, minimums dropped to below freezing. North Platte, Nebr., registered 21° on the morning of the 18th. Cooler weather reached the Northeast late in the 3d week of the month.

Chilly weather with subfreezing minimums prevailed over the North in the last week of April while mild temperatures, blue skies, and generally pleasant weather prevailed over the South.

PRECIPITATION.--Widespread sunshine prevailed over most of the Nation at the beginning of the month, with a few showers along the northern Pacific coast and in the northern Rocky Mountains, light snow flurries from the northern Great Lakes to the Appalachians, and light snow or freezing drizzle in the Upper Mississippi River Valley. About the middle of the first week, a few showers and thunderstorms broke out along a front that stretched from Arkansas to New England. Shower activity increased over the central Great Plains, and late in the week drizzle and fog covered the northern Great Plains to the Canadian border. Moderate to heavy showers hit parts of the Central and South, and Missouri had its first tornadoes of the season.

Heavy rains early in the second week of April combined with the snowmelt to send the tributaries of the middle Missouri and upper Mississippi Rivers to near or above previous record stages. Torrential downpours fell from southeastern Kansas to southern Illinois, and hail and violent windstorms swept across the central States on the afternoon and evening of the 9th. Hail as large as baseballs fell in Searcy County, Ark., and winds at Hot Springs gusted to 70 m.p.h. Violent thundersotrms dumped heavy rain in northern Mississippi. Creeks overflowed, flooding numerous roads and some residential areas and washing away bridges. Hail occurred with some of the storms. Downpours of 5 to 8 inches sent many south-central and southeastern Texas streams out of the banks. Numerous hailstorms and a few tornadoes struck Texas in the second week of April. The tornadoes caused only a few injuries but some resulted in extensive property damage, especially in Matagorda County on the 11th.

Snow fell in the central Rocky Mountains early in the third week of April--8 inches at Rawlins, Wyo. Severe thunderstorms became active in the moist Gulf air that covered the central and southern Great Plains. Hail as large as baseballs pelted Comanche, Okla., on the 16th. A man south of Comanche was seriously injured when a tornado struck his home. Numerous other tornadoes and hailstorms hit Oklahoma and neighboring States on the 16th. More than a dozen tornadoes touched down from Alabama to the Carolinas on the 18th. One of the worst of these struck at least 9 areas as it skipped from the southwest corner of Georgia to the Atlantic coast. Miraculously, no one was killed but about 30 persons were injured and property damage, mostly to buildings, powerlines, and timber, was estimated at about $2 million.

Snow fell from Ohio to New England on the 19th, accumulating to 6 inches in northern New York.

A storm centered in the western Great Lakes region April 21 moved eastward to the Atlantic coast. It produced squally weather over the Great Lakes and blustery, cool, wet weather to much of the northeast quarter of the Nation. Damaging winds occurred from Iowa to Ohio; snow and sleet fell in Upper Michigan; and heavy rains drenched the Northeast from Maine to Weat Virginia. The rains flooded roads, especially underpasses, basements, and cellars, and forced the families living in some lowlands to leave their homes temporarily. Reports of flooding came from Maine, New Hampshire, Vermont, Massachusetts, New York, and Ohio. Rapid late-season snowmelt contributed to the flooding in the eastern Adirondacks of New York. Hail, lightning, and wind damage occurred in some areas in connection with this storm.

A storm which moved into the Far Northwest near the end of the third week of April dumped 5 inches of snow at Blue Canyon, Calif. Thundershowers occurred in the Rocky Mountains. Hail up to 1 1/4 inches in diameter fell at Denver, Colo., on the 22d. This storm, a few days later, brought moderate to heavy snow in the northern Rockies and the adjacent Great Plains. A foot or so of snow fell in some localities in Wyoming, and Duluth, Minn., received 9 inches. A number of tornadoes struck parts of the South late in April.

One of these struck a mobile home park in Collin County, Texas, completely destroying 30 of the homes and sending 42 persons to hospitals. The month ended with a new storm developing in the northern Rocky Mountains, accompanied by rain, snow, and strong winds. Moist Gulf air moved northward. Thunderstorms occurred from Kansas to Texas and a thunderstorm dumped 5 inches of rain on Corpus Christi, Texas, in the afternoon of April 30.

FLOODS.--Alltime record flooding occurred along the Big Sioux and James Rivers and their tributaries in April. Continued cold temperatures in March prevented thawing of the deep snow accumulations from the heavy winter snow--94.7 inches at Sioux Falls, S. Dak. The water content of the snowpack in southeastern South Dakota ranged from 5 to 10 inches. The warming temperature trend in April caused record flooding along the Big Sioux and James Rivers and their tributaries and lesser flooding in the Vermillion River Basin. Overall flood damages were estimated at $19 million, mostly to roads and bridges. It was impossible to determine the amount of damage to agricultural lands. Serious flooding occurred along the Souris River driving 4,000 persons from their homes in the Minot, N. Dak., vicinity. Massive flooding occurred at Fargo, N. Dak., along the Red River of the North and its tributaries. Flooding occurred in Iowa and Minnesota along the tributaries of the Missouri and upper Mississippi Rivers. Heavy rains caused flooding along some streams in the Deep South, especially in Louisiana, Mississippi, Georgia, and South Carolina.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

APRIL 1969

STATE	Temperature — Monthly extremes — Station	Highest	Date	Station	Lowest	Date	Precipitation — Monthly extremes — Station	Greatest	Station	Least
		°F			°F			In		In
Alabama	Greenville	94	28	Valley Head	26	1	Reform	10.51	Newton	1.67
Alaska	2 Stations	64	29+	Kobuk	-30	4	Whittier	21.26	15 Stations	.00
Arizona	Phantom Ranch	101	21	Hawley Lake	1	4	Klagetoh 12WNW	.70	48 Stations	.00
Arkansas	2 Stations	89	16	2 Stations	31	25+	Beech Grove	8.41	Morrilton	1.35
California	Death Valley	100	21	Bodie	-9	7	Fort Dick	6.94	21 Stations	.00
Colorado	Holly	88	23	Twin Lakes Reservoir	0	7	Branson	4.18	2 Stations	T
Connecticut	3 Stations	85	29+	Norfolk 2SW	7	1	North Guilford	8.09	Hartford Brainard Fld	4.29
Delaware	do	87	27	3 Stations	20	1	Bridgeville 1NW	4.25	Wilmington NCastle WBAP	1.58
Florida	La Belle	95	18	2 Stations	37	26+	Belle Glade Exp Sta	9.05	Tampa WBAP	.05
Georgia	2 Stations	92	5+	Blairsville Exp Sta	26	1	Goat Rock	10.45	Brunswick	.00
Hawaii	Mauna Kea Beach 98	91	13	Mauna Loa Slope Obs	29	7	Waiakea SCD 88.2	38.25	8 Stations	.00
Idaho	Glenns Ferry	91	22	Galena	9	8	Headquarters	4.09	Fort Hall Indian Agency	.00
Illinois	Harrisburg	88	16	Rochelle 1W	12	1	Olney 2S	8.11	Keithsburg 1NW	1.63
Indiana	Winamac 5SW	89	27	2 Stations	12	1	North Vernon 2SW	6.42	Spurgeon 2N	2.66
Iowa	2 Stations	82	20	Delaware 3WSW	14	1	Bedford	7.55	Inwood 2SW	.12
Kansas	Hugoton	91	30	McDonald	21	28	Oskaloosa	8.93	Atwood	.76
Kentucky	Pikeville	91	17	Warsaw Markland Dam	14	1	Hopkinsville	7.80	Pikeville	2.05
Louisiana	4 Stations	88	23	Winnfield 2W	37	25	Mermentau	16.23	Quarantine	2.02
Maine	Sanford 2NNW	77	18	Clayton Lake 2	-12	1	Hiram	4.83	Millinocket	1.66
Maryland	Baltimore WB City	94	27	2 Stations	14	1	Princess Anne	4.94	Potomac Filter Plant	.96
Massachusetts	Chester 2	90	28	Birch Hill Dam	7	1	Chester 2	8.07	Haverhill	3.00
Michigan	Grosse Pointe Farms	82	28	Bergland Dam	2	1	Milford GM Proving Grn	6.42	Cheboygan RR Light Sta	.39
Minnesota	4 Stations	78	26+	3 Stations	0	2+	Collegeville St John U	4.28	Theilman	.33
Mississippi	Wiggins 4SE	89	4	do	32	30+	Vaiden 1SSW	13.92	Vancleave	4.28
Missouri	3 Stations	88	17	2 Stations	21	1	Kennett Radio KBOA	9.99	Mt Vernon MU Farm	1.90
Montana	Telegraph Creek	89	22	Cooke City	3	27	Colstrip	5.94	Ethridge	.00
Nebraska	2 Stations	86	21+	Sidney FAA AP	15	28	Hickman	6.78	North Loup	T
Nevada	Sunrise Manor Las Vegas	95	21	Mountain City RS	11	30	Glenbrook	1.93	10 Stations	.00
New Hampshire	Manchester	90	29	First Conn Lake	-13	3	Mount Washington	6.59	Portsmouth	2.31
New Jersey	Atlantic City WBAP	94	27	High Point Park	10	1	Paterson	5.02	Moorestown	1.87
New Mexico	Roswell WBAP	94	23	2 Stations	9	26+	Lake Maloya	3.25	13 Stations	.00
New York	Poughkeepsie	94	28	Speculator	-2	1	Slide Mountain	8.56	Roxbury	1.92
North Carolina	Clayton 3W	92	27	Blowing Rock	19	1	Lake Toxaway 2SW	9.61	Raleigh Durham WBAP	1.43
North Dakota	Marmarth	85	8	Maddock Agri School	-3	2	Wahpeton	2.60	2 Stations	.14
Ohio	Ironton	90	28+	Tom Jenkins Dam	7	1	Mansfield 6W	6.88	Newcomerstown 1NNE	1.31
Oklahoma	Altus 1RR Resch Stn	92	8	Goodwell	27	28	Madill	6.06	Lawton	.21
Oregon	Dayville	84	21	Crater Lake NP Hq	8	7+	Oregon City	9.44	Metolius 1W	.15
Pennsylvania	Lewistown	90	28	Bradford 4W Res	6	1	West Hickory	6.44	Everett 1SW	.69
Puerto Rico	Alex Hamilton Fld FAA	96	29	Cerro Maravilla	55	8+	Lares 3SE	22.26	Santa Rita	.00
Rhode Island	Greenville	80	28	2 Stations	14	1	Greenville	6.05	Block Island WBAP	2.46
South Carolina	Ridgeland 2SE	91	5	Union 8SW	28	1	Aiken	12.36	Ridgeland 2SE	.80
South Dakota	Orman Dam	87	24	Deerfield 4NW	-1	28	Leak 1SE	5.48	Canton	.02
Tennessee	Union City	89	5	Neptune 3S	17	1	Savannah	10.61	Rogersville 1NE	1.55
Texas	Presidio	101	23	Bravo	29	28	Price 2SW	10.22	7 Stations	.00
Utah	2 Stations	90	22+	Blowhard Mtn Radar	6	25	Alta	4.35	2 Stations	.00
Vermont	Bellows Falls	88	29	West Burke	-3	3+	Whitingham 2W	7.77	Enosburg Falls	2.55
Virginia	4 Stations	90	28+	Wytheville 1S	16	1	Trout Dale	4.04	Bristol	.75
Washington	2 Stations	84	23	Rainier Paradise RS	16	3	Quinault Ranger Sta	16.55	White Swan RS	.09
West Virginia	Williamson	91	28+	Bayard	10	1	Bens Run 1SSE	5.07	Petersburg	.81
Wisconsin	Lake Geneva	80	26	Necedah 3NE	-1	1	Kenosha	4.08	2 Stations	.87
Wyoming	3 Stations	86	23	Burgess Junction	7	27	Hulett	4.56	Burris	.02

+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ο	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F or above	No. of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h							%
ALABAMA																																
BIRMINGHAM	620	993.6	1016.1	76	50	62.7	- 0.4	84	4	36	30	0	0	51	68	5.32	0.85	1.43	9	2	0.0	0	1.4	17	26	SW	18	11	7	12	5.2	69
HUNTSVILLE	624	993.2	1016.2	74	50	62.3	0.7	89	4	38	1	0	0	49	66	6.79	2.80	2.51	9	4	0.0	0	1.0	13	28	25	18+	11	8	11	5.2	
MOBILE	211	1007.8	1015.5	79	59	68.9	1.3	86	22	49	25+	0	0	57	71	4.53	- 1.83	1.47	9	7	0.0	0	3.1	14	25	14	27+	10	7	13	5.9	
MONTGOMERY	183	1009.1	1016.3	78	53	65.4	1.3	84	4+	40	1	0	0	55	72	1.82	- 3.07	0.57	7	2	0.0	0	1.4	19	21	SW	18+	11	7	12	5.4	63
ALASKA																																
ANCHORAGE	114	998.3	1003.3	46	33	39.4	2.5	54	18	28	2+	B 0	14	27	62	T	- 0.42	T	0	0	T	6	2.6	17	25	15	25	2	8	20	8.1	40
ANNETTE	110	1005.1	1009.1	50	39	44.2	0.8	58	24+	33	18	0	0	38	83	10.68	1.56	2.08	24	0	T	0	9.0	13	46	13	21	0	3	27	9.2	
BARROW	31	1015.2	1015.7	9	- 5	2.0	1.8	28	29	-25	21	0	30	0	86	0.17	0.06	0.05	8	0	2.4	13	6.0	8	26	7	7+	9	5	16	6.2	
BARTER ISLAND	39	1012.9	1014.7	14	1	7.1	6.2	32	26	-22	5	0	30	4	82	0.10	- 0.07	0.05	4	0	3.1	6	2.4	10	40	10	25+	3	3	24	8.4	
BETHEL	125	998.3	1003.9	35	19	27.1	1.2	47	30+	- 7	4+	0	30	22	80	0.06	- 0.52	0.05	2	0	0.6	9	5.5	36	29	33	20	7	6	17	6.5	
BETTLES	644	983.4	1009.1	41	18	29.4		56	29+	-18	4	0	28	20	68	0.01		0.01	1	0	0.5	20	5.2	2	23	36	18	9	10	11	5.7	
BIG DELTA	1268			46	26	36.1		56	25	9	5	0	26			0.13		0.09	3	0	1.2	4			35	21	8	1	9	20	8.1	
COLD BAY	96	997.6	1001.4	39	30	34.5	1.2	47	30	20	3	0	21	28	78	1.09	- 0.37	0.25	18	0	6.2	1	1.4	27	45	13	27	0	4	26	9.1	
FAIRBANKS	436	988.5	1005.6	48	25	36.3	6.9	63	25	9	5	0	26	14	41	T	- 0.25	T	0	0	0.4	22	3.1	3	23	9	26	4	13	13	6.7	
FAREWELL	1499			40	20	30.2		48	26+	-16	4	0	29			0.19		0.14	3	0	4.7	4						3	10	17	7.3	
GULKANA	1572	946.5	1004.4	46	24	34.9		52	16	11	3	0	30	21	58	T		T	0	0	T		2.8	18	23	18	27	5	10	15	6.8	
HOMER	67			45	32	38.3		50	18	23	2	0	16			0.36		0.10	6	0	0.3	4						3	3	24	8.2	
ILIAMNA	186			40	28	34.4		51	18	4	4	0	24			0.42		0.18	8	0	3.4	34						4	5	21	7.7	
JUNEAU	12	1006.8	1007.7	48	33	40.6	2.6	60	23	26	23+	0	16	35	82	1.74	- 1.13	0.48	17	0	T	T	6.8	12	30	12	21	1	6	23	8.4	42
KING SALMON	49	998.3	1000.3	41	27	34.4	1.6	48	30+	- 3	4	0	22	23	64	0.30	- 0.34	0.13	6	0	1.1	5	3.9	4	35	8	14	1	7	22	8.2	
KOTZEBUE	10	1008.5	1009.1	25	8	16.8	3.6	46	29	-15	4	0	30	9	70	0.18	- 0.13	0.14	4	0	4.2	16	2.2	34	39	29	3+	10	4	16	6.2	
MC GRATH	344	991.2	1004.0	43	21	32.1	4.5	55	29	-17	4	0	28	18	56	0.03	- 0.44	0.02	2	0	T	16	2.7	1	22	19	25	5	8	17	6.8	
NENANA	356			45	21	32.8		61	25	- 6	5	0	26			T		T	0	0	T				17	7	26+	6	9	15	6.9	
NOME	13	1006.1	1006.8	30	13	21.8	0.6	42	28	-18	3	0	28	15	73	0.02	- 0.78	0.02	1	0	0.2	10	4.3	4	27	4	17	6	9	15	6.5	52
ST. PAUL ISLAND	22	1001.0	1001.9	33	26	29.6	1.2	38	29	12	3	0	30	27	89	1.00	0.04	0.22	18	0	7.3	14	5.1	4	40	6	28+	1	4	25	8.9	
SHEMYA	122	998.3	1002.0	37	31	34.2	- 1.3	41	5	23	2	0	23	29	82	3.97	1.91	1.70	20	0	4.8	1	7.7	27	68	24	6	0	4	26	9.1	
SUMMIT	2401	917.0	1004.8	39	21	29.6		46	17	11	13+	0	30	21	71	0.22		0.08	5	0	3.9	11	4.6	6	28	8	22	3	7	20	7.6	
TALKEETNA	345	990.5	1003.8	50	27	38.3		58	24	15	3+	0	29	26	63	0.29		0.12	5	0	T	15	1.7	34	21	36	21	4	9	17	7.3	
TANANA	232			43	20	31.4		55	29	-10	4	0	27			0.02		0.01	2		0.2	21			22	7	26	9	9	12	5.8	
UNALAKLEET	15	1005.4	1006.0	35	19	26.9		54	29	-17	4	0	23	21	79	0.08		0.08	2	0	1.4	14	3.9	5	32	32	20	7	5	18	6.5	
YAKUTAT	28	1004.7	1005.8	44	29	36.5	- 0.5	54	21	18	4	0	20	31	81	5.68	- 1.55	1.36	20	0	2.0	36	3.8	11	32	12	7	3	6	21	8.2	
ARIZONA																																
FLAGSTAFF	7006	785.3	1013.3	57	26	41.7	- 1.6	69	21+	17	27+	0	29	14	34	0.11	- 1.07	0.07	3	3	0.6	T	4.2	21	35	20	6	16	8	6	3.7	
PHOENIX	1117	971.9	1010.5	85	52	68.5	1.3	96	21	44	8	7	0	31	28	0.03	- 0.29	0.03	2	0	0.0	0	1.5	21	36Y	WSW	18+	21	5	4	2.4	94
TUCSON	2584	923.5	1010.5	82	51	66.6	0.7	94	21	43	8	1	0	24	23	0.60	0.33	0.60	2	2	0.0	0	3.9	24	30	W	15+	22	4	4	2.3	97
WINSLOW	4895	849.0	1011.8	72	37	54.8	- 0.8	87	21	25	7	0	8	19	29	0.09	- 0.36	0.09	1	0	0.0	0	4.9	23	55	22	6	18	8	4	3.3	
YUMA	194	1004.1	1011.3	86	56	71.0	0.4	94	21	46	7	9	0	34	29	0.08	- 0.01	0.08	1	0	0.0	0	4.0	28	29	N	26+	22	3	5	2.6	96
ARKANSAS																																
FORT SMITH	447	998.0	1014.6	75	52	63.7	2.0	88	9	40	1	0	0	50	64	3.07	- 1.17	1.87	7	4	0.0	0	1.4	8	27	SW	4	10	5	15	5.7	62
LITTLE ROCK	257	1005.4	1014.9	73	50	61.8	- 0.6	83	16	36	1	0	0	53	73	4.30	- 0.63	2.82	7	4	0.0	0	1.1	18	36	SW	9	10	11	9	5.4	71
CALIFORNIA																																
BAKERSFIELD	475	999.0	1016.6	76	51	63.5	0.5	90	21	39	7	1	0	44	53	1.10	0.29	0.65	3	0	0.0	0	3.6	33	30	31	5	14	13	3	3.4	
BISHOP	4108	872.0		71	37	54.1	- 1.0	84	20	25	7	0	3			0.11	- 0.35	0.10	2		0.0	0						19	9	2	2.8	
BLUE CANYON	5280			50	35	42.2	- 3.4	68	20	25	6	0	13			5.08	0.26	1.99	8		27.6	62			30	24	23	12	6	12	5.2	
EUREKA U	43			55	44	49.8	- 0.6	65	4	37	3	0	0			3.22	0.55	0.94	15		0.0	0			30	NW	29	3	8	19	7.7	61
FRESNO	328	1004.7	1016.5	74	46	59.7	- 1.6	87	28+	37	7	0	0	44	61	1.64	0.51	1.23	5	0	0.0	0	3.8	32	29	W	5	18	6	6	3.6	90
LONG BEACH	34	1014.6	1016.1	70	51	60.6	0.6	85	28	44	7+	0	0	46	63	0.48	- 0.29	0.30	5	0	0.0	0	3.3	23	22	26	24+	15	6	9	4.1	
LOS ANGELES	97	1011.9	1015.3	66	55	60.3	0.9	81	27	47	6	0	0	50	72	0.38	- 0.67	0.24	3	0	0.0	0	5.1	24	31Y	N	25+	17	7	6	3.7	
LOS ANGELES U	270			72	55	63.8	2.0	85	28+	47	6	0	0			0.63	- 0.54	0.34	4		0.0	0			23	NW	24	13	9	8	4.3	68
MT SHASTA R	3544			57	33	45.0	- 2.5	72	21	25	3	0	17			3.28	0.51	1.38	10		9.0	2										
OAKLAND	6	1018.3	1018.4	61	49	55.0	- 1.6	71	27	44	25+	0	0	46	73	1.82	0.44	1.06	8	1	0.0	0	6.5	26	25	27	30	11	13	6	5.0	
RED BLUFF	342	1004.1	1016.7	70	45	57.8	- 2.6	83	20	38	8+	0	0	42	58	1.04	- 0.79	0.46	8	0	0.0	0	0.9	23	31	SE	23	10	8	12	5.7	76
SACRAMENTO	17	1016.3	1017.0	69	45	57.1	- 1.3	80	28+	39	4+	0	0	45	70	1.63	0.23	1.03	5	1	0.0	0	3.7	23	29	W	22	14	12	4	4.2	91
SANDBERG R	4517	861.8		59	39	49.1	- 1.7	75	20	29	6	0	5			0.75	- 0.22	0.50	3		2.0	T			47	34	13	10	14	6	4.5	
SAN DIEGO	13	1014.6	1015.7	68	56	61.7	0.2	82	27	49	7	0	0	50	67	0.21	- 0.58	0.12	4	0	0.0	0	4.5	28	22	NW	6	12	8	10	4.7	72

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground) Ft	Pressure: Station ○ Mb.	Pressure: Sea level Mb.	Temperature: Average maximum F.	Average minimum F.	Average F.	Departure from normal F.	Highest F.	Date	Lowest F.	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point F.	Average relative humidity %
CALIFORNIA															
SAN FRANCISCO	8	1018.0	1018.5	61	47	54.0	- 1.7	75	27	41	6	0	0	45	75
SAN FRANCISCO U	52			60	49	54.2	- 1.5	73	27	45	6	0	0		
SANTA MARIA	236			65	43	53.8	- 1.8	78	27	36	7	0	0		
STOCKTON	22	1016.6	1017.5	71	45	58.0	- 1.7	85	21	38	7	0	0	44	63
COLORADO															
ALAMOSA	7536	769.1		61	25	43.2	1.4	75	21	14	8	0	28		
COLORADO SPRINGS	6145	808.3	1012.5	63	35	48.9	3.3	80	20	26	27	0	10	28	53
DENVER	5283	833.1	1009.7	67	38	52.2	5.8	80	24	27	28	0	3	31	51
GRAND JUNCTION	4843	849.0	1010.9	70	38	53.8	1.5	85	22	28	26+	0	7	24	36
PUEBLO	4684	852.4	1010.1	71	41	56.1	5.4	87	20	30	18	0	1	31	44
CONNECTICUT															
BRIDGEPORT	7	1015.6	1016.3	59	42	50.7	2.7	74	26	22	1	0	5	40	71
HARTFORD	169	1008.8	1015.4	63	39	51.1	2.6	83	27	16	1	0	9	37	62
NEW HAVEN	6	1015.9		59	40	49.3	2.4	76	26	17	1	0	6		
DELAWARE															
WILMINGTON	74	1013.9	1016.8	66	45	55.1	3.0	86	27	25	1	0	1	42	64
DIST. OF COLUMBIA															
WASH NATL AP	10	1014.6	1016.8	70	47	58.7	3.0	90	27	27	1	1	1	44	61
FLORIDA															
APALACHICOLA U	13			75	62	68.3	0.8	82	29	51	25	0	0		
DAYTONA BEACH	31	1016.3	1017.6	80	61	70.5	1.6	91	18	50	26	1	0	58	68
FORT MYERS	15	1015.9	1016.2	83	65	74.1	1.3	87	29	59	26+	0	0	64	75
JACKSONVILLE	20	1016.3	1017.4	81	59	69.8	1.1	89	3	48	25	0	0	58	71
KEY WEST	4	1014.6	1015.3	81	74	77.4	1.6	86	19	69	10	0	0	69	78
LAKELAND U	214			82	64	72.7	1.2	88	18	58	1	0	0		
MIAMI	7	1015.6	1015.7	83	72	77.3	3.1	92	19	67	25+	1	0	66	72
ORLANDO	108	1013.2	1017.3	83	62	72.5	1.3	90	18	56	22	1	0	60	69
PENSACOLA	112	1011.5	1015.7	76	59	67.4	- 0.5	84	22	50	20	0	0	58	75
TALLAHASSEE	55	1014.6	1016.8	82	54	68.0	0.5	87	3	38	25	0	0	57	73
TAMPA	19	1016.3	1016.5	82	62	72.3	0.9	88	28	55	26+	0	0	60	70
WEST PALM BEACH	15	1015.6	1016.4	82	68	74.8	0.9	91	19	59	20	1	0	62	67
GEORGIA															
ATHENS	802	987.8	1016.5	74	51	62.7	1.6	85	4	38	1	0	0	49	66
ATLANTA	1010	980.0	1016.6	75	51	62.8	2.6	85	4	36	1	0	0	48	64
AUGUSTA	136	1011.5	1016.8	78	51	64.2	1.0	86	4+	37	1	0	0	51	68
COLUMBUS	385	1002.4		78	54	65.8	2.1	85	12+	42	25+	0	0	51	64
MACON	354	1004.1	1016.8	80	51	65.3	- 0.3	88	4+	37	1	0	0	51	66
SAVANNAH	46	1015.9	1017.6	79	53	66.1	0.4	88	3	43	25+	0	0	53	69
HAWAII															
HILO	27	1018.3	1019.5	79	66	72.8	1.2	82	25	62	10+	0	0	68	87
HONOLULU	7	1018.6	1018.9	82	68	74.7	0.5	86	27	63	5	0	0	63	76
KAHULUI	48	1016.6	1018.8	81	66	73.5	0.1	86	24	59	9	0	0	64	75
LIHUE	103	1015.6	1020.3	77	67	72.0	- 0.5	83	30	62	7+	0	0	64	78
IDAHO															
BOISE	2838	914.0	1014.1	64	37	50.5	0.1	79	22+	28	30+	0	7	28	46
LEWISTON	1413			62	39	50.7	- 0.1	79	22	32	14	0	1		
POCATELLO	4454	861.5	1014.7	58	32	44.9	- 1.6	79	22	24	14	0	18	26	50
ILLINOIS															
CAIRO U	314			69	50	59.5	0.1	82	16	41	29+	0	0		
CHICAGO O HARE	658	991.2	1015.8	62	40	50.8	3.6	79	26	29	3	0	5	39	66

State and Station	Precipitation: Total In.	Departure from normal In.	Greatest in 24 hours In.	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total In.	Snow, Sleet: Maximum depth on ground In.	Wind: Resultant speed M.p.h.	Resultant direction	Fastest mile: Speed M.p.h.	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine %
CALIFORNIA																	
SAN FRANCISCO	1.87	0.57	0.87	6	0	0.0	0	11.0	28	36	W	30+	[illegible]	14	6	4.9	
SAN FRANCISCO U	1.74	0.30	0.66	9		0.0	0			34	SW	[illegible]					85
SANTA MARIA	1.74	0.55	1.08	4		0.0	0						13	13	[illegible]	4.6	
STOCKTON	1.60	0.46	1.04	4	0	0.0	0	5.1	30	25	28	17	14	11	5	4.3	
COLORADO																	
ALAMOSA	0.32	- 0.37	0.18	4		0.9	T						11	12	7	4.7	
COLORADO SPRINGS	1.83	0.52	0.79	10	6	6.6	5	1.6	[illegible]	33	30	25+	7	9	14	[illegible]	
DENVER	1.33	- 0.78	0.48	8	5	T	T	2.1	21	37	[illegible]	23	8	[illegible]	[illegible]	[illegible]	74
GRAND JUNCTION	0.33	- 0.42	0.15	5	1	T	T	1.0	12	47	[illegible]	6	15	9	6	[illegible]	82
PUEBLO	0.54	- 0.64	0.22	6	4	0.0	0	1.6	2	46	NW	7	8	12	10	5.7	78
CONNECTICUT																	
BRIDGEPORT	5.26	1.46	2.04	9	1	0.0	0	3.9	24	30	29	25	7	13	10	[illegible]	
HARTFORD	5.63	1.90	3.00	11	3	0.0	0	2.6	19	28	NW	25	[illegible]	11	14	[illegible]	[illegible]
NEW HAVEN	5.28	1.39	1.90	11		0.0	0			25	W	19	9	11	10	[illegible]	53
DELAWARE																	
WILMINGTON	1.58	- 1.75	0.51	10	1	0.0	0	3.8	20	27	20	10	8	7	15	6.3	
DIST. OF COLUMBIA																	
WASH NATL AP	1.71	- 1.44	0.47	12	1	0.0	0	3.1	22	29	NW	24+	6	9	15	[illegible]	[illegible]
FLORIDA																	
APALACHICOLA U	0.84	- 3.46	0.54	8	4	0.0	0			31	E	13	12	9	9	[illegible]	[illegible]
DAYTONA BEACH	0.12	- 2.89	0.15	4	2	0.0	0	4.1	[illegible]	23	23	18+	10	11	9	[illegible]	
FORT MYERS	0.15	- 2.49	0.05	[illegible]	[illegible]	0.0	0	3.4	8	21	11	28+	8	15	7	5.6	
JACKSONVILLE	0.34	- 3.21	0.22	4	[illegible]	0.0	0	2.9	12	33	SW	18	14	9	[illegible]	[illegible]	[illegible]
KEY WEST	3.10	0.62	1.71	5	2	0.0	0	7.6	9	26	E	9+	5	16	9	5.7	[illegible]
LAKELAND U	0.42	- 3.09	0.24	4		0.0	0						12	11	7	[illegible]	[illegible]
MIAMI	4.63	[illegible]	1.63	12	4	0.0	0	7.0	10	22	7	[illegible]	1	17	12	6.7	
ORLANDO	2.38	- 1.04	1.46	4	4	0.0	0	3.5	10	27	4	16	8	13	9	[illegible]	
PENSACOLA	3.48	- 1.77	1.17	8		0.0	0	3.8	14	56	36	13	9	6	15	[illegible]	[illegible]
TALLAHASSEE	2.02	- 2.62	1.01	8	4	0.0	0	1.6	16	21	11	[illegible]	11	[illegible]	10	[illegible]	
TAMPA	0.05	- 2.79	0.05	1	1	0.0	0	2.0	10	21	10	13	[illegible]	15	6	[illegible]	76
WEST PALM BEACH	0.73	- 3.61	0.23	7	4	0.0	0	7.8	8	26	5	7	5	15	[illegible]	[illegible]	
GEORGIA																	
ATHENS	5.69	1.30	[illegible]	8	[illegible]	0.0	0	1.5	21	21	28	[illegible]	12	7	11	[illegible]	
ATLANTA	5.76	1.23	[illegible]	10	[illegible]	0.0	0	1.3	22	25	[illegible]	[illegible]	12	8	10	[illegible]	[illegible]
AUGUSTA	4.53	0.97	[illegible]	9	[illegible]	0.0	0	1.4	18	23	29	[illegible]	10	[illegible]	[illegible]	[illegible]	
COLUMBUS	8.30	3.71	[illegible]	[illegible]	4	0.0	0			21	23	[illegible]	13	5	12	6.1	
MACON	2.54	- 1.21	1.38	7	4	0.0	0	1.9	16	28	[illegible]	[illegible]	12	7	11	[illegible]	68
SAVANNAH	0.71	- 2.99	0.61	7	2	0.0	0	2.6	15	26	N	6	11	[illegible]	9	[illegible]	[illegible]
HAWAII																	
HILO	14.57	2.65	[illegible]	[illegible]	1	0.0	0	2.1	3	[illegible]	NE	[illegible]	[illegible]	3	17	[illegible]	[illegible]
HONOLULU	0.10	- 1.21	[illegible]	4	0	0.0	0	[illegible]	5	[illegible]	E	22+	[illegible]	14	[illegible]	[illegible]	[illegible]
KAHULUI	1.79	0.35	0.56	14	0	0.0	0	14.7	5	[illegible]	NE	17	5	14	11	[illegible]	[illegible]
LIHUE	1.52	- 1.82	[illegible]	[illegible]	0	[illegible]	[illegible]	13.3	5	26	NE	1	[illegible]	[illegible]	17	[illegible]	[illegible]
IDAHO																	
BOISE	1.35	0.19	1.27	4	0	7.2	2	[illegible]	31	[illegible]	NW	17	[illegible]	3	[illegible]	[illegible]	78
LEWISTON	2.33	[illegible]	.81	12		T	T						1	11	18	[illegible]	
POCATELLO	1.34	- 0.72	[illegible]	6	0	T	0	[illegible]	22	[illegible]	[illegible]	[illegible]	[illegible]	11	11	[illegible]	[illegible]
ILLINOIS																	
CAIRO U	4.29	[illegible]	1.96	13		0.0	0			36	SW	1	[illegible]	4	13	[illegible]	[illegible]
CHICAGO O HARE	4.02	1.08	[illegible]	12	[illegible]	0.0	0	[illegible]	4	38	3	18	[illegible]	[illegible]	16	[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
CHICAGO MIDWAY	607	993.2	1015.9	61	41	51.2	2.2	80	26	32	24+	0	2	38	63	5.32	2.28	1.28	13	7	0.0	0	1.0	9	38	W	21	9	4	17	6.3	58
MOLINE	582	993.6	1015.2	63	40	51.6	1.6	75	26	27	6	0	4	39	65	3.11	-0.06	1.16	8	6	0.0	0	0.4	17	37	NW	21	9	5	16	6.3	54
PEORIA	652	991.2	1015.4	64	41	52.6	1.8	79	26	30	6	0	3	41	67	2.94	-1.03	0.83	13	5	0.0	0	1.8	16	33	NW	22	8	6	16	6.5	51
ROCKFORD	724	987.8	1015.1	60	37	48.4	0.6	75	26	24	3	0	9	38	70	4.45	1.40	1.37	11	6	T	0	1.2	9	40	19	21	8	7	15	6.[illegible]	
SPRINGFIELD	588	992.6	1014.9	65	44	54.6	1.2	80	8	32	6	0	1	43	68	5.35	1.76	3.23	12	7	0.0	0	2.0	17	37	NE	18	10	5	15	6.1	62
INDIANA																																
EVANSVILLE	381	1001.7	1015.8	68	45	56.1	-1.6	81	16	33	30	0	0	47	72	3.51	-0.47	1.41	12	5	0.0	0	0.8	19	31	S	17+	9	7	14	6.3	54
FORT WAYNE	791	985.8	1016.1	63	39	50.9	1.6	83	27	30	11	0	4	40	69	3.13	-0.01	1.24	15	3	0.3	T	1.3	22	45	N	21	8	3	19	6.7	55
INDIANAPOLIS	792	986.5	1015.8	66	42	54.0	3.2	80	17	33	11+	0	0	43	70	4.42	0.68	1.74	14	3	T	T	1.0	22	34	SW	2	5	8	17	6.9	47
SOUTH BEND	773	987.5	1015.7	61	39	50.3	2.8	78	17	31	11	0	5	40	69	5.51	1.93	1.12	12	3	T	T	1.4	25	25	22	27+	9	[illegible]	19	6.9	
IOWA																																
BURLINGTON	692			63	43	52.9	2.1	75	16	29	6	0	2	41	65	2.12	-1.32		13	6			0.6	20	25	30	21	8	6	16	6.5	
DES MOINES	938	980.4	1015.3	64	41	52.5	3.8	75	25	29	6	0	2	40	66	4.46	1.93	1.96	8	4	0.0	0	0.6	6	31	SE	8	11	5	14	5.5	61
DUBUQUE	1056	976.0		60	39	49.6	2.8	73	7	28	29+	0	5			3.46	0.38	1.00	10		T	T						9	6	15	6.3	
SIOUX CITY	1095	974.6	1014.7	64	40	52.2	3.3	82	20	30	6	0	2	39	66	0.62	-1.63	0.53	4	3	0.0	T	1.6	14	33	NW	4	8	9	13	5.7	65
WATERLOO	868	983.1	1015.3	60	37	48.5	1.2	74	25	27	11	0	9	36	66	4.47	1.77	1.47	7	3	T	0	0.5	16	30	33	21	8	6	16	6.1	
KANSAS																																
CONCORDIA	1470	960.7	1013.6	66	42	54.0	1.2	79	15	32	3	0	1	42	69	1.89	-0.23	0.98	9	8	0.0	0	1.8	14	49	W	16	8	11	11	5.8	66
DODGE CITY	2582	922.1	1012.5	70	44	56.9	3.3	84	30	32	28	0	1	41	61	1.39	-0.45	0.80	6	4	0.0	0	2.7	13	43	N	4	10	6	14	5.8	81
GOODLAND	3654	885.2	1011.5	67	39	53.0	4.9	81	6	24	28	0	4	37	59	1.86	0.27	0.78	5	4	0.0	0	3.4	17	40	34	4	11	6	13	5.5	
TOPEKA	876	982.7	1014.4	67	44	55.5	1.1	80	15	35	29+	0	0	45	68	7.14	3.85	3.24	8	5	0.0	0	0.1	17	40	NW	16+	7	6	17	6.7	56
WICHITA	1321	965.8	1013.5	68	44	56.4	-0.3	79	15	33	6	0	0	43	64	4.30	2.00	2.40	8	9	0.0	0	1.7	13	40	N	16	6	10	14	6.2	64
KENTUCKY																																
COVINGTON	869	984.4	1016.2	67	44	55.2	3.0	83	17	32	20+	0	2	44	70	3.59	0.37	1.01	15	4	0.0	0	1.8	24	25	25	5	6	7	17	6.9	
LEXINGTON	966	981.0	1016.6	68	45	56.3	1.9	82	17	32	20+	0	2	43	64	3.83	-0.21	1.54	12	0	0.0	0	2.2	21	23	29	22+	9	5	16	6.4	
LOUISVILLE	477	998.3	1015.8	69	47	58.0	3.2	81	27+	35	1	0	0	45	64	3.77	-0.05	1.68	11	3	0.0	0	1.2	24	28	S	9	7	8	15	6.5	66
LOUISIANA																																
BATON ROUGE	64	1012.5	1015.1	79	59	68.8	0.6	86	27+	47	25+	0	0	58	73	10.25	5.48	6.48	9	8	0.0	0	1.9	13	23	22	5	8	9	13	5.9	
LAKE CHARLES	9	1013.5	1014.5	77	59	67.9	0.0	85	23	51	19+	0	0	59	78	9.53	5.16	3.83	10	8	0.0	0	2.8	13	30	12	11	8	8	14	6.0	
NEW ORLEANS	3	1014.6	1015.5	78	59	68.8	0.9	84	27+	45	1	0	0	59	72	6.04	1.49	1.73	11	7	0.0	0	2.7	13	25	13	8+	9	11	10	5.2	
SHREVEPORT	254	1005.4	1014.5	75	55	65.1	-0.2	83	22	47	25+	0	0	55	73	6.63	2.06	1.96	7	7	0.0	0	2.1	15	23	35	27+	6	13	11	6.1	61
MAINE																																
CARIBOU	624	991.2		45	26	35.6	-0.8	62	16	5	3+	0	20			2.60	-0.03	0.82	14		14.1	23						5	7	18	7.2	
PORTLAND	47	1013.2	1015.4	54	32	43.0	0.5	70	17	14	1	0	14	33	71	2.86	-0.87	1.55	11	0	T	T	0.8	21	36	E	23	10	7	13	5.9	60
MARYLAND																																
BALTIMORE	148	1010.8	1016.4	68	45	56.2	2.0	90	27	22	1	1	2	44	66	1.80	-1.80	0.75	12	0	0.0	0	2.6	23	33	SW	10	7	9	14	6.3	53
MASSACHUSETTS																																
BLUE HILL OBS R	629			60	38	49.0	3.3	81	28	17	1	0	7			5.17	1.17	2.29	11		0.0	1			46	ESE	22					63
BOSTON	15	1014.6	1015.4	59	42	50.6	2.7	83	28	25	1	0	2	37	64	4.37	0.60	1.76	10	1	T	T	4.3	22	35	E	22	9	14	7	5.2	69
NANTUCKET	43	1016.6	1016.9	54	39	46.3	2.0	67	26	23	1	0	8	39	76	3.53	-0.23	0.96	13	1	T	0	5.1	22	40	S	5+	8	10	12	5.9	71
WORCESTER	986	978.7	1015.9	59	38	48.8	4.2	81	28	14	1	0	9	33	57	5.30	1.37	1.47	11	1	T	1	4.2	24	33	27	25	8	11	11	5.7	
MICHIGAN																																
ALPENA	689	990.5	1016.3	53	31	41.6	2.5	72	25	19	6+	0	18	30	68	1.71	-0.92	0.59	13	1	T	1	1.5	3	26	NE	18	10	4	16	6.2	54
DETROIT	619			59	39	49.2	1.6	80	27	25	3	0	5	36	62	3.67	0.67	1.28	11	1	T		1.3	31	29	28	21					
DETROIT M WAYNE CO	633	991.2	1015.4	61	38	49.4	2.9	81	27	25	3	0	8	37	65	3.77	0.72	1.40	14	2	0.3	T	1.0	31	38	W	21	10	3	17	6.3	56
FLINT	771	987.5	1015.4	58	36	47.1	1.8	76	27	24	3	0	11	36	68	4.25	1.59	1.10	13	2	T	T	1.0	30	31	27	21	10	4	16	6.4	
GRAND RAPIDS	784	986.1	1015.6	58	35	46.4	0.7	76	26	23	3	0	16	36	70	5.16	2.22	1.28	13	3	0.0	0	0.7	27	33	NE	18	9	4	17	6.6	49
HOUGHTON LAKE	1149	973.6	1016.2	54	32	43.1	2.4	70	26+	19	3	0	19	33	71	2.59	0.28	0.96	13	2	0.4	T	0.9	32	23	4	18	10	3	17	6.3	
LANSING	841	983.7	1015.8	59	35	47.2	1.5	78	27	24	20+	0	14	36	67	4.02	1.15	0.77	13	4	T	T	1.1	27	35	W	21	9	3	18	6.4	47
MARQUETTE U	677			49	34	41.7	2.4	71	13	21	1	0	12			2.49	-0.21	0.84	10		1.0	20			25	SW	12	9	6	15	6.4	55

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground) Ft.	Pressure: Station Mb.	Pressure: Sea level Mb.	Temperature: Average maximum F.	Average minimum F.	Average F.	Departure from normal F.	Highest F.	Date	Lowest F.	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point F.	Average relative humidity %
MICHIGAN															
MUSKEGON	625	992.2	1015.5	57	36	46.8	1.6	78	8	23	3	0	11	34	64
SAULT STE MARIE	721	989.5	1016.5	48	28	38.0	0.0	68	14	12	3	0	22	28	71
MINNESOTA															
DULUTH	1428	964.4	1016.7	50	31	40.6	3.6	65	25+	16	2	0	18	29	65
INTERNATIONAL FALLS	1179	971.9	1015.8	56	30	43.2	5.8	73	14	5	2	0	21	30	63
MINNEAPOLIS	834	984.4	1015.2	60	39	49.3	5.0	73	25	27	1	0	7	37	65
ROCHESTER	1297	966.8	1015.0	58	37	47.2	3.2	73	25	26	1	0	12	37	70
ST CLOUD	1034	976.6	1015.0	57	36	46.2	3.4	72	25	25	6	0	10		67
MISSISSIPPI															
JACKSON	310	1003.7	1015.5	77	53	65.1	0.2	85	27	39	25	0	0	57	77
MERIDIAN	290	1004.7	1015.8	77	53	65.1	0.7	86	3	40	25+	0	0	53	69
MISSOURI															
COLUMBIA	778	986.1	1014.4	68	47	57.5	2.9	83	16	37	29+	0	0	43	64
KANSAS CITY	742	987.5	1014.4	67	46	56.3	0.6	78	16+	36	19	0	0	45	67
ST JOSEPH	811			70	44	57.4	3.8	81	15	32	6	0	1	43	65
ST LOUIS	535	995.3	1015.5	69	45	56.9	2.0	83	16	34	29	0	0	45	
SPRINGFIELD	1268	969.5	1014.7	69	45	56.9	1.3	83	16	33	24	0	0	44	66
MONTANA															
BILLINGS	3567	887.9	1011.8	63	37	50.2	4.2	80	22	26	27	0	7	31	53
GLASGOW	2284	929.9	1012.2	60	35	47.6	4.2	77	13	26	27	0	11	33	66
GREAT FALLS	3663	885.2	1012.3	63	38	50.3	6.7	83	22	27	30	0	5	28	45
HAVRE	2584	919.7	1011.8	64	35	49.3	6.2	86	22	27	27+	0	10	30	53
HELENA	3828	878.4	1014.0	61	33	46.7	3.4	81	22	21	30	0	12	30	58
KALISPELL	2965	909.2	1014.5	59	34	46.2	2.5	80	22	27	27+	0	13	30	58
MILES CITY	2629	918.4	1011.2	65	37	51.0	5.3	84	6	26	27	0	8	34	58
MISSOULA	3190	902.8	1015.3	60	33	46.5	2.2	83	22	24	14	0	13	32	63
NEBRASKA															
GRAND ISLAND	1841	947.9	1014.0	67	39	53.0	3.4	84	20	32	5+	0	[illegible]	39	64
LINCOLN U	1150			65	43	54.1	2.3	78	20+	33	6	0	0		
NORFOLK	1544			64	39	51.2	2.8	81	20	30	2	0	6		
NORTH PLATTE	2775	915.0	1012.7	67	36	51.4	3.7	81	20	22	18	0	10	36	60
OMAHA	977	979.0	1014.4	65	41	53.1	1.4	78	15+	27	6	0	3	39	62
SCOTTSBLUFF	3957	876.4	1011.8	65	37	50.8	4.2	79	6	21	28	0	7	30	49
VALENTINE	2587			65	37	51.3	5.6	79	11	25	5	0	8		
NEVADA															
ELKO	5050	842.5	1013.7	61	30	45.4	1.1	79	21	19	27	0	19	28	54
ELY	6253	806.6	1013.1	58	29	43.2	0.6	75	21	19	25	0	24	24	52
LAS VEGAS	2162	935.7	1011.6	79	50	64.4	- 0.1	91	21	38	7	1	0	25	24
RENO	4404	864.5	1014.2	66	31	48.4	0.4	84	21	19	7	0	20	25	43
WINNEMUCCA	4301	866.2	1014.4	62	33	47.3	1.4	80	21	22	27	0	17	25	43
NEW HAMPSHIRE															
CONCORD	342	1002.7	1015.6	58	31	44.3	0.5	88	28	8	1	0	16	33	68
MT WASHINGTON OBS	6262			31	17	23.7	0.7	48	28	- 8	1	0	26		
NEW JERSEY															
ATLANTIC CITY	64	1014.2	1016.7	67	40	53.6	2.6	94	27	12	1	1	7	43	70
ATLANTIC CITY U	11			59	47	52.8	2.9	77	26	32	1	0	1		
NEWARK	7	1014.9	1016.0	64	45	54.6	3.3	88	27	28	1	0	1	39	61
TRENTON U	56			65	46	55.3	3.6	85	27	26	1	0	1		
NEW MEXICO															
ALBUQUERQUE	5311	835.8	1010.6	72	43	57.4	1.7	85	22	32	27+	0	2	22	32

State and Station	Precipitation: Total In.	Departure from normal In.	Greatest in 24 hours In.	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total In.	Snow, Sleet: Maximum depth on ground In.	Wind: Resultant speed M.p.h.	Resultant direction	Fastest mile: Speed M.p.h.	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine %
MICHIGAN																	
MUSKEGON	3.49	0.91	1.28	13	5	T	T	1.3	27	29	33	22	9	5	16	6.2	
SAULT STE MARIE	3.32	1.16	1.10	10	1	3.8	4	1.7	4	27	NW	10	6	7	17	7.1	53
MINNESOTA																	
DULUTH	1.46	- 0.90	0.79	8	[illegible]	8.7	20	3.3	9	43	NW	21	6	7	17	6.8	62
INTERNATIONAL FALLS	1.15	- 0.41	0.54	7	2	T	19	[illegible]	8	25	4	27+	10	8	12	5.9	
MINNEAPOLIS	1.55	- 0.30	0.74	9	[illegible]	0.3	3	1.3	11	42	N	21	10	4	16	6.0	62
ROCHESTER	1.35	- 0.84	0.36	11	4	0.5	3	1.8	20	30	31	21+	9	8	13	6.0	
ST CLOUD	3.48	1.46	2.18	9		2.1	5						12	4	14	5.8	
MISSISSIPPI																	
JACKSON	6.59	1.68	3.51	8	4	0.0	0	2.1	16	27	NE	13	8	7	15	5.9	61
MERIDIAN	7.13	1.80	3.40	8	6	0.0	0	2.0	20	25	14	13	9	7	14	5.7	
MISSOURI																	
COLUMBIA	4.84	1.54	1.77	11	9	0.0	0	1.2	14	34	NW	4	8	7	15	[illegible]	62
KANSAS CITY	4.77	1.21	1.47	8	6	0.0	0	[illegible]	12	46	SW	26	10	6	14	6.0	71
ST JOSEPH	4.67	1.52		10	5	0.0		[illegible]	32	43	15	30+	8	7	15	6.1	
ST LOUIS	4.01	0.30	1.38	9	6	0.0		1.6	15	44	N	18	8	7	15	6.6	64
SPRINGFIELD	4.02	- 0.07	1.42	11	7	0.0	0	[illegible]	15	[illegible]	SE	26+	12	8	11	5.4	[illegible]
MONTANA																	
BILLINGS	1.48	0.17	0.71	10	3	[illegible]	1	2.8	29	42	NW	26	7	12	11	[illegible]	75
GLASGOW	1.99	0.98	1.16	7	2	0.6	1	2.7	5	41	[illegible]	26	6	10	14	[illegible]	
GREAT FALLS	0.38	- 0.60	0.13	7	2	[illegible]	T	7.5	23	58	SW	19	4	8	18	7.4	71
HAVRE	0.33	- 0.64	0.27	4	[illegible]	2.0	T	[illegible]	27	[illegible]	NW	[illegible]	4	8	18	7.1	74
HELENA	0.60	- 0.23	0.22	5	2	2.6	1	4.9	26	44	SE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	64
KALISPELL	1.30	0.26	0.77	6	2	[illegible]	1	3.3	19	35	21	[illegible]	2	6	[illegible]	[illegible]	
MILES CITY	2.82	1.76		6	1	1.9		[illegible]	31								
MISSOULA	0.64	- 0.33	0.33	7	3	T	[illegible]	3.9	[illegible]	47	SW	16	[illegible]	5	[illegible]	7.7	[illegible]
NEBRASKA																	
GRAND ISLAND	2.55	0.27	1.72	5	5	T	T	1.2	18	35	18	[illegible]	11	[illegible]	12	5.8	
LINCOLN U	4.62	2.17	1.76	7		0.0	[illegible]			[illegible]	[illegible]	[illegible]	7	10	13	[illegible]	63
NORFOLK	0.23	- 1.95	0.12	4		0.0	T						10	8	11	[illegible]	
NORTH PLATTE	0.15	- 1.86	0.10	3	[illegible]	T	T	1.5	16	41	W	[illegible]	9	11	10	[illegible]	72
OMAHA	3.95	1.39	1.23	[illegible]	3	0.0	[illegible]	[illegible]	[illegible]	[illegible]	SE	[illegible]	[illegible]	[illegible]	15	6.4	[illegible]
SCOTTSBLUFF	1.08	- 0.73	0.43	6	1	0.3	T	[illegible]	34	[illegible]	29	[illegible]	12	7	[illegible]	[illegible]	
VALENTINE	0.89	- 1.09	0.35	7		T	T			[illegible]	[illegible]	[illegible]	11	[illegible]	10	[illegible]	[illegible]
NEVADA																	
ELKO	0.28	- 0.54	[illegible]	6	[illegible]	2.4	T	3.2	26	[illegible]	[illegible]	[illegible]	11	[illegible]	11	[illegible]	
ELY	0.98	[illegible]	[illegible]	[illegible]	[illegible]	3.9	T	2.7	21	[illegible]	[illegible]		[illegible]	[illegible]	10	[illegible]	[illegible]
LAS VEGAS	T	- 0.23	T	[illegible]	[illegible]	0.0	[illegible]	[illegible]	[illegible]	48	N	18	[illegible]	[illegible]	2	[illegible]	[illegible]
RENO	0.10	- 0.44	0.07	[illegible]	[illegible]	0.3	T	[illegible]	[illegible]	[illegible]	SW	[illegible]	11	[illegible]	7	[illegible]	[illegible]
WINNEMUCCA	1.29	0.47	[illegible]	5	[illegible]	2.9	T	2.3	26	[illegible]	W	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]
NEW HAMPSHIRE																	
CONCORD	2.75	- 0.56	[illegible]	12	[illegible]	T	[illegible]	[illegible]	27	[illegible]	W	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]
MT WASHINGTON OBS	6.59	[illegible]	[illegible]	16	1	21.1	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]	[illegible]
NEW JERSEY																	
ATLANTIC CITY	3.55	0.14	1.24	[illegible]	[illegible]	[illegible]	[illegible]	5.9	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	14	[illegible]	[illegible]
ATLANTIC CITY U	3.76	0.38	[illegible]	[illegible]						[illegible]	[illegible]	18+					
NEWARK	3.51	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	11	[illegible]	
TRENTON U	2.23	- 0.98	[illegible]	13		[illegible]	[illegible]			[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEW MEXICO																	
ALBUQUERQUE	1.76	1.29	1.66	[illegible]	[illegible]	T	[illegible]	1.5	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In	In			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
CLAYTON	4969			67	39	53.2	2.5	80	30	29	28	0	3			0.93	- 0.26	0.42	9		3.6	1						9	9	12	5.7	
ROSWELL	3617			80	44	61.9	2.9	94	23	37	18+	4	0			0.44	- 0.29	0.41	3		0.0	0			29	5	29					80
NEW YORK																																
ALBANY	275	1004.7	1015.6	61	34	47.6	1.4	84	28	12	1	0	13	35	65	3.51	0.74	1.64	11	0	0.2	T	1.6	19	32	W	25	8	6	16	6.5	55
BINGHAMTON	1590	956.7	1015.9	58	36	47.0	3.5	81	27	14	1	0	7	35	67	2.78	- 0.16	0.85	13	1	0.1	T	4.0	26	30	W	25	7	8	15	6.8	53
BUFFALO	705	989.5	1015.5	58	36	46.8	3.3	80	9	17	1	0	8	35	69	4.16	1.15	1.05	15	1	3.1	3	2.9	24	35	NE	19	7	5	18	6.9	58
J.F. KENNEDY	13	1015.6	1016.5	60	44	52.3	3.3	80	26	26	1	0	1	42	72	4.26	0.78	1.79	11	2	0.0	0	5.1	20	30	18	28	8	11	11	5.8	
NEW YORK U	132	1012.5	1015.7	65	47	55.9	4.5	86	28	29	1	0	1	40	61	3.99	0.56	1.80	12	2	0.0	0	2.9	23	28	SW	10					58
NEW YORK LA GUARDIA	11	1014.6	1016.3	62	46	53.9	2.7	82	28	27	1	0	1	38	58	4.57	1.00	1.53	11	1	0.0	0	4.0	23	30	NE	19+	8	11	11	6.0	
ROCHESTER	547	995.3	1015.6	59	36	47.6	2.5	82	27	19	1	0	8	35	67	3.48	0.81	1.05	13	1	1.0	1	1.9	29	36	SW	10	8	5	17	6.6	59
SYRACUSE	410	1000.3	1015.3	59	35	46.9	0.9	83	27	17	1	0	14	36	69	3.95	0.87	1.56	12	1	T	T	2.4	27	33	W	25	7	7	16	6.8	54
NORTH CAROLINA																																
ASHEVILLE	2140	940.7	1017.0	70	44	56.7	2.1	80	27+	27	1	0	2	46	74	3.53	- 0.49	1.24	10	0	0.0	0	0.8	28	25	35	20+	12	7	11	5.2	73
CAPE HATTERAS R	7	1018.0	1018.3	68	52	60.0	0.7	76	29	33	8	0	0	52	77	3.37	0.38	1.25	10	3	0.0	0	1.2	19	32	N	6	12	8	10	5.1	70
CHARLOTTE	736	989.5	1017.0	72	49	60.8	0.5	83	27	35	1	0	0	47	64	3.49	0.00	1.37	9	1	0.0	0	2.1	18	30	SW	2	7	11	12	5.8	76
GREENSBORO	897	985.8	1017.3	72	48	59.5	2.1	84	17	30	1	0	1	46	63	2.30	- 1.13	0.76	12	1	0.0	0	2.4	20	25	W	22+	7	10	13	6.1	64
RALEIGH	434	1001.4	1017.2	72	45	58.7	- 0.6	85	27	29	25	0	3	46	68	1.43	- 2.09	0.50	9	2	0.0	0	2.5	21	33	16	18	8	11	11	5.5	78
WILMINGTON	28	1016.9	1018.3	75	52	63.1	0.6	82	11	38	8+	0	0	52	70	3.41	0.55	1.43	10	5	0.0	0	2.2	19	34	N	6	11	7	12	5.6	71
NORTH DAKOTA																																
BISMARCK	1647	953.3	1013.4	59	34	46.1	2.6	75	13	21	5	0	13	34	67	0.77	- 0.45	0.71	5	1	0.3	3	3.4	11	36	NE	26	11	7	12	5.4	73
FARGO	896	981.4	1014.5	55	36	45.4	3.4	69	26+	10	2	0	10	35	70	1.55	- 0.17	1.21	5	2	T	7	2.9	13	33	SE	6	15	4	11	4.9	67
WILLISTON	1899	943.4	1012.2	62	36	49.0	6.7	78	24	24	28	0	10	34	65	0.93	- 0.01	0.48	6	3	T	T	2.5	5	42	NE	26	9	10	11	5.8	70
OHIO																																
AKRON	1208	971.2	1016.0	62	38	50.1	1.4	81	17	24	1	0	7	39	68	3.88	0.54	1.29	13	3	T	0	2.7	24	27	4	18	8	6	16	6.4	
CINCINNATI OBS	761			67	44	55.5	1.3	84	17	33	20	0	0			3.95	0.32	1.03	16		0.0	0			26	NW	22					51
CLEVELAND	777	986.8	1016.3	60	39	49.4	2.4	82	17	26	1	0	7	36	63	4.49	1.08	1.39	14	2	1.5	T	2.3	25	40	NE	18	10	4	16	6.4	57
COLUMBUS	812	986.5	1016.5	64	39	51.5	0.7	83	17	28	20+	0	5	40	68	3.10	- 0.39	1.31	14	1	0.5	T	1.3	25	34	NW	22	9	3	18	6.6	49
DAYTON	1002	979.7	1016.1	64	41	52.7	2.0	83	17	33	20+	0	0	40	67	2.74	- 0.58	0.94	14	4	0.3	T	1.8	23	37	NW	21	6	6	18	6.7	52
MANSFIELD	1295			63	41	51.9	5.0	83	17	26	3	0	4	38	63	5.50	2.19	2.06	13	6	2.1	2	3.4	24	29	19	1	7	7	16	6.3	
TOLEDO	669	990.9	1016.3	62	36	49.3	2.4	81	27	22	3	0	13	38	67	3.64	0.87	1.58	14	3	1.5	1	1.5	29	32	W	21	10	4	16	6.2	60
YOUNGSTOWN	1178	972.9	1016.1	60	37	48.5	1.5	80	27+	22	1	0	9	37	68	3.91	0.21	1.38	14	2	T	0	1.8	26	23	23	21	7	8	15	6.4	
OKLAHOMA																																
OKLAHOMA CITY	1285	967.2	1013.4	72	49	60.4	0.5	84	8	39	6	0	0	48	67	1.66	- 1.46	0.74	6	5	0.0	0	2.5	15	40	SW	1	8	8	14	6.1	61
TULSA	650	989.8	1013.9	73	50	61.6	2.7	85	16+	38	29	0	0	48	66	1.56	- 2.46	0.90	7	6	0.0	0	2.9	17	42	SW	1	8	10	12	5.9	62
OREGON																																
ASTORIA	8	1016.6	1017.4	54	40	46.8	- 2.2	68	11	32	3	0	1	41	81	3.84	- 1.34	0.71	22	0	0.0	0	4.1	21	26	25	19	0	2	28	9.1	
BURNS U	4151	871.7	1015.3	59	30	44.3	- 1.7	76	22+	22	30	0	21	27	54	0.45	- 0.30	0.25	7		0.2	T	3.9	28				9	9	12	6.1	
EUGENE	359	1004.4	1018.1	61	40	50.2	- 0.6	72	27+	33	30+	0	0	40	72	2.92	0.54	0.97	11	0	0.0	0	3.8	21	35	20	12	0	6	24	8.5	
MEACHAM	4050	875.0	1015.9	50	30	39.9	- 0.9	69	21	25	30	0	24	27	64	3.71	0.91	1.22	14		24.2	11	1.8	26	22	27	17	2	7	21	7.9	
MEDFORD	1298	969.9	1017.8	62	37	49.5	- 1.1	74	27+	29	30	0	5	36	65	0.60	- 0.46	0.16	9	0	0.0	0	2.0	31	26	13	4	4	6	20	7.6	
PENDLETON	1482	962.1	1016.3	61	39	49.8	- 2.2	74	12	34	26	0	0	37	66	2.05	0.96	0.98	11	2	0.0	0	4.8	25	48	28	12	5	8	17	7.0	
PORTLAND	21	1016.3	1017.4	60	40	50.1	- 1.7	72	21	33	30	0	0	40	70	2.28	0.19	0.60	15	2	0.0	0	2.4	22	35	SW	12	0	6	24	8.8	59
SALEM	196	1010.5	1017.9	60	38	49.1	- 2.0	71	27	29	30	0	4	40	72	2.51	0.18	0.69	14	1	0.0	0	4.0	20	35	18	12	0	6	24	8.6	
SEXTON SUMMIT R	3836	883.5	1017.2	50	32	40.9	- 3.8	65	21	24	29	0	18			1.76	- 0.09	0.35	15		4.9	1			40	19	12	4	5	21	7.8	
PACIFIC AREA																																
JOHNSTON	7	1015.6	1016.2	82	73	77.5	- 0.5	85	29	68	7	0	0	69	75	1.41	- 0.87	0.32	19	0	0.0	0	19.5	7	32	E	13+	5	14	11	6.2	57
KOROR R	94	1007.1	1010.7	89	76	82.4	1.1	90	30+	74	1	5	0	75	81	6.83	- 3.56	2.78	17	1	0.0	0	4.6	7	42	N	20	0	13	17	7.9	76
KWAJALEIN	8	1009.8	1010.6	87	77	82.2	1.4	88	30+	74	13+	0	0	76	81	6.07	1.05	1.56	21	0	0.0	0	18.1	8	31	8	11+	0	3	27	9.5	
MAJURO	10	1010.5	1010.8	85	76	80.7	0.1	87	27+	73	7+	0	0	76	83	17.21	4.90	4.65	27	0	0.0	0	13.4	8	31	E	12	0	4	26	9.1	52
PAGO PAGO	12	1010.2	1010.5	87	75	80.6		89	10+	72	19+	0	0	76	87	15.95		5.27	26	3	0.0	0	2.3	8	22	N	1	1	7	22	8.1	42
PONAPE R	123	1004.7	1010.1	86	76	80.8	0.3	89	30+	73	12	0	0	75	84	22.35	2.31	4.62	27	1	0.0	0	8.9	8	22	E	11+	0	2	28	9.3	57
TAGUAC GUAM R	361	999.7	1012.1	88	72	79.9	0.0	89	28+	65	27	0	0	71	78	1.36	- 1.67	0.43	13	0	0.0	0	10.2	9	23	E	17+	2	11	17	7.7	76

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
TRUK MOEN ISLAND	5	1009.5	1010.0	86	77	81.0	0.2	88	27+	73	28	0	0	75	82	11.28	- 1.04	1.68	21	1	0.0	0	11.0	6	25	NE	11	0	4	26	9.1	73
WAKE	11	1015.9	1016.3	87	74	80.4	2.0	88	27+	71	3	0	0	70	73	1.62	- 0.25	0.79	16	1	0.0	0	15.0	8	29	E	5	13	14	3	4.5	85
YAP R	44	1008.8	1010.5	88	75	81.6	- 0.2	90	30+	72	19+	6	0	74	79	3.03	- 3.35	1.40	15	0	0.0	0	8.9	8	21	SE	19	3	11	16	7.2	66
PENNSYLVANIA																																
ALLENTOWN	387	1002.0	1016.2	65	41	52.6	3.3	86	27	19	1	0	5	40	65	3.52	- 0.24	0.93	12	1	0.0	0	3.3	26	35	30	28	8	10	12	6.1	
ERIE	731	989.2	1016.1	57	37	47.2	1.7	80	27	21	1	0	11	36	68	5.27	1.71	1.38	16	2	2.0	2	2.4	24	31	5	19	9	7	14	6.0	
HARRISBURG	338	1003.1	1016.1	65	42	53.4	1.6	86	27	21	1	0	2	40	63	2.13	- 0.89	0.46	13	2	0.0	0	2.2	25	29	NW	28	9	9	12	6.2	59
PHILADELPHIA	5	1015.2	1016.1	66	45	55.3	3.3	86	27	24	1	0	1	40	60	1.68	- 1.72	0.56	9	1	0.0	0	4.2	23	32	SW	10	9	5	16	6.2	54
PITTSBURGH	1137	971.6	1015.7	64	39	51.7	2.7	81	27+	21	1	0	5	36	60	2.91	- 0.17	0.99	12	2	0.0	0	3.9	26	30	22	21	7	8	15	6.5	51
READING U	266			66	46	55.6	3.0	88	27	24	1	0	1			2.54	- 0.88	0.59	14		0.0	0			37	NW	28+	11	6	13	5.3	56
SCRANTON	93	961.7	1016.3	61	40	50.5	2.1	84	27	18	1	0	5	36	61	3.04	- 0.23	1.01	11	0	0.0	0	2.9	25	26	SW	28	7	9	14	6.5	59
WILLIAMSPORT	524	997.0	1016.1	63	37	50.0	0.6	84	27	18	1	0	10	40	72	2.78	- 0.77	0.92	13	0	0.0	0	1.5	25	26	15	21	8	7	15	6.4	
RHODE ISLAND																																
BLOCK ISLAND	110			52	39	45.7	1.1	65	26	22	1	0	4			2.46	- 1.15	0.96	9		0.0	0						10	9	11	5.4	
PROVIDENCE	51	1013.9	1016.1	61	39	49.7	2.5	78	28	19	1	0	7	36	64	3.95	0.20	1.71	11	1	0.0	T	4.0	23	32	23	10	8	12	10	5.5	66
SOUTH CAROLINA																																
CHARLESTON	40	1015.9	1017.9	75	52	63.3	- 1.5	84	29+	37	8	0	0	52	72	3.46	0.58	2.07	8	2	0.0	0	2.3	16	34Y	W	23	12	8	10	4.6	68
CHARLESTON C	9			73	59	65.7	0.1	82	29	48	7	0	0			2.98	0.44	2.13	7		0.0	0			32	N	6					
COLUMBIA	213	1009.5	1017.4	79	52	65.2	1.6	89	5+	36	24	0	0	50	63	4.57	0.56	2.99	8	3	0.0	0	1.0	20	23	31	[illegible]	9	12	9	5.1	64
GNVLE-SPARTANBURG	957	982.4	1017.2	72	49	60.7	- 0.2	81	27+	35	1	0	0	45	61	7.18	3.24	3.01	8	2	0.0	0	1.4	23	33	W	18	1	10	10	5.2	64
SOUTH DAKOTA																																
ABERDEEN	1296	966.1	1013.4	59	34	46.4	1.6	74	13+	17	2	0	15	36	72	0.92	- 1.12	0.83	4	3	T	10	2.9	13	31	5	8	13	5	12	5.1	
HURON	1281	966.8	1013.6	60	38	49.0	4.0	75	12	26	2	0	8	38	69	1.45	- 0.39	0.80	9	4	T	7	3.6	16	36	NW	20	12	4	14	5.6	64
RAPID CITY	3162	900.8	1011.7	64	35	49.6	5.1	81	6	22	28	0	10	32	56	1.60	- 0.07	0.54	8	1	5.2	3	3.7	33	45	NW	27	11	9	10	[illegible]	[illegible]
SIOUX FALLS	1418	962.4	1014.3	60	36	48.4	2.5	77	20	27	6	0	10	35	64	0.17	- 2.14	0.07	5	3	0.0	10	2.0	14	31	17	25	12	2	16	5.8	
TENNESSEE																																
BRISTOL	1507	963.1	1017.3	68	42	54.7	- 1.9	81	27	24	1	0	4	43	69	2.11	- 1.05	0.78	12	1	0.0	0	1.5	29	28	29	[illegible]	9	8	13	5.8	
CHATTANOOGA	665	991.5	1016.2	74	48	61.2	0.3	87	4	35	1	0	0	49	68	4.20	- 0.09	1.27	11	3	0.0	0	1.2	21	[illegible]		17	12	6	12	[illegible]	[illegible]
KNOXVILLE	980	981.0	1015.8	71	48	59.5	0.6	82	27+	31	1	0	1	45	63	2.41	- 1.29	0.45	12	2	0.0	0	1.7	27	32	SW	18	7	11	12	[illegible]	[illegible]
MEMPHIS	258	1005.1	1015.4	73	52	62.9	1.5	86	16	40	[illegible]	0	0	50	64	8.29	3.66	2.93	9	8	0.0	0	1.1	16	32	NE	9	[illegible]	4	13	[illegible]	[illegible]
NASHVILLE	590	993.9	1015.7	73	49	60.9	1.3	85	4	35	1	0	0	49	70	6.03	2.29	1.52	13	5	0.0	0	1.7	21	26	NW	22	10	6	14	[illegible]	[illegible]
OAK RIDGE R	[illegible]			72	47	59.4	1.6	85	27	29	1	0	1			2.86	- 1.34	0.98	14		0.0	0			34Y		3	[illegible]	6	14	[illegible]	
TEXAS																																
ABILENE	1762	951.2	1012.0	77	54	65.7	1.4	89	8	43	6	0	0	48	57	2.49	0.22	1.01	5	6	0.0	0	5.5	16	36	SW	1	13	8	9	4.9	74
AMARILLO	3604	888.3	1010.4	74	46	59.9	2.4	89	30	33	28	0	0	38	51	0.30	- 1.02	0.18	5	2	0.0	0	4.1	18	40	NW	4	[illegible]	13	10	5.5	[illegible]
AUSTIN	597	991.9	1013.5	79	59	69.0	1.3	85	10	50	6	0	0	56	68	5.04	1.49	2.48	9	5	0.0	0	3.7	16	33	NW	17	8	10	12	5.7	60
BROWNSVILLE	19	1011.5	1012.1	85	67	75.9	2.0	95	12	55	1	4	0	65	73	0.23	- 1.31	0.23	[illegible]	1	0.0	0	[illegible]	13	33	[illegible]	26	6	7	17	6.8	63
CORPUS CHRISTI	41	1011.5	1013.0	80	62	70.8	- 0.9	86	9	51	22	0	0	62	77	2.89	0.75	2.13	6	[illegible]	0.0	0	8.9	12	38	SE	[illegible]	[illegible]	8	17	[illegible]	54
DALLAS	481	996.3	1013.6	76	57	66.9	1.9	86	9	44	6	0	0	54	65	2.68	- 1.32	1.15	6	4	0.0	0	4.2	15	33	NW	27	8	7	15	[illegible]	59
DEL RIO	1026	976.0	1011.5	82	60	71.1	- 0.5	91	10+	50	18	2	0	56	63	5.46	4.10	4.57	9	5	0.0	0	8.0	11	[illegible]	31	12+	8	11	11	5.9	
EL PASO	3918	878.4	1009.3	81	50	65.8	2.4	90	22	37	27	1	0	25	22	T	- 0.29	T	0	0	0.0	0	4.6	25	38	NW	[illegible]	20	6	4	[illegible]	[illegible]
FORT WORTH	537	993.6	1014.0	76	55	65.4	0.6	85	22+	42	6	0	0	56	74	3.40	- 0.20	1.07	9	4	0.0	0	[illegible]	18	47	31	[illegible]	[illegible]	8	13	[illegible]	
GALVESTON	7			74	65	69.6	1.1	83	5	58	18	0	0			[illegible]	3.44	2.65	5		0.0	0			33	[illegible]	11					58
HOUSTON	50	1012.2	1014.2	79	61	70.3	1.8	86	5	52	19+	0	0	61	75	[illegible]	0.10	2.05	4	[illegible]	0.0	0	3.7	15	[illegible]	[illegible]	[illegible]	7	6	17	[illegible]	[illegible]
LUBBOCK	3254	900.8	1011.0	76	47	61.8	2.3	88	25+	38	28	0	0	42	55	1.14	- 0.01	0.99	3	[illegible]	0.0	0	4.9	17	[illegible]	[illegible]	16	15	[illegible]	12	[illegible]	
MIDLAND	2851	913.6	1010.7	79	52	65.2	0.3	89	7	43	18	0	0	44	55	[illegible]	1.27	1.24	[illegible]	[illegible]	0.0	0	4.7	15	38	[illegible]	11	17	4	9	[illegible]	
PORT ARTHUR	16	1013.9	1014.6	79	60	69.2	1.0	86	23	49	19	0	0	63	83	5.38	1.44	1.80	8	7	0.0	0	3.5	14	42	[illegible]	[illegible]	8	5	16	[illegible]	[illegible]
SAN ANGELO	[illegible]	945.5	1011.4	80	54	67.0	- 0.1	92	8	44	18	1	0	51	61	4.38	2.37	3.18	4	5	0.0	0	4.0	18	[illegible]	[illegible]	[illegible]	14	[illegible]	10	[illegible]	
SAN ANTONIO	788	985.4	1013.3	79	59	69.0	0.8	86	5	48	29	0	0	57	68	2.46	- [illegible]	0.68	8	6	0.0	0	4.3	[illegible]	31	NW	[illegible]	6	12	11	5.4	[illegible]
VICTORIA	104	1009.5	1013.5	80	62	70.9	0.9	87	10+	53	29	0	0	62	77	[illegible]	6.81	8.57	6	6	0.0	0	[illegible]	14	[illegible]	E	[illegible]	4	10	16	[illegible]	
WACO	501	995.6	1013.7	78	58	68.0	1.4	87	10	46	5	0	0	58	73	3.98	0.10	1.78	[illegible]	9	0.0	0	3.9	15	[illegible]	[illegible]	1	11	5	14	[illegible]	
WICHITA FALLS	994	976.3	1012.8	77	50	63.6	- 0.4	89	15+	38	6	0	0	51	67	1.87	- 0.66	1.44	[illegible]	[illegible]	0.0	0	[illegible]	13	[illegible]	17	26	9	8	13	[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
UTAH																																
MILFORD	5028	843.9		64	32	48.2	0.5	81	21	20	25	0	16			1.76	1.04	0.74	9		5.8	1						12	9	9	4.7	
SALT LAKE CITY	4220	869.6	1013.3	63	38	50.4	0.5	81	22	31	26	0	2	31	52	1.38	- 0.38	0.81	9	1	0.2	T	1.1	22	43	3	23	9	11	10	5.5	80
WENDOVER	4237	868.9	1013.9	62	40	50.8	- 0.8	80	22	33	26+	0	0			1.02	0.51	0.88	5		T	T										
VERMONT																																
BURLINGTON	332	1003.1	1015.6	52	31	41.4	0.2	77	27	16	1	0	18	31	70	2.93	0.30	1.39	12	0	3.7	4	6.5	25	33	3	10+	8	6	16	6.9	59
VIRGINIA																																
LYNCHBURG	916			70	44	57.1	0.9	85	27	26	1	0	2			2.21	- 0.93	0.88	12		0.0	0			28	SW	2	9	11	10	5.6	60
NORFOLK	22	1016.6	1017.5	69	50	59.8	1.8	86	27	35	1	0	0	46	63	2.07	- 1.09	1.04	9	2	0.0	0	3.1	17	35	SW	2	10	7	13	5.6	69
RICHMOND	164	1011.2	1017.3	71	45	57.6	- 0.5	87	27	28	1	0	1	45	67	2.60	- 0.55	0.67	10	2	0.0	0	2.0	21	32	SW	5	7	10	13	5.9	69
ROANOKE	1149	974.6	1016.6	69	45	57.3	0.9	84	27	24	1	0	1	42	60	1.40	- 1.70	0.43	11	4	0.0	0	1.9	24	23	1	24+	9	11	10	5.7	
WALLOPS ISLAND	9			61	46	53.4		83	27	36	7	0	0			2.14		0.73	8		0.0	0			47Y	W	2					
WASHINGTON																																
OLYMPIA	195	1009.8	1017.0	58	38	48.1	- 1.9	71	27	30	25+	0	5	39	72	3.44	0.48	0.55	20	1	0.0	0	4.9	21	37	20	12	0	4	26	8.9	
QUILLAYUTE	179	1008.5	1016.0	52	39	45.5	- 1.7	64	11	31	8+	0	2	41	87	11.17	3.78	2.37	25	1	0.4	0	3.6	18	31	SE	23	0	2	28	9.3	14
SEATTLE TACOMA	400	1000.3	1016.9	56	41	48.9	- 0.3	68	11	35	5	0	0	39	73	3.45	1.05	0.63	18	3	0.0	0	5.1	21	33	SW	12	0	8	22	8.6	42
SPOKANE	2356	930.2	1014.4	56	36	46.2	- 1.1	78	22	30	26	0	4	36	70	2.16	1.25	0.50	12	1	0.4	T	5.5	20	35	SW	12	1	10	19	8.3	60
STAMPEDE PASS R	3958	877.4		41	30	35.3	- 1.2	57	22	23	3	0	22			7.09	1.49	1.47	22		59.1	125										
WALLA WALLA U	949			62	43	52.2	- 1.6	74	22	37	8	0	0			2.88	1.48	1.26	11		0.0	0			34	NW	12	4	9	17	7.4	61
YAKIMA	1052	976.6	1015.3	61	35	48.3	- 2.2	75	22	26	3	0	11	30	50	0.27	- 0.20	0.08	7	1	0.0	0	3.9	28	32	24	12	4	7	19	7.4	
WEST INDIES																																
SAN JUAN P.R.	13	1012.2	1014.6	85	74	79.6	3.0	92	27+	70	10	5	0	72	79	2.42	- 1.30	0.49	12	0	0.0	0	5.7	8	24	F	2	7	20	3	5.1	79
SWAN ISLAND	28			87	78	82.5	1.0	88	30+	76	26+	0	0			0.04	- 0.80	0.02	2		0.0	0						8	16	6	5.1	
WEST VIRGINIA																																
BECKLEY	2504	928.2	1016.4	64	43	53.2	2.4	81	27	26	1	0	3	38	63	2.55	- 1.40	0.57	17	4	T	T	3.9	24	26	29	22	6	5	19	6.9	
CHARLESTON	939	981.7	1015.9	70	43	56.2	0.9	86	27+	21	1	0	3	41	59	2.35	- 1.33	0.77	12	3	0.0	0	2.7	23	35	24	18	5	8	17	6.7	
ELKINS	1970	945.5		65	36	50.4	0.2	84	27	16	1	0	12			3.34	- 0.14	0.80	13		0.7	0			31	25	2	5	8	17	6.9	
HUNTINGTON	827	986.5	1016.5	69	43	56.1	0.4	85	27	24	1	0	2	42	63	2.85	- 0.82	0.71	9	2	0.0	0	1.5	24	23	28	22	7	8	15	6.5	
PARKERSBURG U	615			67	42	54.7	0.6	86	17	24	1	0	2			3.32	0.07	1.25	12		0.0	0			38	W	22					50
WISCONSIN																																
GREEN BAY	682	990.2	1016.1	54	33	43.5	0.3	70	25	22	29	0	16	34	73	2.86	0.40	0.70	11	1	T	T	1.7	1	35	NW	21	11	5	14	5.9	52
LA CROSSE	651	990.5	1015.3	61	39	49.9	2.9	75	25	26	6	0	7	38	67	1.83	- 0.92		11	1	0.0		1.2	17								
MADISON	858	983.7	1015.4	60	34	47.0	2.6	71	25+	21	6	0	14	36	66	2.72	0.15	1.15	11	3	T	T	0.7	6	34	NE	18	9	5	16	6.2	53
MILWAUKEE	672	990.2	1015.6	55	35	44.9	1.3	77	26	24	3+	0	13	35	71	3.42	0.89	1.26	12	5	0.0	T	2.4	1	40	NE	17	8	9	13	6.0	54
WYOMING																																
CASPER	5338	834.1	1011.4	61	33	46.7	3.6	80	23	23	27	0	15	29	57	1.52	- 0.17	0.57	9	0	12.1	2	4.8	25	38	2	24	10	9	11	5.5	
CHEYENNE	6126	809.0	1011.4	62	35	48.1	5.5	74	22	24	27	0	10	26	49	0.82	- 1.06	0.50	7	0	3.0	3	4.8	29	61	W	20	7	14	9	5.5	75
LANDER	5563	825.6	1011.1	59	35	47.0	3.8	78	22	28	30+	0	12	28	53	2.32	- 0.13	0.71	9	0	19.1	5	2.5	24	57	S	6	8	10	12	5.9	70
SHERIDAN	3964	875.7	1012.6	62	33	47.5	3.9	78	22+	25	28+	0	15	31	58	1.84	- 0.32	0.58	13	2	6.7	2	4.2	31	40	NW	29	10	8	12	5.5	67

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C.	C	C	C	C.		C				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
ALABAMA																																
BIRMINGHAM	189	993.6	1016.1	24.4	10.0	17.1	- 0.2	28.9	4	2.2	30	0	0	10.6	68	135	22	36	9	2	0	0	0.6	17	11.6	SW	18	11	7	12	5.2	69
HUNTSVILLE	190	993.2	1016.2	23.3	10.0	16.8	0.4	31.7	4	3.3	1	0	0	9.4	66	172	71	64	9	4	0	0	0.4	13	12.5	25	18+	11	8	11	5.2	
MOBILE	64	1007.8	1015.5	26.1	15.0	20.5	0.7	30.0	22	9.4	25+	0	0	13.9	71	115	- 46	37	9	7	0	0	1.4	14	11.2	14	27+	10	7	13	5.9	
MONTGOMERY	56	1009.1	1016.3	25.6	11.7	18.6	0.7	28.9	4+	4.4	1	0	0	12.8	72	46	- 78	14	7	2	0	0	0.6	19	9.4	SW	18+	11	7	12	5.4	63
ALASKA												8																				
ANCHORAGE	35	998.3	1003.3	7.8	0.6	4.1	1.4	12.2	18	- 2.2	2+	0	14	- 2.8	62	T	- 11	T	0	0	T	152	1.2	17	11.2	15	25	2	8	20	8.1	40
ANNETTE	34	1005.1	1009.1	10.0	3.9	6.8	0.4	14.4	24+	0.6	18	0	0	3.3	83	271	40	53	24	0	T	0	4.0	13	20.6	13	21	0	3	27	9.2	
BARROW	9	1015.2	1015.7	-12.8	-20.6	-16.7	1.0	- 2.2	29	-31.7	21	0	30	-17.8	86	4	2	1	8	0	61	330	2.7	8	11.6	7	7+	9	5	16	6.2	
BARTER ISLAND	12	1012.9	1014.7	-10.0	-17.2	-13.8	3.4	0.0	26	-30.0	5	0	30	-15.6	82	3	- 2	1	4	0	79	152	1.1	10	17.9	10	25+	3	3	24	8.4	
BETHEL	38	998.3	1003.9	1.7	- 7.2	- 2.7	0.7	8.3	30+	-21.7	4+	0	30	- 5.6	80	2	- 13	1	2	0	15	229	2.5	36	13.0	33	20	7	6	17	6.5	
BETTLES	196	983.4	1009.1	5.0	- 7.8	- 1.4		13.3	29+	-27.8	4	0	28	- 6.7	68	T		T	1	0	13	508	2.3	2	10.3	36	18	9	10	11	5.7	
BIG DELTA	386			7.8	- 3.3	2.3		13.3	25	-12.8	5	0	26			3		2	3	0	30	102			15.6	21	8	1	9	20	8.1	
COLD BAY	29	997.6	1001.4	3.9	- 1.1	1.4	0.7	8.3	30	- 6.7	3	0	21	- 2.2	78	28	- 9	6	18	0	157	25	0.6	27	20.1	13	27	0	4	26	9.1	
FAIRBANKS	133	988.5	1005.6	8.9	- 3.9	2.4	3.8	17.2	25	-12.8	5	0	26	-10.0	41	T	- 6	T	0	0	10	559	1.4	3	10.3	9	26	4	13	13	6.7	
FAREWELL	457			4.4	- 6.7	- 1.0		8.9	26+	-26.7	4	0	29			5		4	3	0	119	102						3	10	17	7.3	
GULKANA	479	946.5	1004.4	7.8	- 4.4	1.6		11.1	16	-11.7	3	0	30	- 6.1	58	T		T	0	0	T		1.3	18	10.3	18	27	5	10	15	6.8	
HOMER	20			7.2	0.0	3.5		10.0	18	- 5.0	2	0	16			9		3	6	0	8	102						3	3	24	8.2	
ILIAMNA	57			4.4	- 2.2	1.3		10.6	18	-15.6	4	0	24			11		5	8	0	86	864						4	5	21	7.7	
JUNEAU	4	1006.8	1007.7	8.9	0.6	4.8	1.4	15.6	23	- 3.3	23+	0	16	1.7	82	44	- 29	12	17	0	T	T	3.0	12	13.4	12	21	1	6	23	8.4	42
KING SALMON	15	998.3	1000.3	5.0	- 2.8	1.3	0.9	8.9	30+	-19.4	4	0	22	- 5.0	64	8	- 9	3	6	0	28	127	1.7	4	15.6	8	14	1	7	22	8.2	
KOTZEBUE	3	1008.5	1009.1	- 3.9	-13.3	- 8.4	2.0	7.8	29	-26.1	4	0	30	-12.8	70	5	- 3	4	4	0	107	406	1.0	34	17.4	29	3+	10	4	16	6.2	
MC GRATH	105	991.2	1004.0	6.1	- 6.1	0.1	2.5	12.8	29	-27.2	4	0	28	- 7.8	56	1	- 11	1	2	0	T	406	1.2	1	9.8	19	25	5	8	17	6.8	
NENANA	109			7.2	- 6.1	0.4		16.1	25	-21.1	5	0	26			T		T	0	0	T				7.6	7	26+	6	9	15	6.9	
NOME	4	1006.1	1006.8	- 1.1	-10.6	- 5.7	0.3	5.6	26	-27.8	3	0	28	- 9.4	73	1	- 20	1	1	0	5	254	1.9	4	12.1	4	17	6	9	15	6.5	52
ST. PAUL ISLAND	7	1001.0	1001.9	0.6	- 3.3	- 1.3	0.7	3.3	29	-11.1	3	0	30	- 2.8	89	25	1	6	18	0	185	356	2.3	4	17.9	6	28+	1	4	25	8.7	
SHEMYA	37	998.3	1002.0	2.8	- 0.6	1.2	- 0.7	5.0	5	- 5.0	2	0	23	- 1.7	82	101	49	43	20	0	152	25	3.4	27	30.4	24	6	0	4	26	9.1	
SUMMIT	732	917.0	1004.8	3.9	- 6.1	- 1.3		7.8	17	-11.7	13+	0	30	- 6.1	71	6		2	5	0	99	279	2.1	6	12.5	8	22	3	7	20	7.6	
TALKEETNA	105	990.5	1003.8	10.0	- 2.8	3.5		14.4	24	- 9.4	3+	0	29	- 3.3	63	7		3	5	0	T	381	0.8	34	9.4	36	21	4	9	17	7.3	
TANANA	71			6.1	- 6.7	- 0.3		12.8	29	-23.3	4	0	27			1		T	2		5	432			9.8	7	26	9	4	12	5.8	
UNALAKLEET	5	1005.4	1006.0	1.7	- 7.2	- 2.8		12.2	29	-27.2	4	0	28	- 6.1	79	2		2	2	0	36	356	1.7	5	14.3	12	21	7	5	18	6.5	
YAKUTAT	9	1004.7	1005.8	6.7	- 1.7	2.5	- 0.3	12.2	21	- 7.8	4	0	20	- 0.6	81	144	- 39	35	20	0	51	914	1.7	11	14.3	12	7	3	6	11	8.2	
ARIZONA																																
FLAGSTAFF	2135	765.3	1013.3	13.9	- 3.3	5.4	- 0.9	20.6	21+	- 8.3	27+	0	29	-10.0	34	3	- 27	2	3	0	15	T	1.9	21	15.6	[illegible]	6	16	8	6	3.7	
PHOENIX	340	971.9	1010.5	29.4	11.1	20.3	0.7	35.6	21	6.7	8	7	0	- 0.6	28	1	- 7	1	2	0	0	0	0.7	21	16.1	WSW	18+	21	5	4	2.4	94
TUCSON	788	925.5	1010.5	27.8	10.6	19.2	0.4	34.4	21	6.1	8	1	0	- 4.4	23	15	8	15	2	2	0	0	1.7	24	13.4	W	15+	22	4	4	2.3	97
WINSLOW	1492	849.0	1011.8	22.2	2.8	12.7	- 0.4	30.6	21	- 3.9	7	0	8	- 7.2	29	2	- 9	2	1	0	0	0	2.2	23	24.6	22	6	18	8	4	3.3	
YUMA	59	1004.1	1011.3	30.0	13.3	21.7	0.2	34.4	21	7.8	7	9	0	1.1	29	2	T	2	1	0	0	0	1.8	28	15.6	N	26+	22	3	5	2.6	[illegible]
ARKANSAS																																
FORT SMITH	136	998.0	1014.6	23.9	11.1	17.6	1.1	31.1	9	4.4	1	0	0	10.0	64	76	- 30	47	7	4	0	0	0.6	18	12.1	SW	4	15	5	10	4.7	62
LITTLE ROCK	78	1005.4	1014.9	22.8	10.0	16.6	- 0.3	28.3	16	2.2	1	0	0	11.7	73	109	- 16	72	7	4	0	0	0.5	18	16.1	SW	9	10	11	9	5.4	71
CALIFORNIA																																
BAKERSFIELD	145	999.0	1016.6	24.4	10.6	17.5	0.3	32.2	21	3.9	7	1	0	6.7	53	28	7	17	3	0	0	0	1.6	33	13.4	31	5	14	13	3	3.4	
BISHOP	1252	872.0		21.7	2.8	12.3	- 0.6	28.9	20	- 3.9	7	0	3			3	- 9	3	2		0	0						19	9	2	2.8	
BLUE CANYON	1609			10.0	1.7	5.7	- 1.9	20.0	20	- 3.9	6	0	13			129	7	51	8		[illegible]	1575			13.4	24	23	12	6	12	5.2	
EUREKA	13			12.8	6.7	9.9	- 0.3	18.3	4	2.8	3	0	0			82	14	24	15		0	0			13.4	SW	29	3	8	19	7.7	61
FRESNO	100	1004.7	1016.5	23.3	7.8	15.4	- 0.9	30.6	28+	2.8	7	0	0	6.7	61	42	13	31	5	0	0	0	1.7	32	13.0	W	5	18	6	6	3.6	[illegible]
LONG BEACH	10	1014.6	1016.1	21.1	10.6	15.9	0.3	29.4	26	6.7	7+	0	0	7.8	63	12	- 7	8	5	0	0	0	1.5	13	9.8	26	24+	15	6	9	4.1	
LOS ANGELES	30	1011.9	1015.3	18.9	12.8	15.7	0.5	27.2	27	8.3	6	0	0	10.0	72	10	- 17	6	3	0	0	0	2.3	24	13.9	N	25+	17	7	6	3.7	
LOS ANGELES C	82			22.2	12.8	17.7	1.1	29.4	28+	8.3	6	0	0			16	- 14	9	4		0	0			10.3	NW	24	13	9	8	4.4	69
MT SHASTA R	1080			13.9	0.6	7.2	- 1.4	22.2	21	- 3.9	3	0	17			83	13	35	10		229	51										
OAKLAND	2	1018.3	1018.4	16.1	9.4	12.8	- 0.9	21.7	27	6.7	25+	0	0	7.8	73	46	11	17	8	1	0	0	2.9	26	11.2	27	30	11	13	6	5.0	
RED BLUFF	104	1004.1	1016.7	21.1	7.2	14.3	- 1.4	28.3	20	3.3	8+	0	0	5.6	58	26	- 20	12	8	0	0	0	0.4	23	13.9	SE	28	10	8	12	5.7	76
SACRAMENTO	5	1016.3	1017.0	20.6	7.2	13.9	- 0.7	26.7	28+	3.9	4+	0	0	7.2	70	41	6	26	5	1	0	0	1.7	23	14.3	W	22	14	12	4	4.2	91
SANDBERG R	1377	861.8		15.0	3.9	9.5	- 0.9	23.9	20	- 1.7	6	0	5			19	- 6	13	3		51	T			21.1	14	13	10	14	6	4.5	
SAN DIEGO	4	1014.6	1015.7	20.0	13.3	16.5	0.1	27.8	27	9.4	7	0	0	10.0	67	5	- 15	3	4	0	0	0	2.0	28	9.8	NW	5	12	5	13	4.7	[illegible]
SAN FRANCISCO	2	1018.0	1018.5	16.1	8.3	12.2	- 0.9	23.9	27	5.0	6	0	0	7.2	75	47	14	22	6	0	0	0	4.9	28	16.1	W	30+	10	14	6	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 2.5 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M.	Mb	Mb	C	C.	C	C	C.		C				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
CALIFORNIA																																
SAN FRANCISCO U	16			15.6	9.4	12.3	-0.8	22.8	27	7.2	6	0	0			44	8	17	9		0	0			15.2	SW	30					85
SANTA MARIA	72			18.3	6.1	12.1	-1.0	25.6	27	2.2	7	0	0			44	14	27	4		0	0						13	13	4	4.0	
STOCKTON	7	1016.6	1017.5	21.7	7.2	14.4	-0.9	29.4	21	3.3	7	0	0	6.7	63	41	12	26	4	0	0	0	2.3	30	11.2	28	17	14	11	5	4.3	
COLORADO																																
ALAMOSA	2297	769.1		16.1	-3.9	6.2	0.8	23.9	21	-10.0	8	0	28			8	-9	5	4		23	T						11	12	7	4.7	
COLORADO SPRINGS	1873	808.3	1012.5	17.2	1.7	9.4	1.8	26.7	20	-3.3	27	0	10	-2.2	53	46	13	20	10	6	168	127	0.7	5	14.8	30	25+	7	9	14	6.0	
DENVER	1610	833.1	1009.7	19.4	3.3	11.2	3.2	26.7	24	-2.8	28	0	3	-0.6	51	34	-20	12	8	5	T	T	0.9	21	16.5	SE	23	8	10	12	5.8	74
GRAND JUNCTION	1476	849.0	1010.9	21.1	3.3	12.1	0.8	29.4	22	-2.2	26+	0	7	-4.4	36	8	-11	4	5	1	T	T	0.4	12	21.0	S	6	15	9	6	4.3	82
PUEBLO	1428	852.4	1010.1	21.7	5.0	13.4	3.0	30.6	20	-1.1	18	0	1	-0.6	44	14	-16	6	6	4	0	0	0.7	2	20.6	NW	7	8	12	10	5.7	78
CONNECTICUT																																
BRIDGEPORT	2	1015.6	1016.3	15.0	5.6	10.4	1.5	23.3	26	-5.6	1	0	3	4.4	71	134	37	52	9	1	0	0	1.7	24	13.4	29	25	7	13	10	6.1	
HARTFORD	52	1008.8	1015.4	17.2	3.9	10.6	1.4	28.3	27	-8.9	1	0	9	2.8	62	143	48	76	11	3	0	0	1.2	19	12.5	NW	25	5	11	14	6.7	59
NEW HAVEN	2	1015.9		15.0	4.4	9.6	1.3	24.4	26	-8.3	1	0	6			134	35	48	11		0	0			11.2	W	19	9	11	10	5.9	63
DELAWARE																																
WILMINGTON	23	1013.9	1016.8	18.9	7.2	12.8	1.7	30.0	27	-3.9	1	0	1	5.6	64	40	-44	13	10	1	0	0	1.7	20	12.1	20	10	9	7	15	6.3	
DIST.OF COLUMBIA																																
WASH NATL AP	3	1014.6	1016.8	21.1	8.3	14.8	1.7	32.2	27	-2.8	1	1	1	6.7	61	43	-37	12	12	1	0	0	1.4	22	13.0	NW	22+	6	9	15	6.6	57
FLORIDA																																
APALACHICOLA U	4			23.9	16.7	20.2	0.4	27.8	29	10.6	25	0	0			21	-88	14	8	4	0	0			13.9	E	13	12	9	9	5.0	79
DAYTONA BEACH	9	1016.3	1017.6	26.7	16.1	21.4	0.9	32.8	18	10.0	26	1	0	14.4	68	3	-72	1	4	2	0	0	1.8	10	10.3	23	18+	10	11	9	5.2	
FORT MYERS	5	1015.9	1016.2	28.3	18.3	23.4	0.7	30.6	29	15.0	26+	0	0	17.8	75	4	-63	1	3	3	0	0	1.5	8	9.4	11	28+	8	15	7	5.6	
JACKSONVILLE	6	1016.3	1017.4	27.2	15.0	21.0	0.6	31.7	3	8.9	25	0	0	14.4	71	9	-82	6	4	3	0	0	1.3	12	14.8	SW	18	14	9	7	4.5	80
KEY WEST	1	1014.6	1015.3	27.2	23.3	25.2	0.9	30.0	19	20.6	10	0	0	20.6	78	79	16	43	5	2	0	0	3.4	9	11.6	E	9+	5	16	9	5.7	80
LAKELAND U	65			27.8	17.8	22.6	0.7	31.1	18	14.4	1	0	0			11	-78	6	4		0	0						12	11	7	4.7	73
MIAMI	2	1015.6	1015.7	28.3	22.2	25.2	1.7	33.3	19	19.4	25+	1	0	18.9	72	118	19	41	12	4	0	0	3.1	10	9.8	7	13+	1	17	12	6.7	
ORLANDO	33	1013.2	1017.3	28.3	16.7	22.5	0.7	32.2	18	13.3	22	1	0	15.6	69	60	-26	37	4	4	0	0	1.6	10	12.1	4	16	8	13	9	5.4	
PENSACOLA	34	1011.5	1015.7	24.4	15.0	19.7	-0.3	28.9	22	10.0	20	0	0	14.4	75	88	-45	30	8		0	0	1.7	14	25.0	SE	13	9	6	15	6.2	63
TALLAHASSEE	17	1014.6	1016.8	27.8	12.2	20.0	0.3	30.6	3	3.3	25	0	0	13.9	73	51	-67	26	8	4	0	0	0.7	16	9.4	21	5	11	9	10	5.1	
TAMPA	6	1016.3	1016.5	27.8	16.7	22.4	0.5	31.1	28	12.8	26+	0	0	15.6	70	1	-71	1	1	1	0	0	0.9	10	9.4	10	13	9	15	6	5.2	76
WEST PALM BEACH	5	1015.6	1016.4	27.8	20.0	23.8	0.5	32.8	19	15.0	20	1	0	16.7	67	19	-92	6	7	4	0	0	3.5	8	11.6	5	7	3	15	12	6.6	
GEORGIA																																
ATHENS	244	987.8	1016.5	23.3	10.6	17.1	0.9	29.4	4	3.3	1	0	0	9.4	66	145	33	71	8	5	0	0	0.7	21	9.4	28	22	12	7	11	5.0	
ATLANTA	308	980.0	1016.6	23.9	10.6	17.1	1.4	29.4	4	2.2	1	0	0	8.9	64	145	31	68	10	3	0	0	0.6	22	11.2	S	17	12	8	10	4.9	65
AUGUSTA	41	1011.5	1016.8	25.6	10.6	17.9	0.6	30.0	4+	2.8	1	0	0	10.6	68	115	25	61	9	6	0	0	0.6	18	10.3	29	22+	10	10	10	5.0	
COLUMBUS	117	1002.4		25.6	12.2	18.8	1.2	29.4	12+	5.6	25+	0	0	10.6	64	211	94	115	10	4	0	0			9.4	23	18	13	5	12	5.1	
MACON	108	1004.1	1016.8	26.7	10.6	18.5	-0.2	31.1	4+	2.8	1	0	0	10.6	66	65	-31	35	7	4	0	0	0.8	16	12.5	S	18	12	7	11	5.2	68
SAVANNAH	14	1015.9	1017.6	26.1	11.7	18.9	0.2	31.1	3	6.1	25+	0	0	11.7	69	18	-76	15	7	2	0	0	1.2	15	11.6	N	6	11	10	9	5.1	76
HAWAII																																
HILO	8	1018.3	1019.5	26.1	18.9	22.7	0.7	27.8	25	16.7	10+	0	0	20.0	87	370	67	91	29	1	0	0	0.9	3	7.6	NE	15+	0	3	27	9.2	25
HONOLULU	2	1018.6	1018.9	27.8	20.0	23.7	0.3	30.0	27	17.2	5	0	0	17.2	70	3	-31	2	4	0	0	0	6.3	5	13.4	E	22+	6	14	10	6.4	69
KAHULUI	15	1016.6	1018.8	27.2	18.9	23.1	0.1	30.0	24	15.0	9	0	0	17.8	75	45	9	17	14	0	0	0	6.6	5	13.4	NE	17	5	14	11	6.5	66
LIHUE	31	1015.6	1020.8	25.0	19.4	22.2	-0.3	28.3	30	16.7	7+	0	0	17.8	78	39	-46	7	21	0	0	0	5.9	5	11.6	NE	1	2	9	19	7.6	45
IDAHO																																
BOISE	865	914.0	1014.1	17.8	2.8	10.3	0.1	26.1	22+	-2.2	30+	0	7	-2.2	46	34	5	32	4	0	183	51	0.4	31	15.2	NW	17	9	8	13	5.7	78
LEWISTON	431			16.7	3.9	10.4	-0.1	26.1	22	0.0	14	0	1			59	30	21	12		T	T						1	11	18	7.8	
POCATELLO	1358	861.5	1014.7	14.4	0.0	7.2	-0.9	26.1	22	-4.4	14	0	18	-3.3	50	9	-18	3	6	0	T	0	3.3	22	15.6	SE	22	8	11	11	5.7	72
ILLINOIS																																
CAIRO U	96			20.6	10.0	15.3	0.1	27.8	16	5.0	29+	0	0			109	6	40	13		0	0			16.1	SW	1	13	4	13	5.5	62
CHICAGO O HARE	201	991.2	1015.8	16.7	4.4	10.4	2.0	26.1	26	-1.7	3	0	5	3.9	66	102	27	25	12	5	0	0	0.4	4	17.0	3	18	9	5	16	6.3	
CHICAGO MIDWAY	185	993.2	1015.9	16.1	5.0	10.7	1.2	26.7	26	0.0	24+	0	2	3.3	63	135	58	33	13	7	0	0	0.4	9	17.0	W	21	9	4	17	6.3	58
MOLINE	177	993.6	1015.2	17.2	4.4	10.9	0.9	23.9	26	-2.8	6	0	4	3.9	65	79	-2	29	8	6	0	0	0.2	17	16.5	NW	21	9	5	16	6.3	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity
	M	Mb	Mb.	C	C.	C.	C	C		C.				C.	%
ILLINOIS															
PEORIA	199	991.2	1015.4	17.8	5.0	11.4	1.0	26.1	26	- 1.1	6	0	3	5.0	67
ROCKFORD	221	987.8	1015.1	15.6	2.8	9.1	0.3	23.9	26	- 4.4	3	0	9	3.3	70
SPRINGFIELD	179	992.6	1014.9	18.3	6.7	12.6	0.7	26.7	8	0.0	6	0	1	6.1	68
INDIANA															
EVANSVILLE	116	1001.7	1015.8	20.0	7.2	13.4	- 0.9	27.2	16	0.6	30	0	0	8.3	72
FORT WAYNE	241	985.8	1016.1	17.2	3.9	10.5	0.9	28.3	27	- 1.1	11	0	4	4.4	69
INDIANAPOLIS	241	986.5	1015.8	18.9	5.6	12.2	1.8	26.7	17	0.6	11+	0	0	6.1	70
SOUTH BEND	236	987.5	1015.7	16.1	3.9	10.2	1.6	25.6	17	- 0.6	11	0	5	4.4	69
IOWA															
BURLINGTON	211			17.2	6.1	11.6	1.2	23.9	16	- 1.7	6	0	2	5.0	65
DES MOINES	286	980.4	1015.3	17.8	5.0	11.4	2.1	23.9	25	- 1.7	6	0	2	4.4	66
DUBUQUE	322	976.0		15.6	3.9	9.8	1.6	22.8	7	- 2.2	29+	0	5		
SIOUX CITY	334	974.6	1014.7	17.8	4.4	11.2	1.8	27.8	20	- 1.1	6	0	2	3.9	66
WATERLOO	265	983.1	1015.3	15.6	2.8	9.2	0.7	23.3	25	- 2.8	11	0	9	2.2	66
KANSAS															
CONCORDIA	448	960.7	1013.6	18.9	5.6	12.2	0.7	26.1	15	0.0	3	0	1	5.6	69
DODGE CITY	787	922.1	1012.5	21.1	6.7	13.8	1.8	28.9	30	0.0	28	0	1	5.0	61
GOODLAND	1114	885.2	1011.5	19.4	3.9	11.7	2.7	27.2	6	- 4.4	28	0	4	2.8	59
TOPEKA	267	982.7	1014.4	19.4	6.7	13.1	0.6	26.7	15	1.7	29+	0	0	7.2	68
WICHITA	403	965.6	1013.5	20.0	6.7	13.6	- 0.2	26.1	15	0.6	6	0	0	6.1	64
KENTUCKY															
COVINGTON	265	984.4	1016.2	19.4	6.7	12.9	1.7	28.3	17	0.0	20+	0	2	6.7	70
LEXINGTON	294	981.0	1016.6	20.0	7.2	13.5	1.1	27.8	17	0.0	20+	0	2	6.1	64
LOUISVILLE	145	998.3	1015.8	20.6	8.3	14.4	1.8	27.2	27+	1.7	1	0	0	7.2	64
LOUISIANA															
BATON ROUGE	20	1012.5	1015.1	26.1	15.0	20.4	0.3	30.0	27+	8.3	25+	0	0	14.4	73
LAKE CHARLES	3	1013.5	1014.5	25.0	15.0	19.9	0.0	29.4	23	10.6	19+	0	0	15.0	78
NEW ORLEANS	1	1014.6	1015.5	25.6	15.0	20.4	0.5	28.9	27+	7.2	1	0	0	15.0	72
SHREVEPORT	77	1005.4	1014.5	23.9	12.8	18.4	- 0.1	28.3	22	8.3	25+	0	0	12.8	73
MAINE															
CARIBOU	190	991.2		7.2	- 3.3	2.0	- 0.4	16.7	16	-15.0	3+	0	20		
PORTLAND	14	1013.2	1015.4	12.2	0.0	6.1	0.3	21.1	17	-10.0	1	0	14	0.6	71
MARYLAND															
BALTIMORE	45	1010.8	1016.4	20.0	7.2	13.4	1.1	32.2	27	- 5.6	1	1	2	6.7	66
MASSACHUSETTS															
BLUE HILL OBS	192			15.6	3.3	9.4	1.8	27.2	28	- 8.3	1	0	7		
BOSTON	5	1014.6	1015.4	15.0	5.6	10.3	1.5	28.3	28	- 3.9	1	0	2	2.8	64
NANTUCKET	13	1016.6	1016.9	12.2	3.9	7.9	1.1	19.4	26	- 5.0	1	0	8	3.9	76
WORCESTER	301	978.7	1015.9	15.0	3.3	9.3	2.3	27.2	28	-10.0	1	0	9	0.6	57
MICHIGAN															
ALPENA	210	990.5	1016.3	11.7	- 0.6	5.3	1.4	22.2	25	- 7.2	6+	0	18	- 1.1	68
DETROIT	189			15.0	3.9	9.6	0.9	26.7	27	- 3.9	3	0	5	2.2	62
DETROIT M WAYNE [illegible]	193	991.2	1015.4	16.1	3.3	9.7	1.6	27.2	27	- 3.9	3	0	8	2.8	65
FLINT	235	987.5	1015.4	14.4	2.2	8.4	1.0	24.4	27	- 4.4	3	0	11	2.2	68
GRAND RAPIDS	239	986.1	1015.6	14.4	1.7	8.0	0.4	24.4	26	- 5.0	3	0	16	2.2	70
HOUGHTON LAKE	355	973.6	1016.2	12.2	0.0	6.2	1.3	21.1	26+	- 7.2	3	0	19	0.6	71
LANSING	256	983.7	1015.8	15.0	1.7	8.4	0.8	25.6	27	- 4.4	20+	0	14	2.2	67
MARQUETTE	236			9.4	1.1	5.4	1.3	21.7	13	- 6.1	1	0	12		
MUSKEGON	191	992.2	1015.5	13.9	2.2	8.2	0.9	25.6	8	- 5.0	3	0	11	1.1	64
SAULT STE MARIE	220	989.5	1016.5	8.9	- 2.2	3.3	0.0	20.0	14	-11.1	3	0	22	- 2.2	71
MINNESOTA															
DULUTH	435	964.4	1016.7	10.0	- 0.6	4.8	2.0	18.3	25+	- 8.9	2	0	18	- 1.7	65

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Mm	Mm	Mm			Mm	Mm	M.p.s		M p s							%
ILLINOIS																	
PEORIA	75	- 26	21	13	5	0	0	0.8	16	14.8	NW	22	8	6	16	6.5	51
ROCKFORD	113	36	35	11	6	T	0	0.5	9	17.9	19	21	8	7	15	6.3	
SPRINGFIELD	136	45	82	12	7	0	0	0.9	17	16.5	NE	18	10	5	15	6.1	62
INDIANA																	
EVANSVILLE	89	- 12	36	12	5	0	0	0.4	19	13.9	S	17+	9	7	14	6.3	54
FORT WAYNE	80	T	31	15	3	8	T	0.6	22	20.1	N	21	8	3	19	6.7	55
INDIANAPOLIS	112	17	44	14	3	T	T	0.4	22	15.2	SW	2	5	8	17	6.9	47
SOUTH BEND	140	49	28	12	3	T	T	0.6	25	11.2	22	27+	9	2	19	6.9	
IOWA																	
BURLINGTON	54	- 34		13	6			0.3	20	11.2	30	21	8	6	16	6.5	
DES MOINES	113	49	50	8	4	0	0	0.3	6	13.9	SE	8	11	5	14	5.5	61
DUBUQUE	88	10	25	10		T	T						9	6	15	6.3	
SIOUX CITY	16	- 41	13	4	3	0	T	0.7	14	14.8	NW	4	8	9	13	5.7	65
WATERLOO	114	45	37	7	3	T	0	0.2	16	13.4	33	21	8	6	16	6.1	
KANSAS																	
CONCORDIA	48	- 6	25	9	8	0	0	0.8	14	21.9	W	16	8	11	11	5.8	66
DODGE CITY	35	- 11	20	6	4	0	0	1.2	13	19.2	N	4	10	6	14	5.8	81
GOODLAND	47	7	20	5	4	0	0	1.5	17	17.9	34	4	11	6	13	5.5	
TOPEKA	181	98	82	8	5	0	0	1.0	17	17.9	NW	16+	7	6	17	6.7	56
WICHITA	109	51	61	8	9	0	0	0.8	13	17.9	N	16	6	10	14	6.2	64
KENTUCKY																	
COVINGTON	91	9	26	15	4	0	0	0.8	24	11.2	25	5	6	7	17	6.9	
LEXINGTON	97	- 5	39	12	0	0	0	1.0	21	10.3	29	22+	9	5	16	6.4	
LOUISVILLE	96	- 1	43	11	3	0	0	0.5	24	12.5	S	9	7	9	15	6.5	66
LOUISIANA																	
BATON ROUGE	260	139	165	9	8	0	0	0.8	13	10.3	22	5	8	9	13	5.9	
LAKE CHARLES	242	131	97	10	8	0	0	1.3	13	13.4	12	11	8	3	14	6.0	
NEW ORLEANS	153	38	44	11	7	0	0	1.2	13	11.2	13	8+	9	11	10	5.2	
SHREVEPORT	168	52	50	7	7	0	0	0.9	15	10.3	35	27+	6	13	11	6.1	61
MAINE																	
CARIBOU	66	- 1	21	14		358	584						5	7	18	7.[illegible]	
PORTLAND	73	- 22	39	11	0	T	T	0.4	21	16.1	E	23	10	7	13	5.9	[illegible]
MARYLAND																	
BALTIMORE	46	- 46	19	12	0	0	0	1.2	23	14.8	SW	1[illegible]	7	9	14	6.[illegible]	[illegible]
MASSACHUSETTS																	
BLUE HILL OBS	131	30	58	11		0	25			20.6	ENE	22					[illegible]
BOSTON	111	15	45	10	1	T	T	1.9	22	15.6	E	22	9	14	7	5.[illegible]	[illegible]
NANTUCKET	90	- 6	24	13	1	T	0	2.3	22	17.9	S	5+	8	10	12	5.9	71
WORCESTER	135	35	37	11	1	T	25	1.9	24	14.8	27	2[illegible]	8	11	11	5.7	
MICHIGAN																	
ALPENA	43	- 23	15	13	1	T	25	0.7	3	11.6	NE	18	10	4	16	6.2	54
DETROIT	93	17	33	11	1	T		0.6	31	13.0	28	21					
DETROIT M WAYNE [illegible]	96	18	36	14	2	8	T	0.4	31	17.0	W	21	10	[illegible]	[illegible]	[illegible]	[illegible]
FLINT	108	40	28	13	2	T	T	0.4	30	13.9	27	21	10	4	16	6.4	
GRAND RAPIDS	131	56	33	13	3	0	0	0.3	27	14.8	NE	18	9	4	17	[illegible]	49
HOUGHTON LAKE	66	7	24	13	2	10	T	0.4	32	10.3	4	19	10	3	17	6.3	
LANSING	102	29	20	13	4	T	T	0.5	27	15.6	W	21	9	3	18	6.4	47
MARQUETTE	63	- 5	21	10		25	508			11.2	SW	12	9	6	15	6.4	45
MUSKEGON	89	23	33	13	5	T	T	0.6	27	13.0	33	22	9	5	16	6.2	
SAULT STE MARIE	84	29	28	10	1	97	102	0.8	4	12.1	NW	10	6	7	17	7.1	[illegible]
MINNESOTA																	
DULUTH	37	- 23	20	8	2	221	508	1.5	9	19.2	NW	21	6	7	17	[illegible]	62

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 2.5 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile 1.6 kilometers: Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C.	C	C	C.		C				C	%	Mm.	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
MINNESOTA																																
INTERNATIONAL FALLS	359	971.9	1015.8	13.3	-1.1	6.2	3.2	22.8	14	-15.0	2	0	21	-1.1	63	29	-10	14	7	2	T	483	0.9	8	11.2	4	27+	10	8	12	5.5	
MINNEAPOLIS	254	984.4	1015.2	15.6	3.9	9.6	2.8	22.8	25	-2.8	1	0	7	2.8	65	39	-8	19	9	2	8	76	0.6	11	18.8	N	21	10	4	16	6.0	62
ROCHESTER	395	966.8	1015.0	14.4	2.8	8.4	1.8	22.8	25	-3.3	1	0	12	2.8	70	34	-21	9	11	4	13	76	0.8	20	13.4	31	21+	9	8	13	6.0	
ST CLOUD	315	976.6	1015.0	13.9	2.2	7.9	1.9	22.2	25	-3.9	6	0	10		67	88	37	55	9		53	127						12	4	14	5.8	
MISSISSIPPI																																
JACKSON	94	1003.7	1015.5	25.0	11.7	18.4	0.1	29.4	27	3.9	25	0	0	13.9	77	167	43	89	8	4	0	0	0.9	16	12.1	NE	13	8	7	15	5.9	61
MERIDIAN	88	1004.7	1015.8	25.0	11.7	18.4	0.4	30.0	3	4.4	25+	0	0	11.7	69	181	46	86	8	6	0	0	0.9	20	11.2	14	13	9	7	14	5.7	
MISSOURI																																
COLUMBIA	237	986.1	1014.4	20.0	8.3	14.2	1.6	28.3	16	2.8	29+	0	0	6.1	64	123	39	45	11	9	0	0	0.5	14	15.2	NW	4	8	7	15	6.0	62
KANSAS CITY	226	987.5	1014.4	19.4	7.8	13.5	0.3	25.6	16+	2.2	19	0	0	7.2	67	121	31	37	8	5	0	0	0.3	12	20.6	SW	26	10	6	14	6.0	71
ST JOSEPH	247			21.1	6.7	14.1	2.1	27.2	15	0.0	6	0	1	6.1	65	119	39		10	5	0		0.3	32	10.3	15	30+	8	7	15	6.1	
ST LOUIS	163	995.3	1015.5	20.6	7.2	13.8	1.1	28.3	16	1.1	29	0	0	7.2		102	8	35	9	6	0	0	0.7	15	15.2	N	18	8	[illegible]	15	6.3	66
SPRINGFIELD	386	969.5	1014.7	20.6	7.2	13.8	0.7	28.3	16	0.6	24	0	0	6.7	66	102	-2	36	11	7	0	0	1.4	16	13.4	SE	26+	11	8	11	5.4	60
MONTANA																																
BILLINGS	1087	887.9	1011.8	17.2	2.8	10.1	2.3	26.7	22	-3.3	27	0	7	-0.6	53	38	4	18	10	3	76	25	1.3	29	18.8	NW	26	7	12	11	5.9	75
GLASGOW	696	929.9	1012.2	15.6	1.7	8.7	2.3	25.0	13	-3.3	27	0	11	0.6	66	51	25	29	7	2	15	25	1.2	5	18.3	3	26	6	10	14	6.6	
GREAT FALLS	1116	885.2	1012.3	17.2	3.3	10.2	3.7	28.3	22	-2.8	30	0	5	-2.2	45	10	-15	3	7	2	23	T	3.4	23	17.0	SW	19	4	8	18	7.4	72
HAVRE	788	919.7	1011.8	17.8	1.7	9.6	3.4	30.0	22	-2.8	27+	0	10	-1.1	53	8	-16	7	4	3	51	T	1.3	27	17.9	NW	25	4	8	18	7.1	74
HELENA	1167	878.4	1014.0	16.1	0.6	8.2	1.9	27.2	22	-6.1	30	0	12	-1.1	58	15	-6	6	5	2	66	25	2.2	26	15.2	SE	23	6	6	18	7.0	64
KALISPELL	904	909.2	1014.5	15.0	1.1	7.9	1.4	26.7	22	-2.8	27+	0	13	-1.1	58	33	7	20	6	2	T	25	1.5	19	15.6	21	23	2	6	22	8.0	
MILES CITY	801	918.4	1011.2	18.3	2.8	10.6	2.9	28.9	6	-3.3	27	0	8	1.1	58	72	45		9	1	48		[illegible]	31								
MISSOULA	972	902.8	1015.3	15.6	0.6	8.1	1.2	28.3	22	-4.4	14	0	13	0.0	63	16	-8	8	7	3	T	0	1.7	30	16.5	SW	10	3	5	22	7.7	50
NEBRASKA																																
GRAND ISLAND	561	947.9	1014.0	19.4	3.9	11.7	1.9	28.9	20	0.0	5+	0	2	3.9	64	65	7	44	5	5	T	T	0.5	18	15.6	18	25	11	7	12	5.8	
LINCOLN U	351			18.3	6.1	12.3	1.3	25.6	20+	0.6	6	0	0			117	55	45	7		0	0			22.4	3	7	7	10	13	6.0	63
NORFOLK	471			17.8	3.9	10.7	1.6	27.2	20	-1.1	2	0	6			6	-50	3	4		0	T						10	8	12	5.6	
NORTH PLATTE	846	915.0	1012.7	19.4	2.2	10.8	2.1	27.2	20	-5.6	18	0	10	2.2	60	4	-47	3	3	2	T	T	0.7	16	18.3	W	25	9	11	10	5.5	72
OMAHA	298	979.0	1014.4	18.3	5.0	11.7	0.8	25.6	15+	-2.8	6	0	3	3.9	62	100	35	31	9	3	0	0	0.1	7	14.3	SE	25+	6	9	15	6.4	69
SCOTTSBLUFF	1206	876.4	1011.8	18.3	2.8	10.4	2.3	26.1	6	-6.1	28	0	7	-1.1	49	27	-19	11	6	1	8	T	0.2	34	16.5	29	20	13	7	10	5.1	
VALENTINE	789			18.3	2.8	10.7	3.1	26.1	11	-3.9	5	0	8			23	-28	9	7		T	T			20.1	SE	7	11	9	10	5.5	70
NEVADA																																
ELKO	1539	842.5	1013.7	16.1	-1.1	7.4	0.6	26.1	21	-7.2	27	0	19	-2.2	54	7	-14	5	6	0	61	T	1.4	26	11.2	24	18+	11	8	11	5.2	
ELY	1906	806.6	1013.1	14.4	-1.7	6.2	0.3	23.9	21	-7.2	25	0	24	-4.4	52	25	1	10	7	0	99	T	1.2	21	18.8	SE	5	10	10	10	5.0	83
LAS VEGAS	659	935.7	1011.6	26.1	10.0	18.0	-0.1	32.8	21	3.3	7	1	0	-3.9	24	T	-6	T	0	0	0	0	1.7	26	21.5	N	18	23	5	2	2.2	96
RENO	1342	864.5	1014.2	18.9	-0.6	9.1	0.2	28.9	21	-7.2	7	0	20	-3.9	43	3	-11	2	4	0	8	T	1.2	28	17.0	SW	23	11	12	7	4.6	95
WINNEMUCCA	1311	866.2	1014.4	16.7	0.6	8.5	0.8	26.7	21	-5.6	27	0	17	-3.9	43	33	12	19	5	0	74	T	1.0	26	15.2	W	23	12	8	10	5.1	85
NEW HAMPSHIRE																																
CONCORD	104	1002.7	1015.6	14.4	-0.6	6.8	0.3	31.1	28	-13.3	1	0	16	0.6	68	70	-14	25	12	0	T	127	0.4	27	12.1	W	25	10	11	9	5.6	61
MT WASHINGTON OBS	1909			-0.6	-8.3	-4.6	0.4	8.9	28	-22.2	1	0	26			167	18	58	16	1	536	838			48.3Y	SE	23	4	9	17	7.2	41
NEW JERSEY																																
ATLANTIC CITY	20	1014.2	1016.7	19.4	4.4	12.0	1.4	34.4	27	-11.1	1	1	7	6.1	70	90	4	31	10	2	0	0	2.6	21	16.5	22	10	10	6	14	5.8	49
ATLANTIC CITY U	3			15.0	8.3	11.6	1.6	25.0	26	0.0	1	0	1			96	10	31	8						17.4	SSW	28+					
NEWARK	2	1014.9	1016.0	17.8	7.2	12.6	1.8	31.1	27	-2.2	1	0	1	3.9	61	89	0	28	11	2	0	0	1.6	22	14.3	21	10	9	10	11	5.7	
TRENTON U	17			18.3	7.8	12.9	2.0	29.4	27	-3.3	1	0	1			57	-25	15	13		0	0			15.2	SW	10	10	5	15	5.8	61
NEW MEXICO																																
ALBUQUERQUE	1619	835.8	1010.6	22.2	6.1	14.1	0.9	29.4	22	0.0	27+	0	2	-5.6	32	45	33	42	3	2	T	0	0.7	25	21.9	NW	3	16	7	7	4.1	84
CLAYTON	1515			19.4	3.9	11.8	1.4	26.7	30	-1.7	28	0	3			24	-7	11	9		91	25						9	9	12	5.7	
ROSWELL	1102			26.7	6.7	16.6	1.6	34.4	23	2.8	18+	4	0			11	-7	10	3		0	0			13.0	S	29					80
NEW YORK																																
ALBANY	84	1004.7	1015.6	16.1	1.1	8.7	0.8	28.9	28	-11.1	1	0	13	1.7	65	89	19	42	11	0	5	T	0.7	19	14.3	W	25	8	6	16	6.5	55
BINGHAMTON	485	956.7	1015.9	14.4	2.2	8.3	1.9	27.2	27	-10.0	1	0	7	1.7	67	71	-4	22	13	1	T	T	1.8	26	13.4	W	25	7	8	15	6.8	53

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile 1.6 kilometers: Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C	C.	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm.	M.p.s		M.p.s							%
NEW YORK																																
BUFFALO	215	987.5	1015.5	14.4	2.2	8.2	1.8	26.7	9	- 8.3	1	0	8	1.7	69	106	29	27	15	1	79	76	1.3	24	15.6	NE	19	7	5	18	6.9	58
J.F. KENNEDY	4	1015.6	1016.5	15.6	6.7	11.3	1.8	26.7	26	- 3.3	1	0	1	5.6	72	108	20	45	11	2	0	0	2.3	20	13.4	18	28	8	11	11	5.8	
NEW YORK	40	1012.5	1015.7	18.3	8.3	13.3	2.5	30.0	28	- 1.7	1	0	1	4.4	61	101	14	46	12	2	0	0	1.3	23	12.5	SW	10					58
NEW YORK LA GUARDIA	3	1014.6	1016.3	16.7	7.8	12.2	1.5	27.8	28	- 2.8	1	0	1	3.3	58	116	25	39	11	1	0	0	1.8	23	13.4	NE	19+	8	11	11	6.0	
ROCHESTER	167	995.3	1015.6	15.0	2.2	8.7	1.4	27.8	27	- 7.2	1	0	8	1.7	67	88	21	27	13	1	25	25	0.8	29	16.1	SW	10	8	5	17	6.6	59
SYRACUSE	125	[illegible]	1015.3	15.0	1.7	8.3	0.5	28.3	27	- 8.3	1	0	14	2.2	69	100	22	40	12	1	T	T	1.1	27	14.8	W	25	7	7	16	6.8	54
NORTH CAROLINA																																
ASHEVILLE	652	940.7	1017.0	21.1	6.7	13.7	1.2	26.7	27+	- 2.8	1	0	2	7.8	74	90	- 12	31	10	0	0	0	0.4	28	11.2	36	20+	12	7	11	5.2	73
CAPE HATTERAS	2	1018.0	1018.3	20.0	11.1	15.6	0.4	24.4	29	0.6	8	0	0	11.1	77	86	10	32	10	3	0	0	0.5	19	14.3	N	6	12	8	10	5.1	70
CHARLOTTE	234	989.5	1017.0	22.2	9.4	16.0	0.3	28.3	27	1.7	1	0	0	8.3	64	89	0	35	9	1	0	0	0.9	18	13.4	SW	2	7	11	12	5.8	76
GREENSBORO	273	985.8	1017.3	22.2	8.9	15.3	1.2	28.9	17	- 1.1	1	0	1	7.8	63	58	- 29	19	12	1	0	0	1.1	20	11.2	W	22+	7	10	13	6.1	66
RALEIGH	132	1001.4	1017.2	22.2	7.2	14.8	- 0.3	29.4	27	- 1.7	25	0	3	7.8	68	36	- 53	13	9	2	0	0	1.1	21	14.8	16	18	8	11	11	5.5	78
WILMINGTON	9	1016.9	1018.3	23.9	11.1	17.3	0.3	27.8	11	3.3	8+	0	0	11.1	70	87	14	36	10	5	0	0	1.0	19	15.2	N	6	11	7	12	5.6	71
NORTH DAKOTA																																
BISMARCK	502	953.3	1013.4	15.0	1.1	7.8	1.4	23.9	13	- 6.1	5	0	13	1.1	67	20	- 11	18	5	1	8	76	1.5	11	16.1	NE	26	11	7	12	5.4	73
FARGO	273	981.4	1014.5	12.8	2.2	7.4	1.9	20.6	26+	-12.2	2	0	10	1.7	70	39	- 4	31	5	2	T	178	1.3	13	14.8	SE	6	15	4	11	4.9	67
WILLISTON	579	943.4	1012.2	16.7	2.2	9.4	3.7	25.6	24	- 4.4	28	0	10	1.1	65	24	T	12	6	3	T	T	1.1	5	18.8	NE	26	9	10	11	5.8	71
OHIO																																
AKRON	368	971.2	1016.0	16.7	3.3	10.1	0.8	27.2	17	- 4.4	1	0	7	3.9	68	99	14	33	13	3	T	0	1.7	24	12.1	4	18	8	6	16	6.4	
CINCINNATI ABBE	232			19.4	6.7	13.1	0.7	28.9	17	0.6	20	0	0			100	8	26	16		0	0			11.6	NW	22					51
CLEVELAND	237	986.8	1016.[illegible]	15.6	3.9	9.7	1.3	27.8	17	- 3.3	1	0	7	2.2	63	114	27	35	14	2	38	T	1.0	25	17.9	NE	18	10	4	16	6.4	57
COLUMBUS	247	986.5	1016.5	17.8	3.9	10.8	0.4	28.3	17	- 2.2	20+	0	5	4.4	68	79	- 10	33	14	1	13	T	0.6	25	15.2	NW	22	9	3	18	6.6	49
DAYTON	305	979.7	1016.1	17.8	5.0	11.5	1.1	28.3	17	0.6	20+	0	0	4.4	67	70	- 15	24	14	4	8	T	1.8	23	16.5	NW	21	6	6	18	6.7	52
MANSFIELD	395			17.2	5.0	11.1	2.8	28.3	17	- 3.3	3	0	4	3.3	63	140	56	52	13	6	53	51	1.5	24	13.[illegible]	19	1	7	7	16	6.5	
TOLEDO	204	[illegible]	1016.3	16.7	2.2	9.6	1.3	27.2	27	- 5.6	3	0	13	3.3	67	92	22	40	14	3	38	25	0.7	29	14.[illegible]	W	21	10	4	16	[illegible]	[illegible]
YOUNGSTOWN	359	972.[illegible]	1016.1	15.6	2.8	9.2	0.8	26.7	27+	- 5.6	1	0	9	2.8	68	99	5	35	14	2	T	[illegible]	1.8	26	[illegible]	[illegible]	21	7	5	15	6.4	
OKLAHOMA																																
OKLAHOMA CITY	391	967.2	1013.4	22.2	9.4	15.8	0.3	28.9	8	3.9	6	0	0	8.9	67	42	- 37	19	6	5	0	0	1.1	15	17.9	N	1	8	8	14	5.1	51
TULSA	198	989.8	1013.9	22.8	10.0	16.4	1.5	29.4	16+	3.3	29	0	0	8.9	66	40	- 62	23	7	6	0	0	1.3	17	18.8	SW	1	8	10	12	5.9	62
OREGON																																
ASTORIA	2	1016.6	1017.4	12.2	4.4	8.2	- 1.2	20.0	11	0.0	3	0	1	5.0	81	96	- 34	18	22	0	0	0	1.8	21	11.6	25	19	[illegible]	[illegible]	28	9.1	
BURNS	1265	871.7	1015.5	15.0	- 1.1	6.8	- 0.4	24.4	22+	- 5.6	30	0	21	- 2.8	54	11	- 8	6	[illegible]		5	T	1.7	28				[illegible]	[illegible]	[illegible]	[illegible]	
EUGENE	109	1004.4	1018.1	16.1	4.4	10.1	- 0.3	22.2	27+	0.6	30+	0	0	4.4	72	74	14	25	11	0	[illegible]	[illegible]	1.7	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	
MEACHAM	1236	[illegible]	[illegible]	10.0	- 1.1	4.4	- 0.5	20.0	21	[illegible]	30	0	24	- 2.8	64	94	[illegible]	31	14		615	[illegible]	0.8	26	[illegible]	17	17	[illegible]	[illegible]	[illegible]	7.9	
MEDFORD	396	[illegible]	1017.8	16.7	2.8	9.7	- 0.6	23.3	27+	1.7	30	0	5	[illegible]	65	15	- 12	4	9	0	0	0	0.9	31	[illegible]	[illegible]	4	4	[illegible]	[illegible]	[illegible]	
PENDLETON	452	[illegible]	1016.3	16.1	3.9	[illegible]	- 1.2	23.3	12	1.1	26	0	0	2.8	66	52	24	25	11	[illegible]	0	[illegible]	2.1	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
PORTLAND	6	[illegible]	1017.4	15.6	4.4	10.1	- 0.9	22.2	21	0.6	30	0	0	4.4	70	58	5	15	15	2	0	[illegible]	1.1	22	15.6	SW	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]
SALEM	60	[illegible]	[illegible]	15.6	3.3	9.5	- 1.1	[illegible]	27	- 1.7	30	0	4	4.4	72	64	5	18	14	1	0	0	1.8	20	15.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SEXTON SUMMIT	1169	[illegible]	[illegible]	10.0	0.0	4.9	- 2.1	18.3	[illegible]	- 4.4	29	0	18			45	- 2	9	15		104	25			[illegible]	19	12	4	[illegible]	16	7.8	
PACIFIC AREA																																
JOHNSTON	2	[illegible]	1016.2	27.8	22.8	25.3	- 0.3	29.4	29	[illegible]	7	0	0	20.6	75	[illegible]	[illegible]	8	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	11+	[illegible]	[illegible]	11	[illegible]	[illegible]
KOROR	29	[illegible]	[illegible]	31.7	24.4	28.0	0.6	32.2	30+	[illegible]	1	5	0	23.9	81	173	[illegible]	71	17	1	[illegible]	[illegible]	[illegible]	7	18.8	N	[illegible]	[illegible]	[illegible]	17	[illegible]	[illegible]
KWAJALEIN	2	[illegible]	1010.6	30.6	25.0	27.9	0.8	31.1	30+	[illegible]	[illegible]	0	0	24.4	81	154	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	11+	[illegible]	[illegible]	[illegible]	[illegible]	
MAJURO	3	[illegible]	1010.8	[illegible]	24.4	[illegible]	0.1	30.6	27+	22.8	7+	0	0	24.4	83	437	124	118	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PAGO PAGO	4	[illegible]	1010.5	30.6	23.9	27.0		31.7	10+	22.2	19+	0	0	24.4	87	405		134	26	[illegible]	0	[illegible]	[illegible]	8	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	8.1	[illegible]
PONAPE	37	[illegible]	1010.1	30.0	24.4	[illegible]	0.2	31.7	30+	22.8	12	0	0	23.9	84	568	59	117	27	1	0	[illegible]	[illegible]	8	[illegible]	[illegible]	11+	[illegible]	[illegible]	28	[illegible]	[illegible]
TAGUAC GUAM	[illegible]	[illegible]	[illegible]	31.1	22.2	26.6	0.0	31.7	28+	[illegible]	27	0	0	21.7	78	55	- 42	11	13	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11+	[illegible]	[illegible]	17	[illegible]	[illegible]
TRUK MOEN ISLAND	2	[illegible]	[illegible]	30.0	25.0	27.2	0.1	31.1	27+	[illegible]	28	0	0	23.9	82	287	- 76	[illegible]	21	1	[illegible]	[illegible]	[illegible]	6	[illegible]	N	[illegible]	[illegible]	[illegible]	26	[illegible]	[illegible]
WAKE	3	[illegible]	[illegible]	30.6	23.3	[illegible]	1.1	[illegible]	28+	[illegible]	3	0	0	21.1	73	41	- 6	[illegible]	10	1	[illegible]	[illegible]	6.7	8	[illegible]	E	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]
YAP	13	1008.8	1010.5	31.1	23.9	27.6	- 0.1	32.2	30+	22.2	19+	6	0	23.3	79	77	- 85	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	E	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]
PENNSYLVANIA																																
ALLENTOWN	118	1002.0	1016.2	18.3	5.0	11.4	1.8	30.0	27	- 7.2	1	0	5	4.4	65	89	6	24	12	1	0	[illegible]	[illegible]	[illegible]	15.6	[illegible]	[illegible]	8	[illegible]	12	[illegible]	
ERIE	223	989.2	1016.1	13.9	2.8	8.4	0.9	26.7	27	- 6.1	1	0	11	2.2	68	134	43	35	16	2	51	51	[illegible]	24	[illegible]	[illegible]	19	9	7	14	[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Q	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32 2 °C or above	Temperature: No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1 6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	No of days: Partly cloudy 4-7	No of days: Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C.	C.	C	C	C		C.				C	%	Mm.	Mm	Mm.			Mm	Mm	M p.s		M.p s							%
PENNSYLVANIA																																
HARRISBURG	103	1003.1	1016.1	18.3	5.6	11.9	0.9	30.0	27	- 6.1	1	0	2	4.4	63	54	- 23	12	13	2	0	0	1.0	25	13.0	NW	28	9	9	12	6.2	59
PHILADELPHIA	2	1015.2	1016.1	18.9	7.2	12.9	1.8	30.0	27	- 4.4	1	0	1	4.4	60	43	- 44	14	9	1	0	0	1.9	23	14.3	SW	10	9	5	16	6.2	54
PITTSBURGH	347	971.6	1015.7	17.8	3.9	10.9	1.5	27.2	27+	- 6.1	1	0	5	2.2	60	74	- 4	25	12	2	0	0	1.7	26	13.4	22	21	7	8	15	6.5	51
READING U	81			18.9	7.8	13.1	1.7	31.1	27	- 4.4	1	0	1			65	- 22	15	14		0	0			16.5	NW	28+	11	6	13	5.3	55
SCRANTON	283	981.7	1016.3	16.1	4.4	10.3	1.2	28.9	27	- 7.8	1	0	5	2.2	61	77	- 6	26	11	0	0	0	1.3	25	11.6	SW	28	7	9	14	6.5	59
WILLIAMSPORT	160	997.0	1016.1	17.2	2.8	10.0	0.3	28.9	27	- 7.8	1	0	10	4.4	72	71	- 20	23	13	0	0	0	0.7	25	11.6	15	21	8	7	15	6.4	
RHODE ISLAND																																
BLOCK ISLAND	34			11.1	3.9	7.6	0.6	18.3	26	- 5.6	1	0	4			62	- 29	24	9		0	0						10	9	11	5.4	
PROVIDENCE	16	1013.9	1016.1	16.1	3.9	9.8	1.4	25.6	28	- 7.2	1	0	7	2.2	64	100	5	43	11	1	0	T	1.8	23	14.3	23	10	8	12	10	5.5	66
SOUTH CAROLINA																																
CHARLESTON	12	1015.9	1017.9	23.9	11.1	17.4	- 0.8	28.9	29+	2.8	8	0	0	11.1	72	88	15	53	8	2	0	0	1.0	16	15.2Y	W	23	12	8	10	4.6	68
CHARLESTON U	3			22.8	15.0	18.7	0.1	27.8	29	8.9	7	0	0			76	11	54	7		0	0			14.3	N	6					
COLUMBIA	65	1009.5	1017.4	26.1	11.1	18.4	0.9	31.7	5+	2.2	24	0	0	10.0	63	116	14	76	8	3	0	0	0.4	20	10.3	31	22	9	12	9	5.1	64
GNVLE-SPARTANBURG	292	982.4	1017.2	22.2	9.4	15.9	- 0.1	27.2	27+	1.7	1	0	0	7.2	61	182	82	76	8	2	0	0	0.6	23	14.8	W	18	10	10	10	5.2	64
SOUTH DAKOTA																																
ABERDEEN	395	966.1	1013.4	15.0	1.1	8.0	0.9	23.3	13+	- 8.3	2	0	15	2.2	72	23	- 28	21	4	3	T	254	1.3	13	13.9	5	8	13	5	12	5.1	
HURON	390	966.8	1013.6	15.6	3.3	9.4	2.2	23.9	12	- 3.3	2	0	8	3.3	69	37	- 10	20	9	4	T	178	1.6	16	16.1	NW	20	12	4	14	5.6	64
RAPID CITY	964	900.8	1011.7	17.8	1.7	9.8	2.8	27.2	6	- 5.6	28	0	10	0.0	56	41	- 2	14	8	1	132	76	1.7	33	20.1	NW	27	11	9	10	5.3	60
SIOUX FALLS	432	962.4	1014.3	15.6	2.2	9.1	1.4	25.0	20	- 2.8	6	0	10	1.7	64	4	- 54	2	5	3	0	254	0.9	14	13.9	17	25	12	2	16	5.8	
TENNESSEE																																
BRISTOL	459	963.1	1017.3	20.0	5.6	12.6	- 1.1	27.2	27	- 4.4	1	0	4	6.1	69	54	- 27	20	12	1	0	0	0.7	29	12.5	29	22	9	8	13	5.8	
CHATTANOOGA	203	991.5	1016.2	23.3	8.9	16.2	0.2	30.6	4	1.7	1	0	0	9.4	68	107	- 2	32	11	3	0	0	0.5	21	13.4	S	17	12	6	12	5.2	60
KNOXVILLE	299	981.0	1015.8	21.7	8.9	15.3	0.3	27.8	27+	- 0.6	1	0	1	7.2	63	61	- 33	11	12	2	0	0	0.8	27	14.3	SW	18	7	11	12	5.9	76
MEMPHIS	79	1005.1	1015.4	22.8	11.1	17.2	0.8	30.0	16	4.4	20	0	0	10.0	64	211	93	74	9	8	0	0	0.5	16	14.3	NE	9	13	4	13	5.3	64
NASHVILLE	180	993.9	1015.7	22.8	9.4	16.1	0.7	29.4	4	1.7	1	0	0	9.4	70	153	58	39	13	5	0	0	0.8	21	11.6	NW	22	10	6	14	5.8	64
OAK RIDGE R	276			22.2	8.3	15.2	0.9	29.4	27	- 1.7	1	0	1			73	- 34	25	14		0	0			15.2Y		3	10	6	14	5.9	
TEXAS																																
ABILENE	537	951.2	1012.0	25.0	12.2	18.7	0.8	31.7	8	6.1	6	0	0	8.9	57	63	6	26	5	6	0	0	2.5	16	16.1	SW	1	13	8	9	4.9	78
AMARILLO	1098	888.3	1010.4	23.3	7.8	15.5	1.3	31.7	30	0.6	28	0	0	3.3	51	8	- 26	5	5	2	0	0	1.8	18	17.9	NW	4	7	13	10	5.5	70
AUSTIN	182	991.9	1013.5	26.1	15.0	20.6	0.7	29.4	10	10.0	6	0	0	13.3	68	128	38	63	9	5	0	0	1.5	16	14.8	NW	17	8	10	12	5.7	60
BROWNSVILLE	6	1011.5	1012.1	29.4	19.4	24.4	1.1	35.0	12	12.8	1	4	0	18.3	73	6	- 33	6	2	1	0	0	4.2	13	14.8	S	26	6	7	17	6.8	63
CORPUS CHRISTI	12	1011.5	1013.0	26.7	16.7	21.6	- 0.5	30.0	9	10.6	22	0	0	16.7	77	73	19	54	6	3	0	0	4.0	12	17.0	SE	12	5	8	17	6.9	54
DALLAS	147	996.3	1013.6	24.4	13.9	19.4	1.1	30.0	9	6.7	6	0	0	12.2	65	68	- 34	29	6	4	0	0	1.9	15	14.8	NW	27	8	7	15	6.3	59
DEL RIO	313	976.0	1011.5	27.8	15.6	21.7	- 0.3	32.8	10+	10.0	18	2	0	13.3	63	139	104	116	9	5	0	0	3.6	11	16.5	31	12+	8	11	11	5.9	
EL PASO	1194	878.4	1008.3	27.2	10.0	18.8	1.3	32.2	22	2.8	27	1	0	- 3.9	22	T	- 7	T	0	0	0	0	2.1	25	17.0	SW	26	20	6	4	2.7	96
FORT WORTH	164	993.6	1014.0	24.4	12.8	18.6	0.3	29.4	22+	5.6	6	0	0	13.3	74	86	- 5	27	8	4	0	0	1.7	18	21.0	31	27	9	8	13	6.2	
GALVESTON U	2			23.3	18.3	20.9	0.6	28.3	5	14.4	18	0	0			153	87	67	5		0	0			14.8	SE	11					58
HOUSTON	15	1012.2	1014.2	26.1	16.1	21.3	1.0	30.0	5	11.1	19+	0	0	16.1	75	85	3	52	4	5	0	0	1.7	15	13.0	13	12	7	6	17	6.7	60
LUBBOCK	992	900.8	1011.0	24.4	8.3	16.6	1.3	31.1	25+	3.3	28	0	0	5.6	55	29	- T	25	3	2	0	0	1.7	17	15.6	25	16	15	3	12	5.0	
MIDLAND	869	913.6	1010.7	26.1	11.1	18.4	0.2	31.7	7	6.1	18	0	0	6.7	55	53	32	31	2	4	0	0	2.1	15	17.0	6	11	17	4	9	4.2	
PORT ARTHUR	5	1013.9	1014.6	26.1	15.6	20.7	0.6	30.0	23	9.4	19	0	0	17.2	83	137	37	46	8	7	0	0	1.6	14	18.8	SE	16	8	6	16	6.4	42
SAN ANGELO	580	945.5	1011.4	26.7	12.2	19.4	- 0.1	33.3	8	6.7	18	1	0	10.6	61	111	60	81	4	5	0	0	1.8	18	33.5	28	19	14	6	10	4.6	
SAN ANTONIO	240	985.4	1013.3	26.1	15.0	20.6	0.4	30.0	5	8.9	29	0	0	13.9	68	62	- 9	17	8	6	0	0	1.9	12	13.9	NW	12	6	12	12	5.8	62
VICTORIA	32	1009.5	1013.5	26.7	16.7	21.6	0.5	30.6	10+	11.7	29	0	0	16.7	77	240	173	218	6	6	0	0	2.5	14	26.8Y	E	12	4	10	16	6.9	
WACO	153	995.6	1013.7	25.6	14.4	20.0	0.8	30.6	10	7.8	6	0	0	14.4	73	101	3	45	8	9	0	0	1.7	15	14.3	17	1	11	5	14	5.9	
WICHITA FALLS	303	976.3	1012.8	25.0	10.0	17.6	- 0.2	31.7	15+	3.3	6	0	0	10.6	67	47	- 17	37	5	2	0	0	1.8	13	20.1	17	26	9	8	13	6.0	
UTAH																																
MILFORD	1533	843.9		17.8	0.0	9.0	0.3	27.2	21	- 6.7	25	0	16			45	26	19	9		147	25						12	9	9	4.7	
SALT LAKE CITY	1286	869.6	1013.3	17.2	3.3	10.2	0.3	27.2	22	- 0.6	26	0	2	- 0.6	52	35	- 10	21	9	1	5	T	0.5	22	19.2	S	23	9	11	10	5.5	[illegible]0
WENDOVER	1291	868.9	1013.9	16.7	4.4	10.4	- 0.4	26.7	22	0.6	26+	0	0			26	13	22	5		T	T										
VERMONT																																
BURLINGTON	101	1003.1	1015.6	11.1	- 0.6	5.2	0.1	25.[illegible]	27	- 8.9	1	0	18	- 0.6	70	74	8	35	12	0	94	102	0.2	25	14.8	S	10+	8	6	16	6.9	59
VIRGINIA																																
LYNCHBURG	279			21.1	6.7	13.9	0.5	29.4	27	- 3.3	1	0	2			56	- 24	22	12		0	0			12.5	SW	2	9	11	10	5.6	60

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation ground	Pressure: Station ∅	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C.	C	C	C		C.				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
VIRGINIA																																
NORFOLK	7	1016.6	1017.5	20.6	10.0	15.4	1.0	30.0	27	1.7	1	0	0	7.8	63	53	- 28	26	9	2	0	0	1.4	17	15.6	SW	2	10	7	13	5.6	69
RICHMOND	50	1011.2	1017.3	21.7	7.2	14.2	- 0.3	30.6	27	- 2.2	1	0	1	7.2	67	66	- 14	17	10	2	0	0	0.9	21	14.3	SW	5	7	10	13	5.9	69
ROANOKE	350	974.6	1016.6	20.6	7.2	14.1	0.5	28.9	27	- 4.4	1	0	1	5.6	60	36	- 43	11	11	4	0	0	0.8	24	10.3	1	24+	9	11	10	5.7	
WALLOPS ISLAND	3			16.1	7.8	11.9		28.3	27	2.2	7	0	0			54		19	8		0	0			21.0Y	W	2					
WASHINGTON																																
OLYMPIA	59	1009.8	1017.0	14.4	3.3	8.9	- 1.1	21.7	27	- 1.1	25+	0	5	3.9	72	87	12	14	20	1	0	0	2.2	21	16.5	20	12	0	4	26	8.9	
QUILLAYUTE	55	1008.5	1016.0	11.1	3.9	7.5	- 0.9	17.8	11	- 0.6	8+	0	2	5.0	87	284	96	60	25	1	10	0	1.6	18	13.9	SE	23	0	2	29	9.3	14
SEATTLE TACOMA	122	1000.3	1016.9	13.3	5.0	9.4	- 0.2	20.0	11	1.7	5	0	0	3.9	73	88	27	16	18	3	0	0	2.3	21	14.8	SW	12	0	8	22	8.6	42
SPOKANE	718	930.2	1014.4	13.3	2.2	7.9	- 0.6	25.6	22	- 1.1	26	0	4	2.2	70	55	32	13	12	1	10	T	2.5	20	15.6	SW	12	1	10	19	8.1	60
STAMPEDE PASS R	1206	877.4		5.0	- 1.1	1.8	- 0.7	13.9	22	- 5.0	3	0	22			180	38	37	22		1511	3175										
WALLA WALLA	289			16.7	6.1	11.2	- 0.9	23.3	22	2.8	8	0	0			73	38	42	11		0	0			15.2	NW	12	4	9	17	7.4	61
YAKIMA	321	976.6	1015.3	16.1	1.7	9.1	- 1.2	23.9	22	- 3.3	3	0	11	- 1.1	50	7	- 5	2	7	1	0	0	1.7	28	14.3	24	[illegible]	4	7	19	7.4	
WEST INDIES																																
SAN JUAN P.R.	4	1012.2	1014.6	29.4	23.3	26.4	1.7	33.3	27+	21.1	10	5	0	22.2	79	61	- 33	12	12	0	0	0	2.5	9	10.7	E	2	7	20	3	6.1	79
SWAN ISLAND	9			30.6	25.6	28.1	0.6	31.1	30+	24.4	26+	0	0			1	- 20	1	2		0	0						8	16	6	5.1	
WEST VIRGINIA																																
BECKLEY	764	928.2	1016.4	17.8	6.1	11.8	1.3	27.2	27	- 3.3	1	0	3	3.3	63	65	- 36	14	17	4	T	T	1.7	24	11.6	29	[illegible]	[illegible]	[illegible]	19	6.9	
CHARLESTON	286	981.7	1015.9	21.1	6.1	13.4	0.5	30.0	27+	- 6.1	1	0	3	5.0	59	60	- 34	20	12	3	[illegible]	0	1.2	23	15.6	24	18	5	8	17	6.7	
ELKINS	606	945.5		18.3	2.2	10.2	0.1	28.9	27	- 8.9	1	0	12			85	- 4	20	13		18	0			13.9	25	2	6	[illegible]	17	6.9	
HUNTINGTON	252	986.5	1016.5	20.6	6.1	13.4	0.2	29.4	27	- 4.4	1	0	2	5.6	65	72	- 21	18	9	2	0	0	0.7	24	13.3	28	[illegible]	7	8	15	6.5	
PARKERSBURG U	187			19.4	5.6	12.6	0.3	30.0	17	- 4.4	1	0	2			84	2	32	12		0	0			17.0		22					56
WISCONSIN																																
GREEN BAY	208	990.2	1016.1	12.2	0.6	6.4	0.2	21.1	25	- 5.6	29	0	16	1.1	73	73	10	18	11	1	T	T	0.8	1	15.6	NW	21	11	[illegible]	14	5.9	[illegible]
LA CROSSE	198	990.5	1015.3	16.1	3.9	9.9	1.6	23.9	25	- 3.3	6	0	7	3.3	67	46	- 23		11	1	0		0.5	17								
MADISON	262	983.7	1015.4	15.6	1.1	8.3	1.4	21.7	25+	- 6.1	6	0	14	2.2	66	69	4	29	11	[illegible]	T	T	[illegible]	6	15.2	NE	18	9	[illegible]	16	[illegible]	[illegible]
MILWAUKEE	205	990.2	1015.6	[illegible]	1.7	7.2	0.7	25.0	26	- 4.4	3+	0	13	1.7	71	87	23	32	12	5	0	T	1.1	1	17.9	NE	17	8	[illegible]	14	[illegible]	54
WYOMING																																
CASPER	1627	[illegible]	1011.4	16.1	0.6	8.2	2.0	26.7	23	- 5.0	27	0	15	- 1.7	57	39	- 4	14	9	[illegible]	307	51	2.1	[illegible]	17.0	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	
CHEYENNE	1867	807.0	1011.4	16.7	1.7	8.9	3.1	23.3	22	- 4.4	27	0	10	- 3.3	49	[illegible]	- 27	13	7	[illegible]	76	76	2.1	29	[illegible]	W	[illegible]	7	14	9	[illegible]	[illegible]
LANDER	1696	825.6	1011.1	15.0	1.7	8.3	2.1	25.6	22	- 2.2	30+	0	12	- 2.2	53	54	- 3	18	9	[illegible]	485	127	1.1	24	[illegible]		[illegible]	8	[illegible]	[illegible]	[illegible]	
SHERIDAN	1208	875.7	1012.6	16.7	0.6	8.6	2.2	25.6	22+	- 3.9	28+	0	15	- 0.6	58	47	- 8	15	13	[illegible]	170	51	[illegible]	31	17.9	NW	[illegible]	[illegible]	8	[illegible]	[illegible]	57

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed 'Greatest in 24 hours' are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column 'Fastest Mile' is the highest observed 1 minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which 'Fastest Mile' data can be evaluated.

B Number of days maximum 21.1 C. or above for Alaskan Stations.
Y Peak Gust
\+ And also on an earlier date or dates.
∅ Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

APRIL 1969

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
BIRMINGHAM	95	3217	2542
HUNTSVILLE	116	3611	3051
MOBILE	8	1898	[illegible]
MONTGOMERY	42	2538	2291
ALASKA			
ANCHORAGE	761	10035	[illegible]
ANNETTE	619	6458	6258
BARROW	1888	17375	17772
BARTER ISLAND	1737	17535	17565
BETHEL	1131	[illegible]	11988
BETTLES	[illegible]	15082	
BIG DELTA	[illegible]	13346	
COLD BAY	907	7981	8498
FAIRBANKS	855	14109	13502
FAREWELL	[illegible]	[illegible]	
GULKANA	897	13812	
HOMER	796	9342	
ILIAMNA	911	10496	
JUNEAU	727	8973	[illegible]
KING SALMON	914	[illegible]	10262
KOTZEBUE	1439	13721	14412
MC GRATH	982	13678	13377
NENANA	959	14479	
NOME	1295	12545	12668
ST. PAUL ISLAND	1056	[illegible]	9537
SHEMYA	921	8241	9154
SUMMIT	1057	13077	
TALKEETNA	796	[illegible]	
TANANA	[illegible]	[illegible]	
UNALAKLEET	1137	[illegible]	
YAKUTAT	848	9548	8025
ARIZONA			
FLAGSTAFF	693	7112	6535
PHOENIX	12	1556	1765
TUCSON	34	1637	1794
WINSLOW	302	4659	4686
YUMA	3	1005	1217
ARKANSAS			
FORT SMITH	75	3501	3270
LITTLE ROCK	108	3218	3210
CALIFORNIA			
BAKERSFIELD	88	2105	[illegible]
BISHOP	322	4651	4048
BLUE CANYON	[illegible]	5657	4915
EUREKA U	449	4087	3986
FRESNO	168	2770	2436
LONG BEACH	136	1437	1603
LOS ANGELES	143	1427	1624
LOS ANGELES U	68	1097	1263
MT SHASTA R	593	5843	5216
OAKLAND	292	2573	2600
RED BLUFF	210	2885	2468
SACRAMENTO	230	2882	2665
SANDBERG R	468	4432	3888
SAN DIEGO	101	1256	1319
SAN FRANCISCO	322	2912	2675
SAN FRANCISCO U	315	2836	2582
SANTA MARIA	328	2408	2569
STOCKTON	210	2955	2642
COLORADO			
ALAMOSA	648	7975	7921
COLORADO SPRINGS	477	6038	6020
DENVER	378	5709	5929
GRAND JUNCTION	332	[illegible]	5474
PUEBLO	260	4823	5273
CONNECTICUT			
BRIDGEPORT	421	5128	5382
HARTFORD	415	6070	5971
NEW HAVEN	462	5463	5607
DELAWARE			
WILMINGTON	298	4697	[illegible]
DIST.OF COLUMBIA			
WASH NATL AP	208	[illegible]	4150
FLORIDA			
APALACHICOLA	[illegible]	[illegible]	1308
DAYTONA BEACH	2	1201	[illegible]
FORT MYERS	[illegible]	564	442
JACKSONVILLE	12	1530	1239
KEY WEST	[illegible]	63	108
LAKELAND U	0	908	661
MIAMI	[illegible]	232	214
ORLANDO	0	919	766
PENSACOLA	11	1928	1463
TALLAHASSEE	15	1995	1485
TAMPA	0	1102	683
WEST PALM BEACH	[illegible]	448	[illegible]
GEORGIA			
[illegible]	100	3292	2907
[illegible]	93	[illegible]	2958
[illegible]	70	[illegible]	2397
COLUMBUS	41	2767	2383
MACON	[illegible]	2843	2136
SAVANNAH	48	[illegible]	1819
IDAHO			
BOISE	[illegible]	[illegible]	[illegible]
LEWISTON	[illegible]	[illegible]	5213
POCATELLO	594	7072	[illegible]
ILLINOIS			
CAIRO U	177	4022	3774
CHICAGO O HARE	419	6017	6307
CHICAGO MIDWAY	406	5841	5896
MOLINE	398	6494	6180
PEORIA	367	6029	[illegible]
ROCKFORD	490	6564	6534
SPRINGFIELD	314	5722	5275
INDIANA			
EVANSVILLE	269	4732	4367
FORT WAYNE	423	6075	5977
INDIANAPOLIS	329	5502	5483
SOUTH BEND	433	6145	6140
IOWA			
BURLINGTON	356	[illegible]	5904
DES MOINES	368	6829	6558
DUBUQUE	[illegible]	7148	7038
SIOUX CITY	379	7198	[illegible]
WATERLOO	492	7540	7037
KANSAS			
CONCORDIA	322	5887	5312
DODGE CITY	241	5204	4853
GOODLAND	353	5959	5863
TOPEKA	282	5386	5046
WICHITA	254	5017	4527
KENTUCKY			
COVINGTON	298	4987	5092
LEXINGTON	261	4682	4578
LOUISVILLE	213	4450	4546
LOUISIANA			
BATON ROUGE	13	1863	1560
LAKE CHARLES	8	1684	1459
NEW ORLEANS	12	1801	1385
SHREVEPORT	44	2395	2184
MAINE			
CARIBOU	876	8447	9116
PORTLAND	652	6674	7028
MARYLAND			
BALTIMORE	273	4520	4564
MASSACHUSETTS			
BLUE HILL OBS R	481	6075	6032
BOSTON	430	5410	5390
NANTUCKET	558	5175	5378
WORCESTER	487	6527	6587
MICHIGAN			
ALPENA	695	7591	7904
DETROIT	474	5855	5970
DETROIT M WAYNE CO	464	6075	6196
FLINT	529	6613	6524
GRAND RAPIDS	550	6793	6604
HOUGHTON LAKE	651	7753	7805
LANSING	531	6712	6567
MARQUETTE	692	7407	7748
MUSKEGON	538	6527	6308
SAULT STE MARIE	[illegible]	8382	8370
MINNESOTA			
DULUTH	725	9039	9312
INTERNATIONAL FALLS	649	9643	9989
MINNEAPOLIS	461	7759	8013
ROCHESTER	525	8095	7901
ST CLOUD	555	8550	8448
MISSISSIPPI			
JACKSON	65	2588	[illegible]
MERIDIAN	49	2671	2289
MISSOURI			
COLUMBIA	231	5084	4913
KANSAS CITY	258	5180	[illegible]
ST JOSEPH	226	[illegible]	5336
ST LOUIS	247	[illegible]	4764
SPRINGFIELD	248	4814	4450
MONTANA			
BILLINGS	438	7220	[illegible]
GLASGOW	515	9377	8511
GREAT FALLS	432	8374	[illegible]
HAVRE	465	9589	8200
HELENA	543	[illegible]	7553
KALISPELL	556	[illegible]	7587
MILES CITY	415	8261	[illegible]
MISSOULA	546	[illegible]	7515
NEBRASKA			
GRAND ISLAND	357	6717	[illegible]
LINCOLN U	321	[illegible]	5663
NORFOLK	[illegible]	[illegible]	[illegible]
NORTH PLATTE	[illegible]	[illegible]	[illegible]
OMAHA	353	6345	6024
SCOTTSBLUFF	419	6490	6313
VALENTINE	401	[illegible]	7053
NEVADA			
ELKO	581	6517	6822
ELY	649	7177	7052
LAS VEGAS	74	2585	2703
RENO	424	5422	5786
WINNEMUCCA	521	5919	6245
NEW HAMPSHIRE			
CONCORD	613	7113	[illegible]
MT WASHINGTON OBS	1230	12318	12284
NEW JERSEY			
ATLANTIC CITY	364	5232	4664
ATLANTIC CITY U	358	4619	4528
NEWARK	317	4873	4931
TRENTON U	[illegible]	4770	4847
NEW MEXICO			
ALBUQUERQUE	228	4491	[illegible]
CLAYTON	348	[illegible]	4954
ROSWELL	109	3583	[illegible]
NEW YORK			
ALBANY	518	6598	6591
BINGHAMTON	536	6895	6874
BUFFALO	[illegible]	6324	[illegible]
NEW YORK U	285	4646	4744
J.F. KENNEDY	374	[illegible]	5040
NEW YORK LA GUARDIA	336	4837	4681
ROCHESTER	517	[illegible]	[illegible]
SYRACUSE	536	6428	6463
NORTH CAROLINA			
ASHEVILLE	246	4370	4346
CAPE HATTERAS R	166	2942	[illegible]
CHARLOTTE	141	3730	3169
GREENSBORO	175	3884	[illegible]
RALEIGH	195	[illegible]	3359
WILMINGTON	102	2808	2347
NORTH DAKOTA			
BISMARCK	563	9075	[illegible]
FARGO	582	9258	8795
WILLISTON	475	9206	8745
OHIO			
AKRON	441	5655	5796
CINCINNATI OBS	293	4977	4679
CLEVELAND	471	5988	5986
COLUMBUS	402	5536	[illegible]
DAYTON	371	[illegible]	5425
MANSFIELD	396	5666	6098
TOLEDO	470	6263	6192
YOUNGSTOWN	491	6236	6109
OKLAHOMA			
OKLAHOMA CITY	158	3845	3691
TULSA	127	3890	3813
OREGON			
ASTORIA	540	5046	4592
BURNS U	615	6851	6414
EUGENE	[illegible]	4263	4312
MEACHAM	746	7517	7008
MEDFORD	459	4392	4688
PENDLETON	450	5383	4859
PORTLAND	442	4711	4285
SALEM	469	4808	4337
SEXTON SUMMIT R	718	6308	5510
PENNSYLVANIA			
ALLENTOWN	369	5423	5619
ERIE	528	5978	6103
HARRISBURG	345	5048	5115
PHILADELPHIA	290	4906	4974
PITTSBURGH	394	5855	5753
PITTSBURGH U	330	5223	5146
READING U	292	4760	[illegible]
SCRANTON	434	5081	6026
WILLIAMSPORT	444	5665	5733
RHODE ISLAND			
BLOCK ISLAND	572	[illegible]	5361
PROVIDENCE	452	5618	5667
SOUTH CAROLINA			
CHARLESTON	90	2687	2033
CHARLESTON U	42	2219	1794
COLUMBIA	71	2922	2484
GNVLE-SPARTANBURG	142	3612	3021
SOUTH DAKOTA			
ABERDEEN	550	8649	8088
HURON	473	8037	7848
RAPID CITY	458	7216	6893
SIOUX FALLS	493	8609	7491
TENNESSEE			
BRISTOL	[illegible]	4652	4075
CHATTANOOGA	141	3651	3229
KNOXVILLE	175	4048	3451
MEMPHIS	103	3334	3210
NASHVILLE	149	3929	3538
OAK RIDGE R	181	4173	3761
TEXAS			
ABILENE	53	2610	2624
AMARILLO	176	[illegible]	3929
AUSTIN	6	1812	1711
BROWNSVILLE	[illegible]	470	[illegible]
CORPUS CHRISTI	0	975	914
DALLAS	[illegible]	2292	2357
DEL RIO	1	1475	1504
EL PASO	43	2690	2700
FORT WORTH	49	2360	2405
TEXAS			
GALVESTON U	0	1242	1235
HOUSTON	1	1301	1396
LUBBOCK	126	3560	3547
MIDLAND	52	2769	2591
PORT ARTHUR	[illegible]	1511	1447
SAN ANGELO	33	2162	2255
SAN ANTONIO	5	1757	1546
VICTORIA	1	1232	1173
WACO	15	2040	2030
WICHITA FALLS	91	3064	2826
UTAH			
MILFORD	499	5986	6131
SALT LAKE CITY	433	5855	[illegible]
WENDOVER	419	5827	5550
VERMONT			
BURLINGTON	700	7915	7826
VIRGINIA			
LYNCHBURG	[illegible]	4504	4088
NORFOLK	192	3538	3384
RICHMOND	237	4100	3812
ROANOKE	227	4482	4085
WALLOPS ISLAND	344	4396	
WASHINGTON			
OLYMPIA	498	5332	4752
QUILLAYUTE	578	5541	5066
SEATTLE TACOMA	478	4748	4691
SPOKANE	559	7104	6232
STAMPEDE PASS R	885	8766	8146
WALLA WALLA U	376	[illegible]	4583
YAKIMA	495	6338	5652
WEST VIRGINIA			
BECKLEY	351	5709	5195
CHARLESTON	264	4726	4371
ELKINS	430	5940	5429
HUNTINGTON	268	4744	4335
PARKERSBURG U	311	4864	4633
WISCONSIN			
GREEN BAY	641	7651	7595
LA CROSSE	447	7341	7275
MADISON	535	7275	7451
MILWAUKEE	596	6722	7128
WYOMING			
CASPER	541	7122	6900
CHEYENNE	498	6454	6795
LANDER	534	7256	7336
SHERIDAN	522	7916	7167

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	33	33	
HUNTSVILLE	40	40	
MOBILE	134	153	
MONTGOMERY	62	76	
ALASKA			
ANCHORAGE	0	0	
ANNETTE	0	0	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	0	
BETTLES	0	0	
BIG DELTA	0	0	
COLD BAY	0	0	
FAIRBANKS	0	0	
FAREWELL	0	0	
GULKANA	0	0	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	0	0	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	0	
NENANA	0	0	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	0	
TALKEETNA	0	0	
TANANA	0	0	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	0	
PHOENIX	123	145	
TUCSON	87	102	
WINSLOW	0	0	
YUMA	188	278	
ARKANSAS			
FORT SMITH	42	43	
LITTLE ROCK	21	25	
CALIFORNIA			
BAKERSFIELD	49	74	
BISHOP	0	0	
BLUE CANYON	0	0	
EUREKA U	0	0	
FRESNO	15	19	
LONG BEACH	10	26	
LOS ANGELES	9	20	
LOS ANGELES U	39	88	
MT SHASTA R	0	0	
OAKLAND	0	0	
RED BLUFF	1	1	
SACRAMENTO	1	1	
SANDBERG R	0	2	
SAN DIEGO	9	15	
SAN FRANCISCO	0	0	
SAN FRANCISCO U	0	5	
SANTA MARIA	0	0	
STOCKTON	4	4	
COLORADO			
ALAMOSA	0	0	
COLORADO SPRINGS	0	0	
DENVER	0	0	
GRAND JUNCTION	3	3	
PUEBLO	0	0	
CONNECTICUT			
BRIDGEPORT	0	0	
HARTFORD	4	4	
NEW HAVEN	0	0	
DELAWARE			
WILMINGTON	8	8	
DIST.OF COLUMBIA			
WASH NATL AP	24	24	
FLORIDA			
APALACHICOLA U	111	115	
DAYTONA BEACH	173	201	
FORT MYERS	280	397	
JACKSONVILLE	164	184	
KEY WEST	378	799	
LAKELAND U	238	290	
MIAMI	375	690	
ORLANDO	232	286	
PENSACOLA	88	103	
TALLAHASSEE	113	132	
TAMPA	224	248	
WEST PALM BEACH	300	474	
GEORGIA			
ATHENS	33	33	
ATLANTA	31	32	
AUGUSTA	54	57	
COLUMBUS	72	75	
MACON	75	81	
SAVANNAH	86	98	
HAWAII			
HILO	239	895	
HONOLULU	295	952	
KAHULUI	259	837	
LIHUE	214	598	
IDAHO			
BOISE	0	0	
LEWISTON	0	0	
POCATELLO	0	0	
ILLINOIS			
CAIRO U	16	16	
CHICAGO O HARE	0	0	
CHICAGO MIDWAY	1	1	
MOLINE	1	1	
PEORIA	0	0	
ROCKFORD	0	0	
SPRINGFIELD	6	6	
INDIANA			
EVANSVILLE	8	8	
FORT WAYNE	8	8	
INDIANAPOLIS	5	5	
SOUTH BEND	0	0	
IOWA			
BURLINGTON	0	0	
DES MOINES	0	0	
DUBUQUE	0	0	
SIOUX CITY	0	0	
WATERLOO	0	0	
KANSAS			
CONCORDIA	0	0	
DODGE CITY	8	8	
GOODLAND	0	0	
TOPEKA	4	4	
WICHITA	1	1	
KENTUCKY			
COVINGTON	9	9	
LEXINGTON	7	7	
LOUISVILLE	9	9	
LOUISIANA			
BATON ROUGE	133	165	
LAKE CHARLES	101	124	
NEW ORLEANS	133	179	
SHREVEPORT	57	72	
MAINE			
CARIBOU	0	0	
PORTLAND	0	0	
MARYLAND			
BALTIMORE	16	16	
MASSACHUSETTS			
BLUE HILL OBS R	4	4	
BOSTON	9	9	
NANTUCKET	0	0	
WORCESTER	5	5	
MICHIGAN			
ALPENA	0	0	
DETROIT	5	5	
DETROIT M WAYNE CO	1	1	
FLINT	0	0	
GRAND RAPIDS	0	0	
HOUGHTON LAKE	0	0	
LANSING	2	2	
MARQUETTE U	0	0	
MUSKEGON	0	0	
SAULT STE MARIE	0	0	
MINNESOTA			
DULUTH	0	0	
INTERNATIONAL FALLS	0	0	
MINNEAPOLIS	0	0	
ROCHESTER	0	0	
ST CLOUD	0	0	
MISSISSIPPI			
JACKSON	75	78	
MERIDIAN	61	67	
MISSOURI			
COLUMBIA	12	12	
KANSAS CITY	4	4	
ST JOSEPH	4	4	
ST LOUIS	9	9	
SPRINGFIELD	9	9	
MONTANA			
BILLINGS	0	0	
GLASGOW	0	0	
GREAT FALLS	0	0	
HAVRE	0	0	
HELENA	0	0	
KALISPELL	0	0	
MILES CITY	1	1	
MISSOULA	0	0	
NEBRASKA			
GRAND ISLAND	1	1	
LINCOLN U	0	0	
NORFOLK	0	0	
NORTH PLATTE	0	0	
OMAHA	2	2	
SCOTTSBLUFF	0	0	
VALENTINE	0	0	
NEVADA			
ELKO	0	0	
ELY	0	0	
LAS VEGAS	62	75	
RENO	0	0	
WINNEMUCCA	0	0	
NEW HAMPSHIRE			
CONCORD	0	0	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	17	17	
ATLANTIC CITY U	[illegible]	[illegible]	
NEWARK	15	15	
TRENTON U	10	10	
NEW MEXICO			
ALBUQUERQUE	6	6	
CLAYTON	0	0	
ROSWELL	21	21	
NEW YORK			
ALBANY	2	2	
BINGHAMTON	0	0	
BUFFALO	0	0	
NEW YORK U	20	20	
J.F. KENNEDY	1	1	
NEW YORK LA GUARDIA	8	8	
ROCHESTER	0	0	
SYRACUSE	0	0	
NORTH CAROLINA			
ASHEVILLE	4	4	
CAPE HATTERAS R	22	22	
CHARLOTTE	22	22	
GREENSBORO	18	18	
RALEIGH	12	12	
WILMINGTON	51	53	
NORTH DAKOTA			
BISMARCK	0	0	
FARGO	0	0	
WILLISTON	0	0	
OHIO			
AKRON	3	3	
CINCINNATI OBS	11	11	
CLEVELAND	10	10	
COLUMBUS	3	3	
DAYTON	6	6	
MANSFIELD	10	10	
TOLEDO	7	7	
YOUNGSTOWN	1	1	
OKLAHOMA			
OKLAHOMA CITY	29	29	
TULSA	29	29	
OREGON			
ASTORIA	0	0	
BURNS U	0	0	
EUGENE	0	0	
MEACHAM	0	0	
MEDFORD	0	0	
PENDLETON	0	0	
PORTLAND	0	0	
SALEM	0	0	
SEXTON SUMMIT R	0	0	
PACIFIC AREA			
JOHNSTON	382	1446	
KOROR R	530	2062	
KWAJALEIN	524	2065	
MAJURO	477	1912	
PAGO PAGO	476	1972	
PONAPE R	[illegible]	1836	
TAGUAC GUAM R	454	1550	
TRUK MOEN ISLAND	486	1925	
WAKE	467	1632	
YAP R	522	1887	
PENNSYLVANIA			
ALLENTOWN	5	5	
ERIE	4	4	
HARRISBURG	3	3	
PHILADELPHIA	9	9	
PITTSBURGH	2	2	
PITTSBURGH U	7	7	
READING U	15	15	
SCRANTON	7	7	
WILLIAMSPORT	0	0	
RHODE ISLAND			
BLOCK ISLAND	0	0	
PROVIDENCE	0	0	
SOUTH CAROLINA			
CHARLESTON	46	47	
CHARLESTON U	70	70	
COLUMBIA	81	86	
GNVLE-SPARTANBURG	19	19	
SOUTH DAKOTA			
ABERDEEN	0	0	
HURON	0	0	
RAPID CITY	0	0	
SIOUX FALLS	0	0	
TENNESSEE			
BRISTOL	0	0	
CHATTANOOGA	33	33	
KNOXVILLE	15	15	
MEMPHIS	48	48	
NASHVILLE	33	33	
OAK RIDGE R	23	23	
TEXAS			
ABILENE	83	88	
AMARILLO	30	30	
AUSTIN	132	170	
BROWNSVILLE	335	601	
CORPUS CHRISTI	180	269	
DALLAS	97	106	
DEL RIO	193	244	
EL PASO	71	72	
FORT WORTH	67	76	
GALVESTON U	145	156	
HOUSTON	167	226	
LUBBOCK	36	36	
MIDLAND	66	66	
PORT ARTHUR	139	165	
SAN ANGELO	99	112	
SAN ANTONIO	133	157	
VICTORIA	184	247	
WACO	111	126	
WICHITA FALLS	57	57	
UTAH			
MILFORD	0	0	
SALT LAKE CITY	1	1	
WENDOVER	1	1	
VERMONT			
BURLINGTON	0	0	
VIRGINIA			
LYNCHBURG	9	9	
NORFOLK	42	42	
RICHMOND	21	21	
ROANOKE	2	2	
WALLOPS ISLAND	3	3	
WASHINGTON			
OLYMPIA	0	0	
QUILLAYUTE	0	0	
SEATTLE TACOMA	0	0	
SPOKANE	0	0	
STAMPEDE PASS R	0	0	
WALLA WALLA U	0	0	
YAKIMA	0	0	
WEST INDIES			
SAN JUAN P.R.	447	1463	
SWAN ISLAND	533	1803	
WEST VIRGINIA			
BECKLEY	4	4	
CHARLESTON	7	7	
ELKINS	0	0	
HUNTINGTON	8	8	
PARKERSBURG U	6	6	
WISCONSIN			
GREEN BAY	0	0	
LA CROSSE	0	0	
MADISON	0	0	
MILWAUKEE	0	0	
WYOMING			
CASPER	0	0	
CHEYENNE	0	0	
LANDER	0	0	
SHERIDAN	0	0	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

APRIL 1969

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS
Alabama	2	1	2	15	6					0	0	3	0																
Alaska *																													
Arizona *																													
Arkansas						0	0	5	0	0	0	4	0																
California *																													
Colorado										0	1	4	0																
Connecticut *																													
Delaware						0	0	4	0																				
Florida	1	1	0	0	5	0	0	0	5	1	0	4	0																
Georgia	1	1	0	30	6							°4	C													0	0	5	0
Hawaii *																													
Idaho *																													
Illinois						0	0	4	0					0	0	4	0												
Indiana	3	2	0	0	4					0	0	3	0	0	0	4	0												
Iowa	1	1	0	0	3																								
Kansas	1	1	0	1	5	0	0	6	5	0	0	4	3	1	2	4	0												
Kentucky						0	0	6	?	0	0	5	?																
Louisiana	4	3	0	1	5	0	0	4	0	0	0	4	0	2	0	?	0									0	0	5	C
Maine										0	0	3	0													0	0	4	0
Maryland						0	0	4	0																				
Massachusetts						0	0	4	0	0	0	4	0	0	0	3	0									0	0	5	0
Michigan	2	2	0	0	4					0	5	4	0	0	0	2	0												
Minnesota										0	0	4	0													?	?	?	?
Mississippi	9	2	0	19	5	0	0	0	?	0	1	?	0	0	1	?	0									0	0	?	0
Missouri	5	3	0	2	5	0	1	5		0	0	5	0	0	0	4	0									0	0	4	4
Montana										0	0	4	0					0	0	7	0								
Nebraska *																													
Nevada *																													
New Hampshire										0	0	3	0	0	0	2	0									0	0	5	0
New Jersey *																													
New Mexico	2	2	0	2	4	0	0	0	?	0	0	2	0																
New York												3				5												4	
North Carolina	5	2	0	2	5	0	0	0	5					0	0	4	0												
North Dakota *																													
Ohio	1	1	0	0	4																					0	S	5	
Oklahoma	10	3	0	2	6	0	0	6	6	0	0	4	0																
Oregon *																													
Pacific Area *																													
Pennsylvania								3				3				3												4	
Puerto Rico																										0	0	4	C
Rhode Island *																													
South Carolina	6	1	0	3	5	0	0	2	5																	0	0	5	2
South Dakota														0	0	4	0	0	0	5	0					0	?	7	0
Tennessee						0	0	°3	C	0	1	5	0													0	0	5	4
Texas	16	6	0	57	6	0	0	5	5	0	1	5	0	2	0	5	0									0	0	4	0
Utah										0	0	4	0																
Vermont										0	0	3	0	0	0	2	0									0	0	4	0
U. S. Virgin Is. *																													
Virginia *																													
Washington *																													
West Virginia	1	1	0	1	4					0	0	4	0													0	0	3	0
Wisconsin										0	0	4	0	0	1	4	0									0	0	6	0
Wyoming																		0	0	7	C								

Includes crop damage
C Crop damage
S Several

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication <u>STORM DATA</u>.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

SNOWMELT FLOODS IN THE RED RIVER OF THE NORTH, UPPER MISSISSIPPI, AND MISSOURI BASINS

MARCH-MAY 1969

Elmer R. Nelson, Office of Hydrology

INTRODUCTION

The snowmelt floods of 1969 in the Red River of the North, Upper Mississippi and Missouri Basins caused an estimated property damage of $175 million and 8 deaths. Accurate and timely flood forecasting by ESSA Weather Bureau permitted early and reliable warnings, and the response through Operation Foresight prevented some $250 million in damages. This does not include $86 million of potential damage avoided by storage of flood waters in federal reservoirs in the Upper Missouri Basin.

In the Red River of the North Basin, the spring flood of 1969 was the most severe since 1897 along the main stem from the headwaters to Grand Forks, N. Dak. Below Grand Forks, N. Dak., the flood crests were slightly lower than in April 1966. Record stages were reached on the Red Lake River at Crookston, Minn., and on the Sheyenne River at West Fargo, N. Dak., around the middle of April. In the latter half of April the Souris River at Minot, N. Dak., reached its highest stage since 1904.

In the Upper Mississippi Basin, record to near-record flooding occurred on tributary streams in southern Minnesota and northern Iowa and along the main stem of the Mississippi from the headwaters to Davenport, Iowa. In the reach from St. Paul, Minn., to Winona, Minn., and at scattered points to Davenport, Iowa, the flood of 1969 was exceeded only by the record flood of 1965.

In the Missouri Basin, record flooding occurred on some tributary streams in eastern Montana, the Dakotas, Nebraska, and Iowa. Flooding along the main stem of the Missouri River was confined to the 562-mile reach between Nebraska City, Nebr., and the junction with the Mississippi.

Flood and crest stages, periods of flooding, and other pertinent information for over 200 river stations in the three basins are given in table 1. Table 2 lists crest stages of outstanding floods at 21 stations to show the relative magnitude of the 1969 flood.

A few photographs have been included to illustrate the physical extent and severity of the snowmelt floods.

FLOOD AREA

The flood area covered portions of three major basins, namely: the Red River of the North, the Upper Mississippi, and the Missouri. It covered portions of 10 states: North Dakota, Minnesota, Wisconsin, Iowa, Illinois, Missouri, Kansas, Nebraska, South Dakota, and Montana (fig. 6). Not shown in figure 6 is the upper portion of the Missouri Basin where some record flooding occurred on the Yellowstone River in eastern Montana.

The Red River of the North adjoins the Mississippi System on the north but is not a part of it. It rises in the lake region of west-central Minnesota, not far from the headwaters of the Minnesota River. It is formed by the confluence of the Ottertail and Bois de Sioux Rivers, and then flows northward 400 miles to the Canadian border, forming the boundary between Minnesota and North Dakota. It is the largest northward flowing river in the United States. The Red River of the North below Emerson, Manitoba, drains an area of 40,200 square miles (excluding the Souris River Basin but including 3,800 square miles of closed basins in North Dakota).

The Upper Mississippi Basin drains an area of 188,000 square miles. The Missouri Basin drains an area of 529,400 square miles; however, less than 15% of the basin had severe flooding during the snowmelt floods of 1969.

ANTECEDENT CONDITIONS

The potential for major spring flooding was first noted during the fall months of 1968. Above-normal precipitation occurred over much of the Midwest during this period. The winter was one of the worst on record in terms of continued cold weather, heavy snowfall, long duration of snow cover, and high water content of snow cover remaining on ground in early March. Large areas received more than double the normal precipitation for the 5-month period, October 1968 through February 1969 (fig. 3).

Precipitation during October 1968 averaged 2 to 3 times normal over eastern Kansas, eastern Nebraska, and most of Iowa and Minnesota. November was relatively dry but the soil remained wet until freezeup. Heavy snows began Dec. 10 and were repeated 2 weeks later. Light to moderate snowfalls occurred at frequent intervals during January, February, and the first week of March. Large areas had a continuous snow cover for more than 90 days. Because of the cold, cloudy weather, 75% to 85% of the winter's precipitation was still present in the snowpack in early March.

The more southerly location of storm tracks during the 1968-69 winter and the usual temperature gradients in the area produced cold weather, abundant precipitation, and unusual cloudiness. Sunshine was about one-half of normal. Air masses were more humid than usual so that the cold, moist atmosphere and below normal sunshine reduced evaporation from the snow and soil. Temperatures for December and January averaged 5° to 10° below normal. During February temperatures averaged near normal with nighttime minimums above normal but daytime maximum temperatures near or a little below normal. Temperature departures from normal for the 2-month period, December 1968 and January 1969, are shown in figure 2. Temperatures during the first half of March were abnormally cold, averaging several degrees below normal. Very little snow melted during March, except in the southern fringes of the snowpack in Nebraska and southern Iowa.

Average temperatures and accumulated precipitation for selected stations in the Red River of the North, Upper Mississippi, and Missouri Basins for the period November 1968 through March 1969, compared to normal (1931-1960) and other flood years are shown in figure 1. In the Red River of the North Basin at Fargo, N. Dak., the temperatures averaged 15° to 20° below normal during the latter part of December and the greater part of January. During February, the average temperature rose from 15° below normal to 9° above normal at the end of the month. During March, temperatures averaged generally several degrees below normal except above normal in the beginning of the month. Precipitation during the 4-month period, December-March, averaged considerably above normal. Similar temperature and precipitation patterns were observed in the Upper Mississippi and Missouri Basins.

Figures 4A and 4B show the snow accumulation through Jan. 31 and Feb. 28, respectively. The patterns are approximate and are based on preliminary data. Depths within the 20-inch line run up as high as 35 to 40 inches.

The total snow depth in the Upper Mississippi Basin as of Mar. 10 averaged more than 20 inches over the northern half and southwestern third of Minnesota. In the northern half of Wisconsin and the northwestern portion of Iowa the snow depths ranged from 10 to 20 inches.

Figure 5 shows the water equivalent of snow on Mar. 14. In general, the streams with the most serious flood potential were the Red River of the North, Minnesota, Upper Des Moines, Upper Mississippi, Big Sioux, Little Sioux, and the James Rivers. Some of the municipal areas located in regions of potential heavy flooding were: Fargo and Grand Forks, N. Dak., in the Red River of the North Basin; Minneapolis, St. Paul and Mankato, Minn., in the Upper Mississippi Basin; and Sioux City, Iowa, and Sioux Falls, S. Dak., in the Missouri Basin. More than 100 additional municipalities were similarly involved.

Since the snow cover was established early in the season, the soil frost under the snow cover was not unusually deep. However, there was a plentiful supply of available moisture in the heavy snowpack. Infiltration capacities were quickly satisfied, and run-off rates were high.

During December 1968 and January 1969, unprecedented snowstorms were experienced over much of the North Central States. Snow depths ranged up to 275% of normal. By the middle of February it was apparent that disastrous floods were highly probable. Several information releases and public reports were made between Feb. 12 and early March. Operation Foresight (1) was initiated Feb. 28, 1969, by a directive from the President ordering a major effort by federal agencies to reduce or alleviate potential damage from the impending flood.

The Office of Emergency Preparedness, which had overall control of the entire Midwest flood emergency program, reported that "unprecedented advance preparations were tailored to prevent as much fracture as possible." The Environmental Science Services Administration and six other major federal agencies, plus relief agencies, coordinated their efforts in Operation Foresight.

On the basis of Weather Bureau forecasts, mass preparations for protection and evacuation were started. Flood-fighting resources were made available through the facilities of individual states and municipalities, the Office of Emergency Preparedness, Civil Defense, and the Corps of Engineers. Temporary levees were constructed, sandbags stockpiled, factory equipment protected, and movable property evacuated. About 200 miles of temporary levees and dikes were erected or reinforced.

Five states, Minnesota, North and South Dakota, Iowa, and Wisconsin, were designated disaster areas. The Governor of Minnesota declared, "Minnesota citizens were spared what could have been one of the most damaging floods in the state's history through a combination of federal, state, and local efforts."

PREPARATIONS FOR THE SEVERE SNOWMELT FLOODS IN THE UPPER MIDWEST

As a result of the widespread heavy snow cover, the Weather Bureau, Corps of Engineers, and the Bureau of Reclamation started systematic measurements in December and January of the water equivalent of the snow cover in Nebraska and eastern South Dakota. The U. S. Army provided helicopters to go into inaccessible areas where the snow depths and water equivalents were believed to be heavy to obtain special observations during the critical period in the latter half of March. The U. S. Army at Fort Carson, Colo., provided helicopters for snow surveys in the Red River of the North, Big Sioux, and Minnesota River Basins. The helicopters operated out of Fargo, N. Dak., and Sioux Falls, S. Dak. Substation Network Specialists at Fargo and Sioux Falls were responsible for the measurements. They were assisted by members of the local Weather Bureau staffs and the State Climatologist for North Dakota. The use of helicopters permitted access to areas where roads were still closed and facilitated the selection of representative sampling sites.

A pilot project for field investigation of rates of snowmelt was conducted by the Office of Hydrology in the Rock River Basin in northwestern Iowa and southwestern Minnesota. The area investigated was the 788 sq. mi. drainage basin above Rock Rapids, Iowa. The Weather Bureau measured the water equivalent and snow depth at fixed network points. Meteorological data observed at Sioux Falls, S. Dak., and Sioux City, Iowa were supplemented by some observations in the Rock River Basin. The U. S. Geological Survey provided discharge data from its Rock Rapids and Rock Valley stations. Arrangements were made with the Air Force to take sufficient aerial photographs to define the area of snow cover as melting of the snow mantle progressed.

SNOWMELT FLOODS OF 1969

Red River of the North Basin.--Mild temperatures during the first week of April caused the snow cover to ripen and erode. One to 2 inches of rainfall over portions of the basin on Apr. 7-9 hastened the melting process. This was followed by above-normal temperatures causing rapid snowmelt and runoff.

Flooding began along the main stem of the Red River of the North at Wahpeton and Fargo, N. Dak., on Apr. 8. The following day, flooding began along the Red Lake River at Crookston, Minn. The Sheyenne River at Lisbon, N. Dak. rose above flood stage on Apr. 10. On Apr. 11, flooding along the main stem had spread downstream to Grand Forks, N. Dak. By Apr. 16, the Red River of the North was in flood as far downstream as Pembina, N. Dak., and by Apr. 18, down to Emerson, Manitoba. The Red River of the North was several miles wide in many areas from Lake Traverse to the Canadian border. There were several instances where streams moved out of their banks across country to other channels at a lower level, causing heavy property damage.

Heavy snowmelt and ice action brought the Des Lacs River to a crest of 19.8 ft. at Foxholm, N. Dak., on April 10. On the same date, the Souris River, which is joined by the Des Lacs about 7 miles above Minot, N. Dak., rose to a stage of 17.04 ft. at Minot. The city of Minot was inundated to a depth of several feet, with the main crest (20.36 ft.) still 9 days away. More than 11,000 residents were evacuated from their homes before large parts of the city were inundated. The flood in Minot lasted 32 days. Flood damages in the Souris Basin in North Dakota were estimated at over $12 million.

Upper Mississippi Basin.--Precipitation in Minnesota and Wisconsin during April continued below normal for the third consecutive month. Precipitation was light and well spaced except for the concentrated rainfall of 0.75 to 1.5 inches over northwestern Minnesota on April 8-9. The effect of the April rainfall on the snowmelt runoff was slight except in the Upper Minnesota River Basin.

Following the subzero temperatures that occurred over most of Minnesota on March 29-30, temperatures in early April began to warm up with afternoon highs in

the 40's over the snow-covered areas to the 50's elsewhere. Morning lows were all below 32° F. through April 6. From April 7 to the end of the month, afternoon highs were in the 50's and 60's with overnight lows of 32° F. or higher. The rains of April 8-9 combined with the above normal temperatures melted most of the remaining snow cover by April 10. Peak snowmelt runoff occurred with and after the rains. Much of the Upper Minnesota River Valley and the Mississippi River drainage upstream from Minneapolis, Minn., was water-covered on April 7.

Warm weather over central and southeastern Iowa March 15 to 23 caused heavy snowmelt runoff and extensive flooding along the South Raccoon and North Rivers, the entire Skunk River System, the West Fork of the Cedar, Black Hawk Creek, and the Iowa River from Marshalltown, Iowa, to its mouth during the last half of March.

Record flooding occurred on the West Fork of the Des Moines River (fig 7C) at Jackson, Minn., Estherville, Iowa, and Humbolt, Iowa, during April. While the crests occurred during the first half of the month, the flood waters persisted from April 4 to May 2. Flood waters spread over many thousand acres of farmland. Cities along the West Fork had a 2-month warning of impending floods by the Weather Bureau, so were well-prepared for the record flood crests. The more severe flooding on the North Raccoon River at Jefferson, Iowa, occurred Mar. 20 to Apr. 12. Minor flooding occurred Apr. 18 to 20.

The main stem of the Des Moines River began overflowing at Des Moines, Iowa, on Mar. 22. Crests during April at Des Moines were 2 feet lower than in March. Considerable flooding occurred between Fort Dodge, Iowa, and Ottumwa, Iowa, during the period Mar. 22 to Apr. 22 but the degree of flooding was considerably less at other points than at Des Moines.

Minor flooding occurred on streams in Missouri and Illinois. The streams involved were the Salt River in Missouri and the Sangamon, Illinois, Kaskaskia, and Big Muddy Rivers in Illinois. The heaviest flooding occurred on the Big Muddy River at Murphysboro, Ill.

The main stem of the Mississippi River was rising slowly in the headwaters on Apr. 4. The rains on Apr. 8-9 increased the rate of the rise, with the Mississippi spilling out of its banks at Fort Ripley and St. Paul, Minn., on Apr. 9. By Apr. 15, the overflow had spread from Libby, Minn., downstream to Dubuque, Iowa (except at Lansing, Iowa) a distance of 525 miles. By April 25, flooding was in progress as far downstream as Caruthersville, Mo. (107 miles below the mouth of the Ohio). The 1969 flood along the main stem of the Mississippi generally ranked as the second highest flood of record in the reach from Libby, Minn., to Muscatine, Iowa, a distance of nearly 650 miles.

River stage hydrographs of the 1969 and other important floods at various points in the Mississippi Basin are shown in figures 7E and 7F.

Missouri Basin.--March 1969.--Localized flooding occurred on the Sun and Teton Rivers and on Belt Creek in Montana during the latter half of March. Damage resulted to several bridges and other structures due to ice jams. Streams and creeks in the Great Falls, Helena, Denton, and Dillon, Mont., areas rose to a high level due to snowmelt runoff. A small boy drowned in the high water near Stockett, Mont. Most of the damage was due to ice piling against bridge piers and spans.

Overflows occurred along the Yellowstone River from Miles City, Mont., downstream to Sidney, Mont., on Mar. 19-21 due to ice jams. Most of the overflow was confined to low areas. The heaviest damage occurred to crops and buildings. Overflow occurred on the Little Big Horn River, 5 miles upstream from Hardin, Mont., due to ice jams. The overflow reached the interstate highway but little or no damage resulted.

Ice jams on the White River in South Dakota and the Niobrara River in Nebraska caused some local overflows but no damage or livestock loss occurred. The Grand River between Shadehill and Little Eagle, S. Dak., was near bankfull late in March but did not overflow.

The Floyd River rose to 2 to 3 feet below bankfull stage at Alton, Iowa, on Mar. 27 and to near bankfull stage at James, Iowa, on Mar. 24 and 28. Minor rises also occurred on the southern reaches of the Big Sioux, Vermillion, and James Rivers during the last days of March but remained well below bankfull.

Minor flooding occurred along the Elkhorn River near Scribner, Nebr., on Mar. 21 due to a minor ice jam. One county road was briefly inundated in the Scribner area but no damage resulted. Near-bankful stage was reached at Norfolk, Nebr., on Mar. 21 and at West Point, Nebr., on Mar. 22. By the end of March, rivers and streams with the exception of Logan Creek were running open and free of ice. Very little snow remained except in drifts and piles, although there remained a great deal of ponded water.

A heavy snow cover extended over most of the Loup and Platte River Basins in eastern Nebraska and over the Little Sioux River Basin in northwestern Iowa in the beginning of March. Very little snowmelt occurred during the first half of March as the temperatures remained well below normal. During the last half of the month, there were three warm periods followed by cool periods which retarded the snowmelt. Some runoff occurred in the lower reaches of most streams. Local flooding occurred in the lower reaches of most streams. Local flooding occurred in the lower reaches of the Wood River in Nebraska, but it was confined mostly to lowlands and croplands, with some high water over rural roads. The mild spell in mid-March caused snowmelt in the lower reaches of the Loup River Basin in Nebraska, with some lowland flooding due to ice jams near St. Paul, Fullerton, and Columbus, Nebr., on Mar. 19-25. Minor ice jams and flooding occurred on the Platte River near Schuyler, Nebr. Flood damage was relatively minor and occurred mostly in the lower reaches of the Loup River between St. Paul and Columbus, Nebr.

Extensive flooding from snowmelt occurred in the upper Big Blue River Basin in Nebraska on Mar. 18-26. Considerable overflow developed on the Little Blue River at Deweese and Fairbury, Nebr., on Mar. 18-21. The West Fork Big Blue River near Dorchester, Nebr., rose above the 1960 levels but fell considerably short of the historical high-water mark of July 1950 (table 2). Flooding along the main stem of the Big Blue River generally approached the last heavy March overflows in 1960 as far downstream as the Kansas border. Widespread snowmelt surface water accumulations on the tributary streams drained very slowly. Flooding developed from 2 to 5 inches of water equivalent in the old snow cover. Precipitation of 0.5 to 1 inch on Mar. 23-25 in the lower basin served principally to retard falling stages. Damages were locally substantial along the Big Blue near Seward, Nebr., and on the Little Blue in the Fairbury area, but losses were generally light to moderate and confined to the Nebraska portion of the basin.

The Blackwater River at Valley City, Mo., was out of its banks from Mar. 23 to 26, but damage was slight. Some flooding occurred along the Osage River at Schell City, Mo., on Mar. 26-30, but no damage of consequence resulted from the overflow.

April 1969.--Local flooding occurred on the Milk River at Harlem, Mont., on Apr. 5-11 due to snowmelt runoff and minor ice jamming. At least a dozen families were evacuated from their homes at the Fort Belknap Indian Reservation. However, no damage or flood losses were reported.

Severe flooding occurred on the Heart River at Mandan, N. Dak., on Apr. 3-9. The Knife River at Hazen, N. Dak., was in flood during the same period. Spring Creek at Zap, N. Dak., reached a record crest on Apr. 7, overflowing some sections from Halliday, N. Dak., to its confluence with the Knife River. Flooding occurred on most feeder streams in western North Dakota, but the duration was only a few days with the peak of the runoff causing the only flooding of consequence. This flooding was due to the melting of a very heavy snowpack with a high water equivalent.

The gradual warming, interspersed with below freezing nighttime temperatures, caused much of the ice to become rotten and less likely to bridge and cause ice jams. The ice breakup was gradual and there were relatively few serious ice jams.

The heavy snow cover in the James River Basin in the Dakotas had a water content of 4 to 7 inches at the end of March. Warm weather during the first 10 days of April accelerated the snowmelt. Record flooding occurred on the Pipestem River on April 10. The James began overflowing in the lower or southern portion of the basin near Scotland, S. Dak., on Apr. 2. The overflow gradually moved northward to the headwaters near Jamestown, N. Dak., by Apr. 10. The flooding along the James River was the worst of this century. Record flooding occurred from Jamestown, N. Dak., to Redfield, S. Dak. At Huron, S. Dak., the flood crest was the second highest of record (table 2). Flood damage was extensive in the Jamestown, N. Dak., area.

The mayor of La Moure, N. Dak., was warned to prepare for a flood crest of 16 to 17 feet by Apr. 15. Diking was begun during the evening of Apr. 13 and continued all night into Apr. 14. The town was saved from flooding as the flood waters rose to within 3 ft. of the top of the dikes.

Most of the damage in South Dakota was agricultural. More than 60,000 acres of land were inundated. Extensive damage resulted to roads and bridges. Flooding of the James River at Stratford, S. Dak., continued into August.

The water equivalent of the snow cover in the Vermillion Basin in South Dakota was 4 to 7 inches at the end of March. The river rose rapidly to above flood stage near Wakonda, S. Dak., on Apr. 3. The crest reached Davis, S. Dak., on Apr. 7 and Vermillion, S. Dak., on Apr. 10. The major damage was to roads, bridges, and farm property. It is estimated that 40,000 to 50,000 acres were inundated.

Record flooding occurred on the Little Rock River near Doon, Iowa, on Apr. 3-9, and on the Rock River on Apr. 3-12. The flooding in the Big Sioux Basin in South Dakota and Iowa was the greatest in this century. Judged from high-water marks, there are indications that the traditional snowmelt and rain flood of 1881 was larger. Snow cover in late March 1969 in the Big Sioux and Rock River Basins ranged from 5 inches at Sioux City, Iowa, to about 40 inches in the headwaters. The water equivalent ranged from 5 to 8 inches, except in a small area near the mouth of the Big Sioux. Heavy snowmelt occurred as warm weather moved northward. The crests of Apr. 9 and 10 on the Big Sioux exceeded the previous highest stages of record all the way down to Akron, Iowa, (table 2). (Figure 7G shows the river stage hydrograph at Akron, Iowa.) At Sioux City, Iowa, the crest was only 0.2 ft. below the previous highest stage of record measured in 1960. However, the backwater from the Missouri River was substantially less than in 1960. North Sioux City, S. Dak., and Renner, S. Dak., had to be totally evacuated, while only partial evacuation was required at Baltic and Dell Rapids, S. Dak.

Most towns and cities were prepared for the flood and sustained minor damages, and most of the damage was rural. Farmers saved many possessions, but little could be done to save buildings in the flood plain. Livestock loss was small. Extensive damage occurred to roads and bridges between Sioux City and Sioux Falls, S. Dak. About 80,000 to 100,000 acres were inundated.

The mid-March water equivalent of the snow cover in the Floyd River Basin in Iowa was 4 to 7 inches. This was comparable to conditions in March 1962, which produced the largest snowmelt flood of the century. Melting in 1969 was slow to moderate, and covered a period of 10 days. The warming was interspersed with cool days and nights and was instrumental in keeping the 1969 flood from equalling or exceeding the 1962 flood. Most damage was confined to rural areas. An estimated 12,000 to 14,000 acres were inundated. This resulted in only a short delay in fieldwork, so agricultural losses were minimal. Fringe flooding occurred in towns along the river with small damage. Approaches to many bridges were inundated, and Highway 75 was partially closed in low areas.

A heavy snow cover with a high water equivalent existed over the Little Sioux River Basin in Iowa in the beginning of April. Warm weather early in the month caused moderate melting of the snow cover. Figure 7G shows the river-stage hydrograph for Peterson, Iowa. About 100 families were evacuated from their homes.

Warm temperatures on Mar. 31 and Apr. 1 caused a rapid rise of the North Branch Elkhorn River above Norfolk, Nebr. This rise proceeded downstream, producing light to moderate flooding of low-lying areas from Osmond, Nebr., to just north of Norfolk, Nebr. Damage was negligible as the flooding was mainly over agricultural land.

Flooding along tributary streams in southern Nebraska, northern Kansas, and northern Missouri during April was due mostly to rainfall. Heavy tributary flooding occurred in the Kansas River Basin on Apr. 27-28. An 11-foot overflow occurred on Mill Creek at Paxico, Kans. A 6-foot overflow occurred on the Big Blue River at Crete, Nebr., on Apr. 5. Tributary flooding on the West Fork, Turkey Creek, and the Black Vermillion River was moderate to locally heavy. Flooding in the Marais des Cygnes Basin was confined to the headwaters area down to Melvern, Kans., and above Pomona Reservoir on Dragoon Creek.

Flooding along the main stem of the Missouri River was confined to the 562-mi. reach between Nebraska City, Nebr., and the Mississippi. The flooding from the upstream snowmelt runoff was augmented by local rainfall runoff.

SNOWMELT FLOODS IN THE RED RIVER OF THE NORTH, UPPER MISSISSIPPI, AND MISSOURI BASINS - CONT'D

FLOOD DAMAGES

The preliminary estimates of flood damage in the Midwest resulting from the snowmelt floods of 1969 were placed at $175 million. At least 25,000 people were evacuated from their homes. Parts of North and South Dakota, Minnesota, Wisconsin, Iowa, Nebraska, and Illinois were particularly hard hit. Estimates of homeless included 15,000 people in North Dakota, 4,000 in South Dakota, 3,100 in Minnesota, 950 in Illinois, 900 in Iowa, and 800 in Wisconsin. A detailed breakdown of flood damages is not available at this time but will be included in a more comprehensive final report now in preparation.

SAVINGS

Advance planning through Operation Foresight and accurate forecasting averted certain disaster in the opinion of federal, state, and local authorities. A preliminary estimate of savings is that some $250 million in damage was prevented. This figure does not include $86 million in damages prevented due to storage of much of the snowmelt in federal reservoirs in the Upper Missouri Basin.

The cost to the federal government for implementing Operation Foresight was approximately $13.5 million, or only a small fraction of the savings effected.

The Corps of Engineers, chief flood control agency of the federal government, provided assistance in the construction and reinforcement of levees. The funds spent for this were estimated as about one-fourth the amount that would have been needed if Operation Foresight had not been in effect. The Corps of Engineers provided 10 million sandbags, built more than 200 miles of emergency dikes, and approved construction contracts in some 400 communities. All these operations were instrumental in preventing millions of dollars in property losses (2).

The Corps of Engineers placed 1,000 technical experts or engineers in critical areas while another 2,100 servicemen and National Guardsmen turned out to fight the floods shoulder to shoulder with townspeople. The American Red Cross served 250,000 meals to the homeless and to the workers. More than 5 million bushels of grain were moved out of flood zones under the supervision of the Interstate Commerce Commission.

FLOOD WARNINGS ISSUED BY ESSA,WEATHER BUREAU

Ample warnings issued by the Weather Bureau of the high flood potential existing in the Upper Midwest due to the heavy snow cover and high water equivalent. Flood potential forecasts were started by the Weather Bureau at Topeka, Kans., in early January and at Minneapolis, Minn., in mid-January.

The first 1969 Spring Snowmelt Flood Outlook was issued by the River Forecast Center at Kansas City, Mo., on Feb. 11. Flood outlooks were given in general terms by comparison with the snowmelt floods of 1952 and 1965. Similar general outlooks were issued on Feb. 20 and 27 and on Mar. 6. On Mar. 13 and 20, the outlooks furnished crest-stage forecasts for over 200 river stations in the Red River of the North, Upper Mississippi, and Missouri Basins. On March 21, the Weather Bureau Regional Office at Kansas City, Mo., issued a comprehensive report (3) on the flood potential and the meteorological conditions leading to the critical situation.

The early outlooks and crest forecasts were remarkably accurate. The first snowmelt outlook provided an average lead time of about 4 weeks. Refinements in forecasts were made as the weeks passed and the floods progressed to the peaks. Most of the revised forecasts had a lead time of from 1 day to 1 week and verified within tenths of a foot.

ACKNOWLEDGMENTS

M. M. Richards, Chief, Hydrologic Services Division, provided general guidance and supervision in the preparation of this report. V. Alexander, Regional Hydrologist, Central Region, and E. Balke, Asst. Regional Hydrologist, coordinated collection of field data, contributed advice on the preparation of the manuscript, and reviewed the preliminary draft. R. Johnson, Hydrologist in Charge, and staff, River Forecast Center, Kansas City, Mo., made the accurate and timely river forecasts mentioned in this report. The Central Region Headquarters at Kansas City provided the basic maps (3) used in the preparation of figures 2 and 5.

The Meteorologists in Charge at the following Weather Bureau Offices provided the basic river data used in this report: Billings, Mont.; Bismarck, N. Dak.; Des Moines, Iowa; Helena, Mont.; Kansas City, Mo.; Moline, Ill.; Minneapolis, Minn.; Norfolk, Nebr.; Omaha, Nebr.; St. Louis, Mo.; Sioux City, Iowa; Topeka, Kans.

The Corps of Engineers provided the information on flood damage and flood control operations, and the Geological Survey coordinated crest-stage data.

Drafting of figures was by ESSA Graphics Branch.

REFERENCES

1. Environmental Science Services Administration, "ESSA and Operation Foresight, "May 1969, 44pp.
2. H. S. Lieb, "Accurate Early Warnings Alerted the Nation to the Floods That Came When the Snow Melted." ESSA World, July 1969, pp 14-16.
3. Weather Bureau Central Region, "A Resume of the Heavy Snowfall and Persistent Cold of the Winter of 1968-1969 in the Upper Midwest and the Flood Situation Resulting Therefrom." March 21, 1969.

Table 1.-Flood Stage and Comparative Stage Data--Red River of the North, Upper Mississippi and Missouri Basins

River and station	Flood stage	Above flood stages dates March-May 1969		Month and year *Crest March-May 1969		Month and year Previous maximum crest of record		Month and year Previous second highest crest of record	
		From-	To-	Stage	Date	Stage	Date	Stage	Date
	Ft.			Ft.		Ft.		Ft.	
Red River of the North Basin									
Sheyenne:									
Lisbon, N. Dak.	14.6	Apr. 10	Apr. 14	16.36	Apr. 12	16.23	Mar. 30, 1966	16.02	Apr. 14, 1965
		Apr. 19	Apr. 29	16.51	Apr. 24				
West Fargo, N. Dak.	16.5	Apr. 11	May 6	21.8	Apr. 17	21.04	Mar. 22-23, 1966	20.75	Apr. 19, 1965
Buffalo:									
Dilworth, Minn.	12	Apr. 9	Apr. 23	25.55	Apr. 11	23.56	June 11, 1962		
Red Lake:									
Crookston, Minn.	15	Apr. 9	Apr. 20	27.32	Apr. 12	25.8	Apr. 13, 1965	25.7	May 7, 1950
Souris:									
Sherwood (nr), N. Dak.	18b	Apr. 9	May 1	24.72	Apr. 11	23.80	Apr. 28, 1948	p22±	1927
Foxholm (nr), N. Dak.	8b	Apr. 9	May 22	15.84	Apr. 23	14.79	May 16, 1948		
Minot (abv), N. Dak.	15	Apr. 8	Apr. 13	17.04	Apr. 10				
		Apr. 16	May 8	20.36	Apr. 19	p26	1882	23	Apr. 1904
Vanendrye (nr), N. Dak.	17b	Apr. 28	May 1	17.05	Apr. 30	H17.7	Apr. 8, 1949		
Bantry (nr), N. Dak.	7b	Apr. 11	June 14	13.80	May 4	13.76	Apr. 13, 1949		
Westhope (nr), N. Dak.	7b	Apr. 9	June 27	17.6	Apr. 19	H16.9	Apr. 20, 1949		
Red River of the North:									
Wahpeton, N. Dak.	10	Apr. 8	May 1	16.35	Apr. 10	p17.0	Apr. 1897	15.0	Apr. 12, 1952
Fargo, N. Dak.	17	Apr. 8	May 14	37.30	Apr. 15	p40.1	Apr. 7, 1897	p37.8	Apr. 11, 1882
Halstad, Minn.	24	Apr. 11	May 3	38.25	Apr. 18	p38.5	1897	35.5	Mar. 27, 1966
Grand Forks, N. Dak.	28	Apr. 11	May 8	45.69	Apr. 16	p50.2	Apr. 10, 1897	49.5	Apr. 21, 1882
Oslo, Minn.	28	Apr. 12	May 9	36.9	Apr. 17	37.08	Apr. 5, 1966	35.1	Apr. 4, 1967
Drayton, N. Dak.	32	Apr. 14	May 15	41.36	Apr. 25	42.15	Apr. 8, 1966	40.4	Apr. 22, 1965
Pembina, N. Dak.	42	Apr. 16	May 15	49.7	Apr. 26	52.9	May 14, 1950	51.7	May 1, 1950
Emerson, N. Dak.	781.5	Apr. 18	May 14	787.61	Apr. 26	791.2	Apr. 18, 1897	790.9	May 13, 1950
Upper Mississippi Basin									
Crow:									
Delano, Minn.	8	Apr. 4	Apr. 28	15.6	Apr. 12				
Rockford, Minn.	10	Apr. 7	Apr. 27	16.5	Apr. 13	19.27	Apr. 16, 1965	16.24	Apr. 13, 1952
Rum:									
St. Francis, Minn.	8.5	Apr. 10	Apr. 19	11.7	Apr. 13	11.57	Apr. 20, 1965	11.03	Apr. 13, 1952
St. Croix:									
Stillwater, Minn.	87	Apr. 11	Apr. 25	92.3	Apr. 16	94.1	Apr. 18, 1965	89.71	Apr. 14, 1952
Yellow Medicine:									
Granite Falls (nr), Minn.	6	Apr. 8	Apr. 21	14.9	Apr. 10	17.5	June 1919	12.41	June 18, 1957
Redwood:									
Marshall, Minn.	7	Apr. 9	Apr. 9	7.5	Apr. 9	11.05	Apr. 6, 1951	10.14	June 17, 1957
Redwood Falls, Minn.	6	Apr. 6	Apr. 18	14.6	Apr. 9	p17.0	1917	15.92	June 18, 1957
Cottonwood:									
New Ulm (nr), Minn.	11	Apr. 4	Apr. 18	19.5	Apr. 9	J20.86	Apr. 8, 1965	16.94	July 9, 1947
Minnesota:									
Montevideo, Minn.	14	Apr. 9	May 11	21.9	Apr. 13	20.02	Apr. 10, 1952	16.64	Apr. 14, 1965
Mankato, Minn.	19	Apr. 6	Apr. 25	27.1	Apr. 12	p29.90	Apr. 26, 1881	29.09	Apr. 10, 1965
Jordan, Minn.	20	Mar. 27	May 16	32.8	Apr. 14	34.37	Apr. 11, 1965	28.31	Apr. 16, 1952
Chaska, Minn.	18	Mar. 29	May 12	32.4	Apr. 14	34.25	Apr. 13, 1965	29.1	Apr. 15,16, 1952
Savage, Minn.	698	Mar. 30	May 17	716.9	Apr. 15	719.35	Apr. 14, 1965	714.2	Apr. 16, 1962
Mendota, Minn.	699	Apr. 7	May 7	714.7	Apr. 15	717.46	Apr. 16, 1965		
Chippewa:									
Durand, Wis.	11	Apr. 9	Apr. 13	12.5	Apr. 10	p18.4	Sept. 12, 1884	16.93	Apr. 2, 1967
Zumbro:									
Zumbro Falls, Minn.	18	Apr. 4	Apr. 5	19.9	Apr. 5	30.80	July 22, 1951	p30.5	Apr. 1888
Theilman, Minn.	38	Apr. 5	Apr. 7	40.6	Apr. 5	45.75	Mar. 2, 1965	45.2	Apr. 7, 1965
Trempealeau:									
Dodge, Wis.	7	Mar. 26	Mar. 26	7.0	Mar. 26	10.42	Mar. 28, 1961	10.35	Apr. 4, 1956
		Apr 7	Apr. 9	7.8	Apr. 8				
Black:									
Galesville (nr), Wis.	12	Apr. 7	Apr. 9	12.8	Apr. 7	14.63	Apr. 1, 1967	14.31	Sept. 11, 1938
Root:									
Hokah, Minn.	47	Apr. 4	Apr. 6	49.1	Apr. 5	50.8	Mar. 2, 1965	50.0	Mar. 9, 1950
Kickapoo:									
Steuben, Wis.	8	Mar. 25	Mar. 28	8.7	Mar. 27	13.66	July 22, 1951	12.33	Mar. 28, 1961
		Apr. 7	Apr. 10	8.8	Apr. 9				
Wisconsin:									
Portage, Wis.	17	Apr. 9	Apr. 12	17.2	Apr. 11	20.5	Sept. 14, 1938	19.2	Oct. 11,12, 1911
Shell Rock:									
Marble Rock, Iowa	4	Mar. 24	Mar. 28	4.5	Mar. 25	12.0	Mar. 27, 1961	9.35	Apr. 7, 1951
West Fork Cedar:									
Finchford, Iowa	12	Mar. 23	Mar. 27	13.7	Mar. 25	17.28	June 27, 1951	15.91	Apr. 7, 1965

Table 1.-Flood Stage and Comparative Stage Data--Red River of the North, Upper Mississippi and Missouri Basins (Cont'd)

River and station	Flood stage	Above flood stage dates March-May 1969 From-	Above flood stage dates March-May 1969 To-	*Crest March-May 1969 Stage	*Crest March-May 1969 Date (Month and year)	Previous maximum crest of record Stage	Previous maximum crest of record Date (Month and year)	Previous second highest crest of record Stage	Previous second highest crest of record Date (Month and year)
	Ft.			Ft.		Ft.		Ft.	
Upper Mississippi Basin (cont'd):									
Black Hawk Creek:									
Hudson, Iowa	12	Mar. 20	Mar. [illegible]	15.2	Mar. 19	16.93	Mar. 31, 1960	15.46	Feb. 21, 1953
		Mar. 25	Mar. 26	12.95	Mar. 25				
		Apr. 5	Apr. 5	13.05	Apr. 5				
Iowa:									
Marshalltown, Iowa	13	Mar. 18	Mar. 30	17.67	Mar. 20	17.74	June 4, 1918	17.63	Apr. 6, 1965
		Apr. 4	Apr. 5	14.2	Apr. 4				
Wapello, Iowa	10	Mar. 27	Apr. 4	11.9	Apr. 1	17.25	Apr. 13, 1965	17.02	Apr. 5, 1960
		Apr. 11	Apr. 14	10.4	Apr. 12-13				
North Skunk:									
Sigourney, Iowa	16	Mar. 21	Mar. 22	17.0	Mar. 22	25.33	Mar. 31, 1960	23.9	June 14, 1966
Skunk:									
Ames, Iowa	10	Mar. 19	Mar. 21	12.1	Mar. 20	12.6	Apr. 6, 1965		
Oskaloosa, Iowa	15	Mar. 19	Mar. 25	18.2	Mar. 22	p25.8	May 23, 1944	21.26	June 15, 1947
Brighton, Iowa	14	Mar. 24	Mar. 27	15.3	Mar. 25				
West Fork Des Moines:									
Jackson, Minn.	10	Apr. 5	Apr. 28	19.5	Apr. 11	18.62	Apr. 6, 1965	17.43	June 8, 1953
Estherville, Iowa	7	Apr. 4	Apr. 30	17.7	Apr. 12	15.61	Apr. 10, 1965	15.53	June 8, 1953
Humboldt, Iowa	8	Apr. 5	May 2	15.4	Apr. 14	13.90	Apr. 8, 1965	12.2	June 23, 1947
Boone:									
Webster City, Iowa	10	Mar. 24	Mar. 26	11.55	Mar. 25	p19.1	June 10, 1918	18.55	June 22, 1954
North Raccoon:									
Jefferson, Iowa	10	Mar. 20	Apr. 12	15.9	Mar. 26	22.3	June 23, 1947	19.5	June 22, 1954
				14.5	Apr. 7				
		Apr. 18	Apr. 20	10.1	Apr. 18				
South Raccoon:									
Redfield, Iowa	14	Mar. 18	Mar. 20	16.6	Mar. 19	29.04	July 2, 1958	24.3	June 12, 1947
Raccoon:									
Van Meter, Iowa	13	Mar. 18	Mar. 30	17.6	Mar. 25	21.77	July 3, 1958	21.6	June 13, 1947
Des Moines (SW 18th St.), Iowa	12	Mar. 25	Mar. 29	14.8	Mar. 26	19.8	June 13, 1957	18.8	Apr. 2, 1960
North:									
Norwalk, Iowa	14	Mar. 17	Mar. 20	21.4	Mar. 19	25.3	June 13, 1947	22.6	July 1, 1959
		Mar. 25	Mar. 27	18.3	Mar. 25				
Cedar Creek:									
Bussey, Iowa	16.5	Apr. 27	Apr. 27	17.0	Apr. 27	#28.45	June 1946	28.06	July 2, 1958
Des Moines:									
Fort Dodge, Iowa	10	Apr. 11	Apr. 20	12.8	Apr. 15	19.62	June 23, 1947	19.28	June 21, 1954
Boone, Iowa	12	Mar. 25	Mar. 26	12.8	Mar. 25	25.35	June 22, 1954	22.89	Apr. 9, 1965
		Apr. 4	Apr. 10	14.5	Apr. 7				
		Apr. 13	Apr. 21	14.4	Apr. 16				
Des Moines (SE 14th St.), Iowa	21	Mar. 22	Apr. 1	26.3	Mar. 27	p30.5	May 31, 1903	29.78	Apr. 11, 1965
		Apr. 7	Apr. 12	24.2	Apr. 11				
		Apr. 15	Apr. 22	24.2	Apr. 19				
Tracy, Iowa	14	Mar. 26	Apr. 19	15.55	Mar. 28	26.5	June 14, 1947	p25.0	May 31, 1903
				15.9	Apr. 11				
Eddyville, Iowa	[illegible]	Mar. 26	Apr. 19	16.9	Mar. 28	28.1	June 14, 1947	24.8	May 31, 1903
				17.5	Apr. 10				
Ottumwa, Iowa	10	Mar. 27	Apr. 19	10.4	Mar. 28	23.0	May 31, 1903	21.1	June 7, 1947
				11.6	Apr. 17				
Salt:									
New London, Mo.	19	Mar. 25	Mar. 25	19.8	Mar. 25	29.92	Aug. 2, 1958	28.8	June 21, 1928
		Apr. 6	Apr. 7	19.75	Apr. [illegible]				
		Apr. 20	Apr. 20	19.85	Apr. 20				
Sangamon:									
Riverton, Ill.	13	Mar. 25	Mar. 30	15.7	Mar. 28	31.52	May 19, 1943		
		Apr. 6	Apr. 7	13.7	Apr. 6				
		Apr. 10	Apr. 27	14.5	Apr. 11				
				15.9	Apr. 15				
				20.3	Apr. 20				
Petersburg, Ill.	497	Apr. 21	Apr. 22	498.2	Apr. 21	507.9	May 20, 1943	502.3	July 1, 1951
Illinois:									
La Salle, Ill.	20	Apr. 18	Apr. 19	20.0	Apr. 18	31.0	May 22, 1943	30.2	Jan. 22, 1961
Havana, Ill.	14	Apr. 20	May 2	15.3	Apr. 25	27.3	May 25, 1943	23.5	Oct. 12, 1926
Beardstown, Ill.	18	Apr. 19	May 6	17.0	Apr. 25	29.7	May 26,27, 1943	26.2	Apr. 29-30, 1944
Meredosia, Ill.	428	Apr. 1	May 18	434.5	Apr. 25	28.61	May 26, 1943		
Kaskaskia:									
Shelbyville, Ill.	13	Apr. 19	Apr. 21	14.1	Apr. 20	22.37	June 29, 1957	21.17	May 19, 1943
Vandalia, Ill.	18	Apr. 15	Apr. 23	19.3	Apr. 17	27.39	June 29, 1951	25.7	June 15, 1957
				23.2	Apr. 19				
Big Muddy:									
Murphysboro, Ill.	16	Apr. 10	May [illegible]	23.7	Apr. 23	37.97	May 12, 1961	[illegible]	Jan. [illegible], 1949

Table 1.-Flood Stage and Comparative Stage Data--Red River of the North, Upper Mississippi and Missouri Basins (Cont'd)

River and station	Flood stage	Above flood stages dates March-May 1969 From-	To-	*Crest March-May 1969 (Month and year) Stage	Date	Previous maximum crest of record (Month and year) Stage	Date	Previous second highest crest of record (Month and year) Stage	Date
	Ft.			Ft.		Ft.		Ft.	
Upper Mississippi Basin (cont'd)									
Mississippi:									
Libby, Minn.	13	Apr. 14	May 11	16.5	Apr. 20	20.02	May 17, 1950	15.76	Apr. 25, 1966
Aitkin, Minn.	15	Apr. 14	May 1	17.3	Apr. 23	22.49	May 20, 1950	17.5	Apr. 26, 1965
Fort Ripley, Minn.	10	Apr. 9	May 2	13.1	Apr. 13	13.55	Apr. 16, 1965	13.3	May 22, 1950
Anoka, Minn.	838	Apr. 10	Apr. 20	841.4	Apr. 13				
Minneapolis, Minn.	16	Apr. 11	Apr. 17	17.5	Apr. 14	20.0	Apr. 16, 1965	19.5	Apr. 14, 1952
St. Paul, Minn.	14	Apr. 9	Apr. 30	24.5	Apr. 15	26.01	Apr. 16, 1965	22.02	Apr. 16, 1952
Hastings, Minn.	15	Apr. 10	May 2	24.0	Apr. 16	25.4	Apr. 17, 1965	20.93	Apr. 16, 1952
Red Wing, Minn.	14	Apr. 12	Apr. 26	18.8	Apr. 17	20.9	Apr. 18, 1965	17.0	Apr. 18, 1952
Lake City, Minn.	16	Apr. 11	Apr. 27	20.2	Apr. 17	22.18	Apr. 19, 1965		
Wabasha, Minn	12	Apr. 10	May 3	17.6	Apr. 17	20.05	Apr. 19, 1965	p17.1	June 18, 1880
Alma, Wis.	16	Apr. 14	Apr. 23	17.6	Apr. 18	19.85	Apr. 19, 1965		
Winona, Minn.	13	Apr. 11	Apr. 30	19.6	Apr. 18	20.77	Apr. 19, 1965	17.91	Apr. 20, 1952
LaCrosse, Wis.	12	Apr. 11	Apr. 30	15.7	Apr. 20	17.9	Apr. 21, 1965	16.5	June 19, 1880
Lansing, Iowa	18	Apr. 19	Apr. 25	18.9	Apr. 22	22.52	Apr. 22, 1965	p19.9	June 20or21, 1880
McGregor, Iowa	18	Apr. 15	Apr. 30	21.6	Apr. 22	25.38	Apr. 24, 1965	21.10	June 22, 1880
Guttenberg, Iowa	15	Apr. 14	May 3	19.9	Apr. 22	23.65	Apr. 24, 1965	20.1	1880
Cassville, Wis	17	Apr. 14	May 4	20.5	Apr. 23				
Dubuque, Iowa	17	Apr. 14	May 5	23.1	Apr. 23	26.81	Apr. 26, 1965	22.70	Apr. 25, 1952
Clinton, Iowa	16	Apr. 17	May 7	21.25	Apr. 25	24.65	Apr. 28, 1965	20.92	Apr. 28, 1952
LeClaire, Iowa	12	Apr. 18	May 6	14.8	Apr. 26	17.75	Apr. 28, 1965	14.0	Apr. 27, 1952
Moline, Ill.	13.5	Apr. 18	May 6	19.2	Apr. 26-27	16.6	June 1880	16.6	Apr. 27,28, 1952
Davenport, Iowa	15	Apr. 18	May 6	19.3	Apr. 27	22.48	Apr. 28, 1965	20.9	Mar. 10, 1868
Muscatine, Iowa	16	Apr. 18	May 7	21.2	Apr. 26	24.81	Apr. 29, 1965	21.05	Apr. 28, 1952
Keithsburg, Ill.	12	Apr. 11	May 16	17.2	Apr. 26	20.36	Apr. 27, 1965	17.1	Apr. 29, 1951
Burlington, Iowa	15	Apr. 18	May 10	18.4	Apr. 30	21.0	Apr. 30, 1965	18.94	June 1851
Keokuk, Iowa	16	Apr. 19	May 5	17.85	Apr. 27	22.14	May 1, 1965	21.83	Apr. 3, 1960
Gregory Landing, Mo.	15	Apr. 18	May 10	18.3	Apr. 27	22.71	May 1, 1965	22.31	Apr. 4, 1960
Quincy, Ill.	17	Apr. 18	May 10	20.2	Apr. 29	24.80	Apr. 28, 1965	24.38	Apr. 4, 1960
Hannibal, Mo.	16	Apr. 6	Apr. 7	16.2	Apr. 6	24.59	May 1, 1965	23.4	Apr. 4, 1960
		Apr. 11	May 14	20.45	May 1				
Louisiana, Mo.	15	Apr. 6	Apr. 9	15.9	Apr. 7	22.6	June 22, 1947	22.1	June 10, 1947
		Apr. 15	May 15	19.2	Apr. 21			22.1	May 1, 1965
Clarksville, Mo.	25	Apr. 6	Apr. 9	26.0	Apr. 7	32.53	June 22, 1947	32.2	May 2, 1965
		Apr. 15	May 16	29.5	Apr. 22				
Winfield, Mo.	26	Apr. 8	Apr. 8	26.0	Apr. 8	33.64	June 24, 1947	32.7	May 2, 1965
		Apr. 19	May 15	30.0	Apr. 22				
Grafton, Ill.	18	Apr. 7	Apr. 12	18.5	Apr. 9	p32.13	June 1844	p30.70	June 1858
		Apr. 17	May 14	22.9	Apr. 22				
Alton, Ill.	21	Apr. 8	Apr. 10	21.8	Apr. 9	p36.94	June 1844	34.43	May 24, 1943
		Apr. 19	May 8	26.2	Apr. 22				
				25.8	May 2				
St. Louis, Mo.	30	Apr. 21	Apr. 23	31.1	Apr. 21	p41.32	June 27, 1844	40.28	July 22, 1951
		May 1	May 3	30.9	May 1				
Chester, Ill.	27	Apr. 9	Apr. 11	27.6	Apr. 10	p39.83	June 30, 1844	39.28	July 23, 1951
		Apr. 20	May 7	31.25	Apr. 23				
Cape Girardeau, Mo.	32	Apr. 10	Apr. 12	32.4	Apr. 11	p42.53	July 4, 1844	42.37	May 27, 1943
		Apr. 20	May 7	36.1	Apr. 24				
Missouri Basin									
Yellowstone:									
Miles City, Mont.	15	Mar. 19	Mar. 19	16.15	Mar. 19	H21.7	Mar. 20, 1944		
Glendive (nr), Mont.	54	Mar. 20	Mar. 20	62.8	Mar. 20	60.5	Mar. 19, 1959		
Sidney, Mont.	19	Mar. 21	Mar. 21	21.0	Mar. 21	23.85	Mar. 22, 1947	21.7	Mar. 30, 1952
Spring Creek:									
Zap, N. Dak.	14	Apr. 3	Apr. 8	20.27	Apr. 6	20.03	Apr. 7, 1952	p20±	1913
Knife:									
Hazen, N. Dak.	21	Apr. 3	Apr. 9	24.9	Apr. 7	27.01	June 24, 1966	26.3	Mar. 26or27, 1943
Heart:									
Mandan, N. Dak.	17	Apr. 3	Apr. 9	22.9	Apr. 7	25.75	Apr. 4, 1952	24.7	Mar. 26, 1943
Cannonball:									
Breien, N. Dak.	8	Apr. 4	Apr. 7	13.9	Apr. 4	22.30	Apr. 19, 1950	17.4	Mar. 27, 1943
Pipestem:									
Buchanan, N. Dak.	8	Apr. 9	Apr. 15	12.08	Apr. 10	11.89	Apr. 9, 1950	10.77	Apr. 17, 1950
James:									
Jamestown, N. Dak.	12	Apr. 10	Apr. 17	16.9	Apr. 11				
La Moure, N. Dak.	8.2	Apr. 9	Apr. 18	16.1	Apr. 14	15.34	May 16, 1950		
Columbia, S. Dak.	11	Apr. 9	July 27	16.4	Apr. 11	16.89	May 24, 1950	16.53	Apr. 17, 1952
				17.1	Apr. 23				
Stratford, S. Dak.	14	Apr. 11	Aug. 20	18.2	Apr. 19	18.13	Apr. 19, 1952		
Ashton, S. Dak.	13	Apr. 7	May 27	21.2	Apr. 13	19.59	Apr. 23, 24, 1952	19.14	May 19, 1950
				20.6	Apr. 24				
Redfield, S. Dak.	20	Apr. 6	May 5	24.9	Apr. 13	22.12	Apr. 11, 1952		
				22.4	Apr. 24				
Huron, S. Dak.	11	Apr. 5	May 20	16.70	Apr. 13	H19.8	Apr. 11, 13, 1881	16.5	Mar. 22, 1922
				15.2	Apr. 25				
Forestburg, S. Dak.	12	Apr. 4	May 25	17.2	Apr. 9	18.2	Mar. 1922	18	Mar. 1920
Mitchell, S. Dak.				18.3	Apr. 11	12.98	Mar. 23, 1966		
Scotland (nr), S. Dak.	13	Apr. 2	May 31	18.55	Apr. 13	18.74	Apr. 3, 1962	16.23	Apr. 23, 1952

Table 1.-Flood Stage and Comparative Stage Data--Red River of the North, Upper Mississippi and Missouri Basins (Cont'd)

River and station	Flood stage	Above flood stages dates March-May 1969		Month and year *Crest March-May 1969		Month and year Previous maximum crest of record		Month and year Previous second highest crest of record	
		From-	To-	Stage	Date	Stage	Date	Stage	Date
	Ft.			Ft.		Ft.		Ft.	
Missouri Basin (cont'd)									
Vermillion:									
Wakonda (nr), S. Dak.	14	Apr. 3	Apr. 15	17.7	Apr. 6	16.94	Apr. 1, 1960	16.63	June 13, 1947
Skunk Creek:									
Sioux Falls, S. Dak.	10	Apr. 4	Apr. 8	10.5 13.2	Apr. 5 Apr. 6	17.78	June 17, 1957	12.16	Mar. 29, 1952
Little Rock:									
Doon (nr), Iowa	15	Apr. 3	Apr. 9	19.7	Apr. 5	18.0	Mar. 29, 1960		
Rock:									
Rock Rapids, Iowa	9	Apr. 5	Apr. 10	17.6	Apr. 8	14.5	Mar. 29, 1962		
Rock Valley, Iowa	11	Apr. 3	Apr. 12	17.3	Apr. 7	p17.0	1897	16.91	Mar. 30, 1962
Big Sioux:									
Flandreau, S. Dak.	6	Apr. 6	Apr. 15	12.0	Apr. 9	9.2	June 17, 1957	8.3	Apr. 3, 1951
Del Rapids, S. Dak.	12	Apr. 6	Apr. 18	16.5	Apr. 9	15.14	Mar. 30, 1962	14.93	June 18, 1957
Sioux Falls, S. Dak.	10	Apr. 6	Apr. 13	14.2	Apr. 10				
Hawarden, Iowa	15	Apr. 4	Apr. 20	24.6	Apr. 9	23.2	Mar. 30, 1962	22.3	Apr. 1, 1960
Akron, Iowa	16	Apr. 4	Apr. 21	22.99	Apr. 9	22.08	Mar. 31, 1962	21.56	Apr. 1, 1960
Sioux City, Iowa	99	Apr. 8	Apr. 17	110.7	Apr. 10	110.90	Apr. 3, 1960	109.15	Apr. 2, 1962
West Branch Floyd:									
Struble, Iowa	14	Apr. 1	Apr. 7	15.4	Apr. 4	15.63	Mar. 28, 1962		
Floyd:									
Alton, Iowa	12	Apr. 1	Apr. 9	17.8	Apr. 4	18.35	Mar. 28, 1962	17.36	Apr. 1, 1965
LeMars, Iowa	20	Apr. 3	Apr. 8	23.9	Apr. 4	p26.4	June 8, 1953	22.8	Mar. 29, 1960
Merrill, Iowa	12	Apr. 3	Apr. 8	16.6	Apr. 5	20.1	June 8, 1953	18.4	June 7, 1934
James, Iowa	16	Apr. 2	Apr. 9	21.6	Apr. 5	25.3	June 8, 1953	22.4	Mar. 29, 1962
West Fork Little Sioux:									
Holly Springs, Iowa	18	Apr. 5	Apr. 5	18.7	Apr. 5				
Little Sioux:									
Spencer, Iowa	10	Apr. 3	Apr. 21	16.2	Apr. 7	20.05	June 8, 1953	17.2	Apr. 6, 1965
Gillett Grove, Iowa	12			17.8	Apr. 8	18.67	Apr. 7, 1965	17.87	June 9, 1953
Linn Grove, Iowa	12	Mar. 29	Apr. 24	21.1	Apr. 9	22.35	Apr. 6, 1965	20.9	June 1953
Peterson, Iowa	16	Apr. 3	Apr. 14	21.0	Apr. 9	22.0	Apr. 6, 1965	20.90	June 1953
Cherokee, Iowa	17	Apr. 3	Apr. 16	23.8	Apr. 7	27.2	Apr. 6, 1965	p25.7	1891
Correctionville, Iowa	19	Apr. 4	Apr. 16	23.6	Apr. 8	p29.34	June 23or 24, 1891	25.86	Apr. 7, 1965
Wood:									
Gibbon, Nebr.	15	Mar. 19	Mar. 20	15.8	Mar. 20	16.79	June 15, 1967		
Alda, Nebr.	10	Mar. 19	Mar. 22	11.6	Mar. 21	12.22	June 16, 1967		
Grand Island, Nebr.	4.8	Mar. 20	Mar. 23	5.25	Mar. 22	5.8	June 1967		
Loup:									
Columbus, Nebr.	11	Mar. 19	Mar. 20	13.45	Mar. 20	14.42	Aug. 14, 1966	p12.0	June 23, 1947
North Branch Elkhorn:									
Osmond (nr), Nebr.	10	Apr. 2	Apr. 2	10.7	Apr. 2				
Pierce (nr), Nebr.	12	Apr. 2	Apr. 4	13.8	Apr. 2	14.90	Mar. 28, 1962	p14.79	May 11, 1944
Hadar (nr), Nebr.	12	Apr. 2	Apr. 4	14.0	Apr. 3				
Salt Creek:									
Roca, Nebr.	15	Apr. 4	Apr. 4	19.0	Apr. 4	p26.0	May 8, 1950	22.70	July 10, 1958
Nishnabotna:									
Hamburg, Iowa	18	Feb. 25 Mar. 17 Mar. 25	Mar. 4 Mar. 21 Mar. 26	21.5 25.25 19.3	Mar. 4 Mar. 18 Mar. 25	27.3	Mar. 7, 1949	25.8	Mar. 2, 1965
Little Platte:									
Smithville, Mo.	24	Apr. 4 Apr. 27	Apr. 5 Apr. 28	24.1 26.3	Apr. 4 Apr. 28	44.8	July 20, 1965	37.4	1947
Platte:									
Agency, Mo.	20	Apr. 27	Apr. 29	23.0	Apr. 28	35.0	July 20, 1965	30.46	June 23, 1947
Lyon Creek:									
Woodbine (nr), Kans.	17	Apr. 27	Apr. 27	22.7	Apr. 27	p34.8	July 1951	p30.30	June 9, 1965
Buffalo Creek:									
Jamestown, Kans.	16	Feb. 26	Mar. 1	17.6	Feb. 28	19.31	Sept. 12, 1961	p18.5	1948
Lincoln Creek:									
Seward (nr), Nebr.	15	Mar. 18	Mar. 22	#17.7	Mar. 21	20.53	June 17, 1957	19.55	June 15, 1967
West Fork Big Blue:									
Dorchester (nr), Nebr.	15	Mar.19 Apr. 4	Mar. 23 Apr. 5	20.5 19.0	Mar. 20 Apr. 4	p24.8	July 10, 1950	20.28	Mar. 30, 1960
Turkey Creek:									
Wilber (nr), Nebr.	11	Mar. 18 Apr. 4 Apr. 17	Mar. 23 Apr. 7 Apr. 20	#15.3 13.9 13.7	Mar. 20 Apr. 4 Apr. 18	p15.5	June 1957	14.92	Mar. 28, 1960

Table 1.-Flood Stage and Comparative Stage Data--Red River of the North, Upper Mississippi and Missouri Basins (Cont'd)

River and station	Flood stage	Month and year: Above flood stages dates March-May 1969 From-	To-	Month and year: *Crest March-May 1969 Stage	Date	Month and year: Previous maximum crest of record Stage	Date	Month and year: Previous second highest crest of record Stage	Date
	Ft.			Ft.		Ft.		Ft.	
Missouri Basin (cont'd)									
Black Vermillion:									
Frankfort, Kans.	19	Apr. 27	Apr. 27	25.85	Apr. 27	p30.2	Aug. 3, 1948	29.40	May 30, 1965
Little Blue:									
Deweese, Nebr.	8	Mar. 18	Mar. 20	11.9	Mar. 19	14.6	May 22, 1965	13.3	June 17, 1957
Fairbury, Nebr.	10	Mar. 18	Mar. 21	11.1	Mar. 18,19	16.41	Sept. 6, 1958		
Big Blue:									
Surprise, Nebr.				8.9	Mar. 20	11.5	July 19, 1965		
Ulysses, Nebr.	15	Mar. 18	Mar. 21	19.4	Mar. 20	23.5	June 17, 1957	21.1	June 16, 1967
Seward, Nebr.	18	Mar. 20	Mar. 22	#18.6	Mar. 20	22.83	June 16, 1967	22.34	June 18, 1957
Crete, Nebr.	18	Mar. 18	Mar. 26	27.35	Mar. 21	29.80	June 16, 1967	28.74	July 10, 1950
		Apr. 4	Apr. 7	24.25	Apr. 5				
Beatrice, Nebr.	16	Mar. 20	Mar. 26	23.15	Mar. 23	28.30	June 4, 1951	27.7	June 23, 1947
		Apr. 5	Apr. 7	19.25	Apr. 6				
Barneston, Nebr.	18	Mar. 21	Mar. 25	22.55	Mar. 24	34.3	June 9, 1941	29.76	June 23, 1947
		Apr 6	Apr. 6	18.0	Apr. 6				
Blue Rapids, Kans.	1101	Feb. 26	Mar. 2	1105.7	Feb. 7				
		Mar. 22	Mar. 25	1102.3	Mar. 22				
Mill Creek:									
Paxico, Kans.	19	Apr. 26	Apr. 27	29.8	Apr. 27	p34.7	July 12, 1951	27.64	June 21, 1967
Soldier Creek:									
Delia (nr), Kans.	12	Apr. 27	Apr. 27	21.2	Apr. 27	p24	June 21, 1951	21.45	June 12, 1967
Topeka (nr), Kans.	12	Apr. 27	Apr. 27	14.15	Apr. 27	20.11	June 21, 1967	19.9	June 12, 1967
Wakarusa:									
Lawrence (nr), Kans.	23	Apr. 28	Apr. 29	28.3	Apr. 28	31.59	July 12, 1951	30.86	June 21,22,1967
Stranger Creek:									
Easton, Kans.	15	Apr. 27	Apr. 28	20.6	Apr. 27				
Tonganoxie (nr), Kans.	22	Apr. 27	Apr. 29	23.9	Apr. 27	28.72	Oct. 13, 1961	28.54	Aug. 1, 1958
Grand:									
Pattonsburg, Mo.	25	Apr. 27	Apr. 27	26.95	Apr. 27	p34.25	June 1947	31.0	July 7, 1951
Gallatin, Mo.	21	Apr. 27	Apr. 28	21.65	Apr. 28	p40	July 8, 1909	37.7	June 2, 1929
Chillicothe, Mo.	24	Apr. 28	Apr. 29	28.7	Apr. 28	33.8	June 7, 1947	p33.6	July 1909
Sumner, Mo.	26	Apr. 17	Apr. 20	30.3	Apr. 19	39.5	June 7,8,1947	37.80	June 16, 1967
Lamine:									
Clifton, Mo.	19	Apr. 5	Apr. 6	23.2	Apr. 5	H35.3	Sept. 18, 1905	32.5	June 29, 1951
Blackwater:									
Valley City, Mo.	20	Mar. 23	Mar. 26	27.5	Mar. 24	31.75	Sept. 14, 1961	31.4	July 20, 1965
		Apr. 4	Apr. 6	27.0	Apr. 5				
		Apr. 17	Apr. 19	26.0	Apr. 18				
		Apr. 27	Apr. 27	22.1	Apr. 27				
Blue Lick, Mo.	25	Apr. 7	Apr. 9	26.75	Apr. 8	H41.25	Nov. 18, 1928	37.5	July 23, 1965
		Apr. 18	Apr. 22	27.25	Apr. 21				
Dragoon Creek:									
Burlingame, Kans.	15	Apr. 15	Apr. 15	20.7	Apr. 27	p23.4	June 26, 1946	20.67	July 13, 1963
Pottawatomie Creek:									
Lane, Kans.	23	Apr. 28	Apr. 28	23.4	Apr. 28	33.9	Sept. 14, 1961	p32.8	Nov. 17, 1928
Little Osage:									
Horton, Mo.	23	Apr. 5	Apr. 7	24.0	Apr. 6				
		Apr. 17	Apr. 20	24.3	Apr. 18				
		Apr. 28	Apr. 28	23.2	Apr. 28				
Big Creek:									
Blairstown, Mo.	20	Apr. 5	Apr. 5	21.15	Apr. 5	25.40	Sept. 14, 1961		
		Apr. 18	Apr. 19	22.3	Apr. 18				
		Apr. 27	Apr. 27	21.5	Apr. 27				
South Grand:									
Urich, Mo.	22	Apr. 18	Apr. 18	23.75	Apr. 18	26.84	Sept. 15, 1961		
Brownington, Mo.	19	Apr. 21	Apr. 21	19.5	Apr. 21	H39.9	Nov. 19, 1928	35.0	May 9, 1961
Marais des Cygnes:									
Reading (nr), Kans.	18	Apr. 17	Apr. 17	19.25	Apr. 17	26.8	Oct. 7, 1967	25.65	June 21, 1967
		Apr. 27	Apr. 28	26.4	Apr. 27				
Melvern, Kans.	23	Apr. 27	Apr. 28	26.4	Apr. 28	H30.8	July 11, 1951	27.4	Sept. 5, 1951
Osage:									
Schell City, Mo.	25	Mar. 26	Mar. 30	28.3	Mar. 28	45.1	June 17, 1951	42.0	May 22, 1943
		Apr. 7	Apr. 8	25.95	Apr. 7				
		Apr. 19	Apr. 23	27.4	Apr. 20				
		Apr. 29	May 2	27.55	Apr. 30				
Missouri:									
Nebraska City, Nebr.	18	Apr. 13	Apr. 14	18.3	Apr. 13	27.66	Apr. 18, 1952	J25.8	Mar. 6, 1949
St. Joseph, Mo.	17	Apr. 13	Apr. 19	17.6	Apr. 17	27.2	Apr. 29, 1881	26.82	Apr. 22,23,1952
		Apr. 27	Apr. 27	18.15	Apr. 27				

Table 1.-Flood Stage and Comparative Stage Data--Red River of the North, Upper Mississippi and Missouri Basins (Cont'd)

River and station	Flood stage	Above flood stages dates March-May 1969		*Crest March-May 1969 (Month and year)		Previous highest crest of record (Month and year)		Previous second highest crest of record (Month and year)	
		From-	To-	Stage	Date	Stage	Date	Stage	Date
Missouri Basin (cont'd)									
Missouri (cont'd):									
Leavenworth, Kans.	19	Apr. 27	Apr. 27	19.8	Apr. 27	27.6	Apr. 23, 1952	24.4	July [illegible], 1965
Napoleon, Mo.	17	Apr. 28	Apr. 28	19.1	Apr. 28	34.1	June 1844	28.6	July 15, 1951
Lexington, Mo.	22	Apr. 5	Apr. 6	22.3	Apr. 5	p33.9	June 1844	33.3	July 15, 1951
		Apr. 17	Apr. 19	23.5	Apr. 18				
		Apr. 27	Apr. 29	26.0	Apr. 28				
Waverly, Mo.	18	Apr. 17	Apr. 21	20.1	Apr. 18	28.2	July 14, 1951	28.1	Apr. 24, 1952
		Apr. 27	Apr. 30	22.5	Apr. 28				
Glasgow, Mo.	25	Apr. 19	Apr. 19	25.7	Apr. 19	36.7	July 18, 1951		
		Apr. 28	Apr. 29	26.6	Apr. 29				
Boonville, Mo.	21	Apr. 18	Apr. 20	23.2	Apr. 19	32.82	July 17, 1951	p32.7	June 21, 1844
		Apr. 28	Apr. 30	23.1	Apr. 29				
Jefferson City, Mo.	23	Apr. 19	Apr. 20	23.2	Apr. 19	p38.1	June 1844	34.2	July 18, 1951
Hermann, Mo.	21	Apr. 6	Apr. 9	23.4	Apr. 7	p35.5	June 1844	33.05	July 19, 1951
		Apr. 19	Apr. 22	25.75	Apr. 19				
		Apr. 29	May 2	25.0	Apr. 30				
St. Charles, Mo.	25	Apr. 7	Apr. 9	26.1	Apr. 8	p40.1	June 27, 1844	37.3	July 20, 1951
		Apr. 19	Apr. 23	27.9	Apr. 20				
		Apr. 30	May 2	27.6	Apr. 30				

* Provisional
\# Highest stage reported
___ Exceeded previous maximum crest of record
b Bankfull stage
H High water mark
J Ice jam
p Prior to gage readings

Table 2.-Major Floods in Order of Magnitude

Red River of the North Basin

Sheyenne River

West Fargo, N. Dak.
Zero of gage - 877.19 feet
Drainage area - 8,870 square miles (5)
Flood stage - 16 feet
Period of record - 1929-1969

Crest Stage Feet	Date
21.8	Apr.17,1969
21.0	Mar.22-23,1966
20.75	Apr.19,1965
20.6	May 11, 1950
20.5	Apr.18,1947
20.5 (7)	Apr.9-10,1952
20.4	Apr.3,1966
19.35	Apr.1,1943
18.8	June 20,1953
18.5	May 7,1948

Red Lake River

High Landing, Near Goodridge, Minn.
Zero of gage - 1,141.57 (1912 adj.)
Drainage area - 2,300 square miles
Flood stage - 9 feet
Period of record - 1930-1969

Crest Stage Feet	Date
13.4	May 11,1950
12.4	Apr.3,1966
12.1	Apr.12,1965
10.5	Apr.10,1969
10.1	Mar.18,1966
9.2	Apr.11,1944
9.2	Apr.20,1948
8.4	Apr.16,1947

Red Lake River (cont'd)

Crookston, Minn.
Zero of gage - 832.72 feet
Drainage area - 5,280 square miles
Flood stage - 15 feet
Period of record - 1901-1969

Crest Stage Feet	Date
27.3	Apr.12,1969
25.8	Apr.12,1965
25.7	May 7,1950
25.2	Apr.11,1897
24.3	Apr.3,1966
23.3	Mar.25,1920
21.8	Apr.17,1916
21.1	July 5,1919
23.3	Mar.25,1920
20.3	Apr.24,1904
18.1	June 12,1947
18.1	Apr.8,1948

Red River of the North

Wahpeton, N. Dak.
Zero of gage - 942.97 feet (1929 adj.)
Drainage area - 4,010 square miles
Flood stage - 10 feet
Period of record - 1943-1969

Crest Stage Feet	Date
17.0 (1)(2)	Apr.1897
16.35	Apr.10,1969
15.0	Apr.12,1952
14.8 (1)	Apr.1916
14.8 (1)	Apr.2,1943
14.3	Apr.11,1965
14.0	Apr.7,1951
13.9	Mar.16,1966
12.1	June 6,1944
11.9	Apr.12,1947
11.6	Apr.2,1950
11.5	May 10,1950

Red River of the North (cont'd)

Fargo, N. Dak.
Zero of gage - 861.80 feet (1929 adj.)
Drainage area - 6,800 square miles
Flood stage - 17 feet
Period of record - 1901-1969

Crest Stage Feet	Date
40.1 (1)	Apr.7,1897
37.8 (1)	Apr.11,1882
37.3	Apr.15,1969
34.65	Apr.16,1952
34.3	Apr.7,1943
31.2	Apr.6,1916
30.5	Apr.16,1965
30.1	Mar.23,1966
29.8	Mar.30-31,1907
28.9	Apr.15,1947
28.6	July 12,1916
27.8	Apr.12,1951
27.2	Apr.8,1950

Halstad, Minn.
Zero of gage - 826.65 feet
Drainage area - 21,800 square miles (5)
Flood stage - 24 feet
Period of record - 1936-1937; 1942-1960; 1961-1966

Crest Stage Feet	Date
38.5 (2)	Apr. 1897
38.25	Apr.18,1969
35.35	Mar.27,1966
35.22	Apr.17,1965
34.0	Apr.17,1947
29.8	Apr.18,1952

Red River of the North Basin (cont'd)

Red River of North (cont'd)

Grand Forks, N. Dak.
Zero of gage - 778.35 feet (1929 adj.)
Drainage area - 30,100 square miles (5)
Flood stage - 28 feet
Period of record - 1882-1969

Crest Stage Feet	Date
50.2 (3)	Apr.10,1897
49.5	Apr.21,1882
45.7	Apr.16,1969
45.6	Apr.4,1966
45.6	May 12,1950
45.5	Apr.24,1893
44.9	Apr.17,1965
41.7	Apr.16,1948
41.0	Apr.17,1916
41.0	Mar.29,1920
40.7	Apr.22,1947
40.6	Apr.27,1904
40.6	Apr.28,1883

Pembina, N. Dak.
Zero of gage - 739.45 feet (1929 adj.)
Drainage area - 40,000 square miles
Flood stage - 42 feet
Period of record - 1912-1969

Crest Stage Feet	Date
52.9	May 14,1950
51.7	May 1,1950
51.3	Apr.11-12,1966
49.7	Apr. 26,1969
48.5 (4)	Apr.27,1948
47.4	Apr.25,1965

Red River of the North (cont'd)

Drayton, N. Dak.
Zero of gage - 755.00 feet (1929 adj.)
Drainage area - 34,800 square miles (5)
Flood stage - 32 feet
Period of record - 1936-1937; 1941-1969

Crest Stage Feet	Date
42.15	Apr.8,1966
41.4	Apr.25,1969
40.4	Apr.22,1965
40.0 (6)	May 12,1950
39.4 (6)	Apr. 1897
39.3 (6)	Apr.26,1950
38.5 (6)	Apr.22,1948
32.1 (6)	Apr.17-19,1943
31.5 (6)	Apr.28,1947
28.8 (6)	Apr.26,1952

Upper Mississippi Basin

Minnesota River

Mankato, Minn.
Zero of gage - 747.925 feet (1929 adj.)
Drainage area - 14,900 square miles
Flood stage - 19 feet
Period of record - 1903-1969

Crest Stage Feet	Date
29.9 (2)	Apr.26,1881
29.1	Apr.10,1965
27.1	Apr.12,1969
26.7 (2)	Mar.26,1897
26.2	Apr.9,1951
25.7	June 26,1908
24.8	Apr.14,1952
24.1	May 29,1903
23.4	June 21,1919
22.6	June 24,1957

Iowa River

Marshalltown, Iowa
Zero of gage - 853.10 feet (1929 adj.)
Drainage area - 1,564 square miles
Flood stage - 13 feet
Period of record - 1915-1928;1933-1969

Crest Stage Feet	Date
17.7 (1)	June 4,1918
17.7	Mar.20,1969
17.6	Apr.6,1965
17.5	Mar.31,1960
16.8	June 13,1947
16.7	Feb.21,1953
16.2	July 15,1962
16.1	Mar.29,1951
16.1	Aug.28,1954
16.1	Feb.26,1951
16.0	June 16,1954

Upper Mississippi Basin (cont'd)

West Fork Des Moines River

Humbolt, Iowa
Zero of gage - 1,053.54 feet (1929 adj.)
Drainage area - 1,372 square miles
Flood stage - 8 feet
Period of record - 1940-1969

Crest Stage Feet	Date
15.4	Apr.14,1969
13.9	Apr.8,1965
12.2	June 23,1947
11.5	Mar.28,1961
11.25	June 22,1954
11.0	Apr.1,1962
8.4	Apr.1,1960
6.7	May 23,1959
6.4	Apr.26,1955

Des Moines River

Des Moines, Iowa (SE 14th St)
Zero of gage - 762.52 feet (1929 adj.)
Drainage area - 9,879 square miles
Flood stage - 21 feet
Period of record - 1940-1969

Crest Stage Feet	Date
30.5	May 31,1903
29.8	Apr.11,1965
29.5	June 26,1947
29.4	June 24,1954
28.9	Apr.2,1960
28.0	Mar.31,1951
27.4	Apr.3,1962
26.3	Mar.27,1969
25.7	June 13,1947
24.6	Mar.31,1951

Mississippi River

St. Paul, Minn.
Zero of gage - 683.68 feet (1929 adj.)
Drainage area - 36,780 square miles
Flood stage - 14 feet
Period of record - 1866-1969

Crest Stage Feet	Date
26.0	Apr.16,1965
24.5	Apr.15,1969
22.0	Apr.16,1952
19.7	Apr.29,1881
18.8	Apr.16,1951
18.6 (2)	July 23,1867
18.0 (2)	Apr.16,1875
18.0	Apr.6,1897
16.8	June 29,1908
16.6	Apr.6 and 9,1916
16.4	Apr.21,1873

Mississippi River (cont'd)

La Crosse, Wis.
Zero of gage - 625.83 feet (1929 adj.)
Drainage area - 62,840 square miles
Flood stage - 12 feet
Period of record - 1873-1969

Crest Stage Feet	Date
17.9	Apr.21,1965
16.5 (1)	June 19,1880
15.7	Apr.20,1969
15.3	Apr.20,1952
14.9	Apr.19,1951
14.6	Apr.6,1967
14.5	May 8-9,1888
14.4	Oct.17,1881
14.2	Apr.2,1920
13.7	Apr.17,1922
13.7	Apr.10,1897
13.6	Apr.28-29,1916
13.6	Apr.18-20,1888

Mississippi River (cont'd)

Davenport, Iowa:
Zero of gage - 542.00 feet (1929 adj.)
Drainage area - 88,449 square miles
Flood stage - 15 feet
Period of record - 1860-1969

Crest Stage Feet	Date
22.5	Apr.28,1965
20.9	Mar.10,1868
19.4	June 27,1892
19.3	Apr.27,1969
18.6	Apr.28,1952
18.6	May 15-16,1888
18.4	June 26,1880
18.3	Apr.28-29,1951
17.7	Oct.25-27,1881
17.45	Apr.15,1967
17.1	Apr.23,1922
17.1	Apr.9,1920

Keokuk, Iowa:
Zero of gage - 477.71 feet (1929 adj.)
Drainage area - 119,000 square miles
Flood stage - 16 feet
Period of record - 1868-1969

Crest Stage Feet	Date
22.1	May 1,1965
21.8	Apr.3,1960
21.0 (1)	June 16,1851
20.85	May 27,1944
20.25	May 12,1951
20.2	June 8 and 20,1947
19.65	May 16-17,1888
19.6	June 5,1903
19.3	Mar.23,1929
19.25	June 30,1892
17.85	Apr.27,1969

Table 2.-Major Floods in Order of Magnitude (Cont'd)

Missouri Basin

James River

uron, S. Dak.
Zero of gage - 1,223.44 feet (1929 adj.)
Drainage area - 16,800 square miles
Flood stage - 11 feet
Period of record - 1928-1932; 1943-1969

Crest Stage Feet	Date
19.8 (1)	Apr.11,13,1881
16.7	Apr.13,1969
16.5	Mar.22,1922
15.8	Apr.1,2,1962
15.5	Mar.27,1920
15.4	Apr.6,1960
15.25	Apr.15,1952
14.4	Mar.27,1948
14.2	May 25,1950
13.9	Mar. 31,1943

Little Sioux River

herokee, Iowa
Zero of gage - 1,150.0 feet
Drainage area - 2,182 square miles
Flood stage - 17 feet
Period of record - 1891-1969

Crest Stage Feet	Date
27.2	Apr.6,1965
25.7	1891
23.8	Apr.7,1969
22.7	June 11,1953
22.0	June 20,1954
22.2	Apr.6,1951
21.6	Apr.29,1947
21.2	Mar.12,1945
19.0	July 5,1943
18.6	June 13,1944

Big Sioux River

Akron, Iowa
Zero of gage - 1,118.90 feet
Drainage area - 9,030 square miles
Flood stage - 16 feet
Period of record - 1926-1969

Crest Stage Feet	Date
23.0	Apr.9,1969
22.1	Mar.31,1962
21.6	Apr.1,1960
20.85	Apr.8,1965
20.0	June 22,1954
19.8	June 21, 1957
19.8	Apr.1,1952
19.7	Apr.6,1951
19.3	June 8,1953
19.2	June 4,1942
18.6	Mar.12,1936
18.6	Mar.15,1969

West Fork Big Blue River

Dorchester (nr), Nebr.
Zero of gage - 1,403.48 feet (1929 adj.)
Drainage area - 1,200 square miles
Flood stage - 15 feet
Period of record - 1958-1969

Crest Stage Feet	Date
24.8 (1)	July 10,1950
20.5	Mar.20,1969
20.3	Mar.30,1960
19.0	Apr.4,1969
18.3	June 16, 1967
16.4	June 8, 1965
15.05	May 25, 1965
14.7	July 7, 1959
14.1	May 24, 1959
13.8	June 21, 1960

(1) From high water mark
(2) Prior to gage records
(3) Legendary Flood of 1852 probably was higher by 3/10 foot or more
(4) Estimated from data for Emerson, Manitoba
(5) Includes 3,800 square miles in closed basins
(6) Adjusted to present datum
(7) Highest reported

Flooded farm lands along the Red River of the North, Spring 1969.
(Courtesy, Morning Pioneer, Mandan, N. Dak.).

Mississippi River at Lilydale, Minn. (near St. Paul). High water during Spring 1969 was 6 inches below 1965 high water mark of 26 feet. (Courtesy, Minneapolis Tribune).

Flooding on the James River in North Dakota, Spring 1969.
The horror of a broken dike can only be appreciated by those who saw it.
(Courtesy, Morning Pioneer, Mandan, N. Dak.)

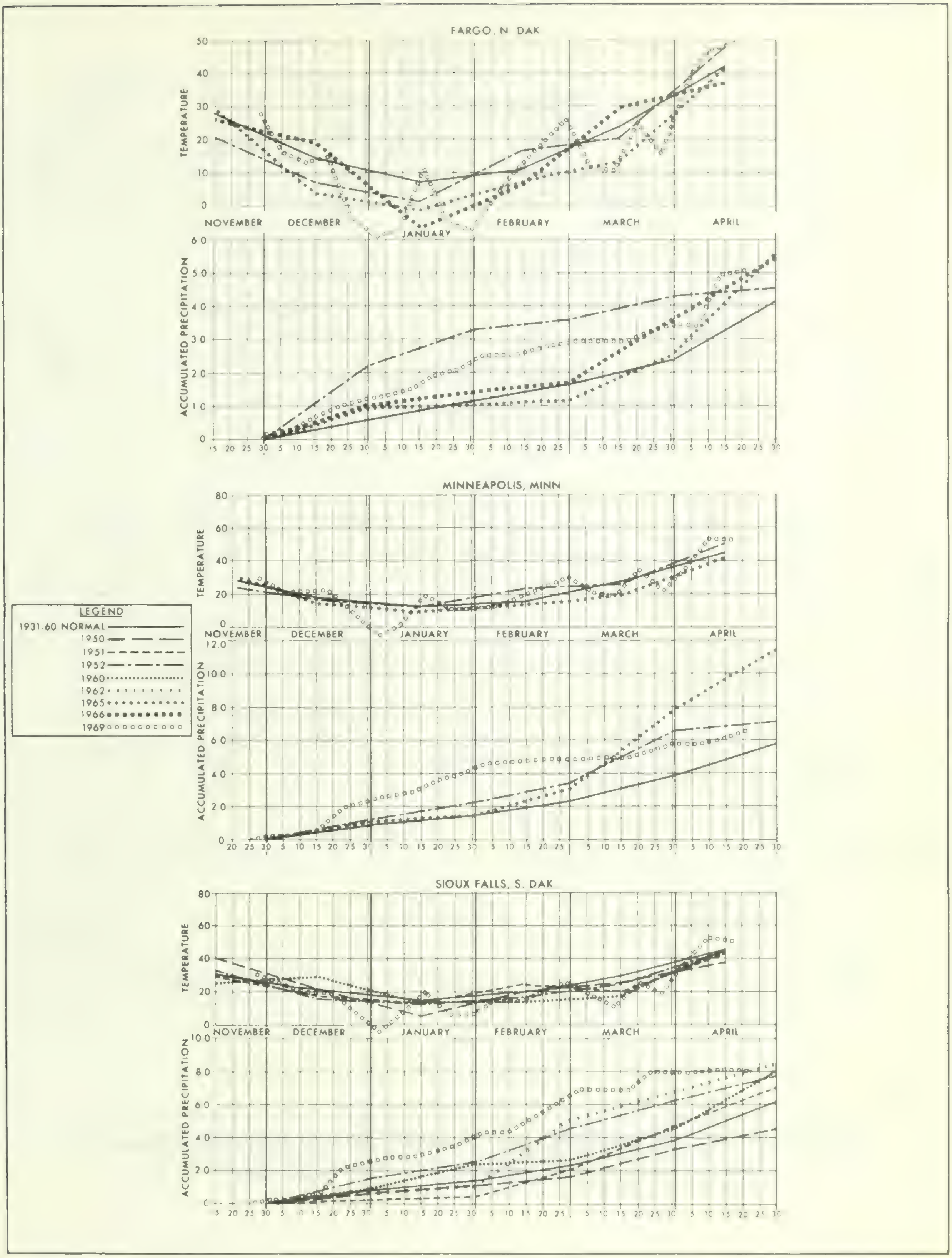


Figure 1 Mean temperatures and accumulated precipitation for selected stations - Red River of the North, Upper Mississippi and Missouri Basins, November 1968-April 1969, compared to normal (1931-1960) and other flood years.

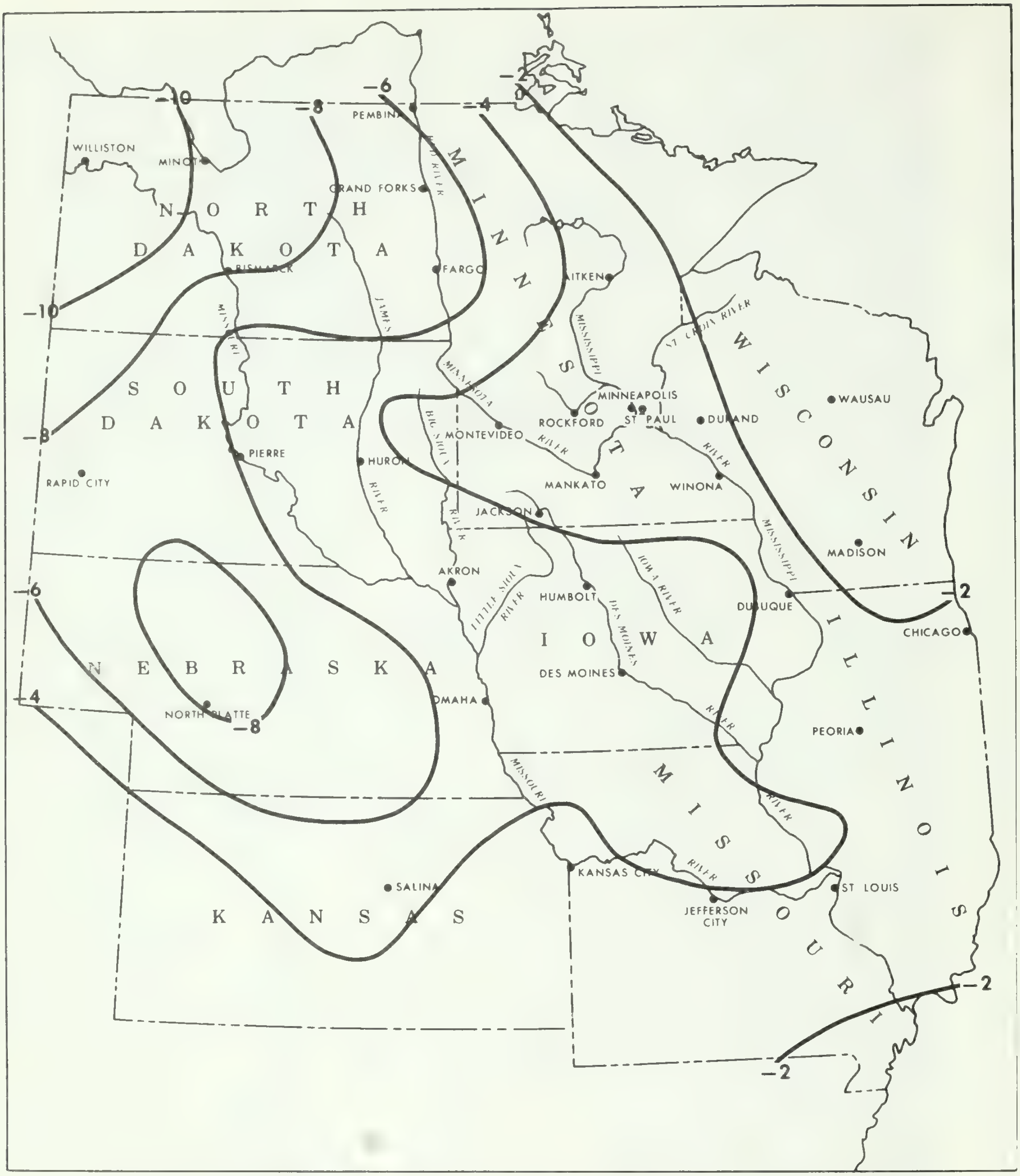


FIGURE 2. - TEMPERATURE DEPARTURES IN DEGREES FAHRENHEIT FROM NORMAL, DECEMBER 1968 - JANUARY 1969

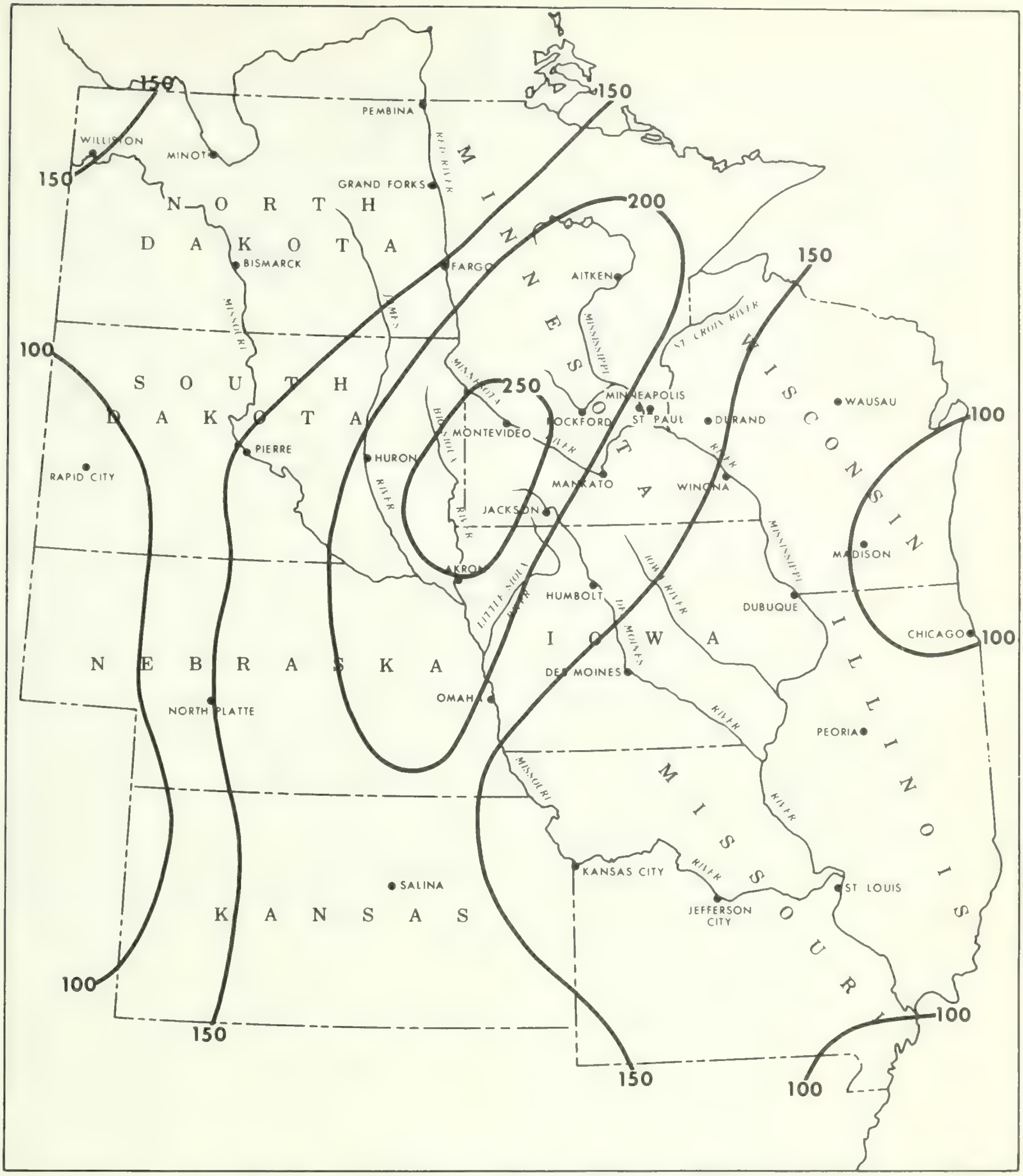


FIGURE 3. - PRECIPITATION IN PERCENT OF NORMAL
OCTOBER 1968-FEBRUARY 1969

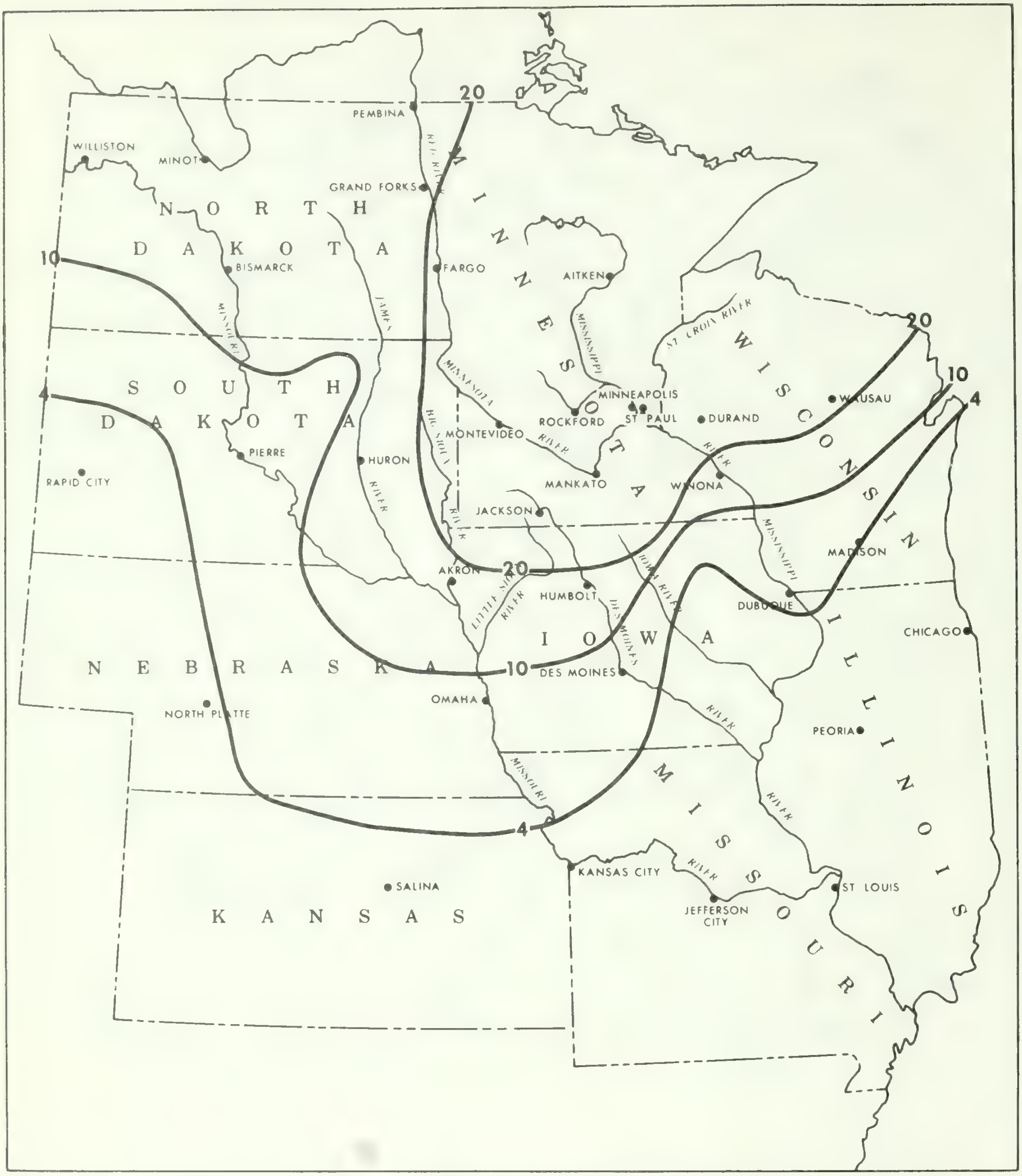


FIGURE 4A. - SNOW ACCUMULATION IN INCHES THROUGH JANUARY 31, 1969

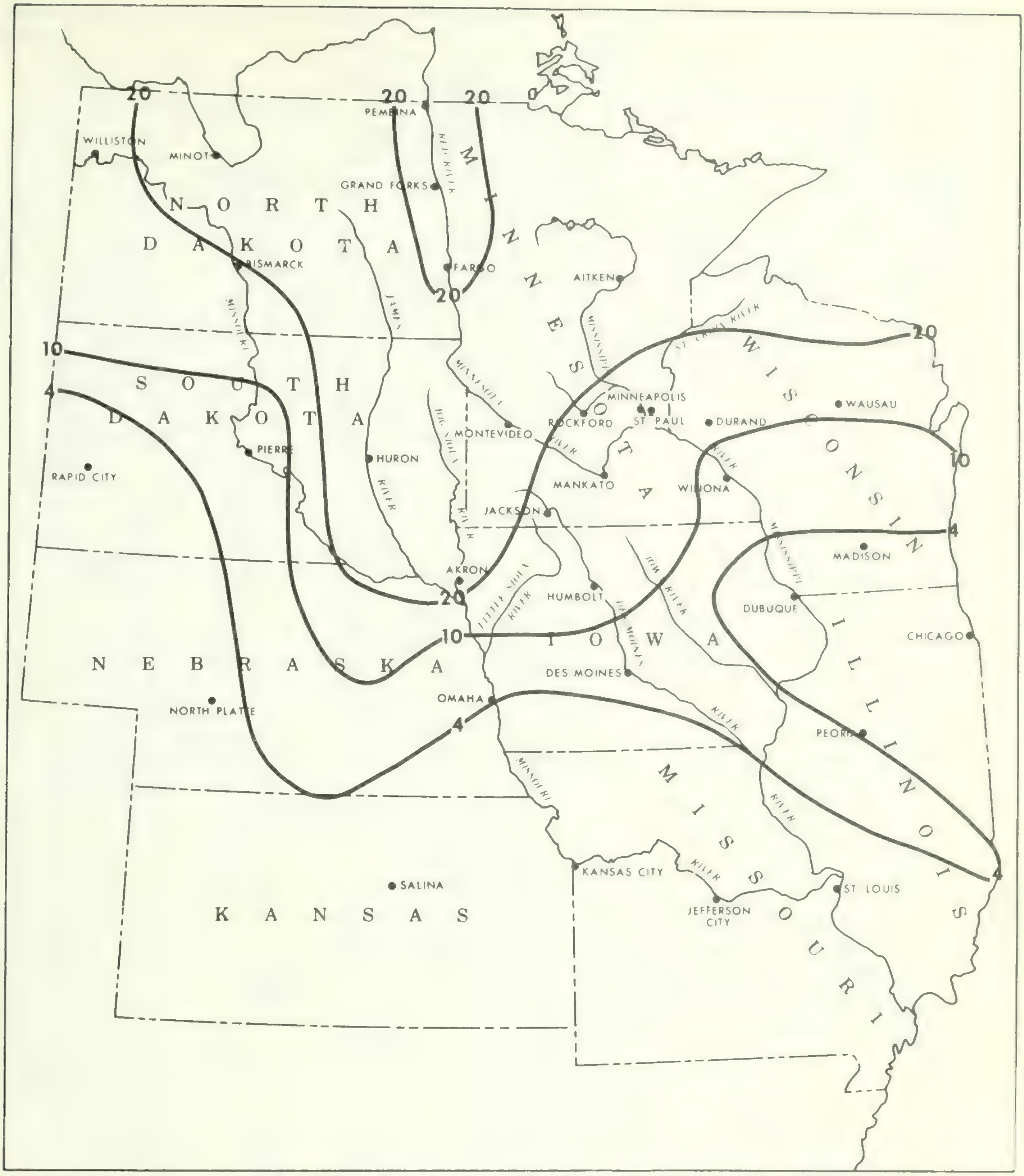


FIGURE 4B. - SNOW ACCUMULATION IN INCHES THROUGH FEBRUARY 28, 1969

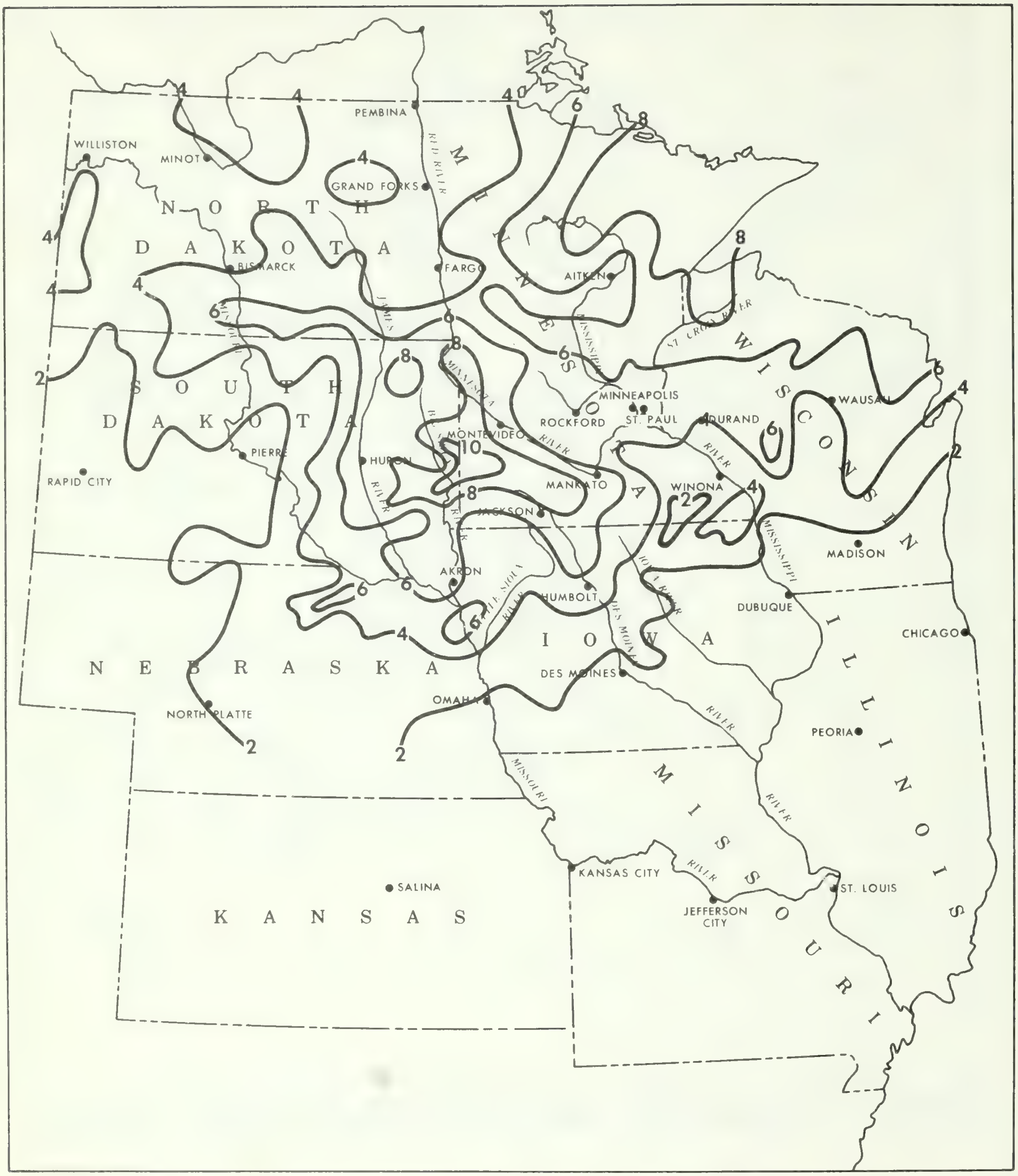


FIGURE 5- WATER EQUIVALENT OF SNOW IN INCHES, MARCH 14, 1969

Station No.	Name	River
1	Rockford, Minn.	Crow
2	St. Francis, Minn.	Rum
3	Stillwater, Minn.	St. Croix
4	Montevideo, Minn.	Minn.
5	Mankato, Minn.	Minn.
6	Theilman, Minn.	Zumbro
7	Durand, Wisc.	Chippewa
8	Galesville, Wisc.	Black
9	Houston, Minn.	Root
10	Dorchester, Iowa	Upper Iowa
11	Steuben, Wisc.	Kickapoo
12	Portage, Wisc.	Wisconsin
13	Muscoda, Wisc.	Wisconsin
14	Moline, Ill.	Rock
15	Waterloo, Iowa	Cedar
16	Marshalltown, Iowa	Iowa
17	Wapello, Iowa	Iowa
18	Augusta, Iowa	Skunk
19	Redfield, Iowa	Raccoon
20	Ft. Dodge, Iowa	Des Moines
21	Des Moines, Iowa	Des Moines
22	Keosauqua, Iowa	Des Moines
23	Peoria, Ill.	Illinois
24	Beardstown, Ill.	Illinois
25	Vandalia, Ill.	Kaskaskia
26	Murphysboro, Ill.	Big Muddy
27	Libby, Minn.	Miss.
28	Fort Ripley, Minn.	Miss.
29	Minneapolis, Minn.	Miss.
30	Winona, Minn.	Miss.
31	LaCrosse, Wisc.	Miss.
32	McGregor, Iowa	Miss.
33	Dubuque, Iowa	Miss.
34	Davenport, Iowa	Miss.
35	Keithsburg, Ill.	Miss.
36	Keokuk, Iowa	Miss.
37	Louisiana, Mo.	Miss.
38	St. Louis, Mo.	Miss.
39	Cape Girardeau, Mo.	Miss.
40	Pembina, N. Dak.	Red of N.
41	Grand Forks, N. Dak.	Red of N.
42	Halstad, Minn.	Red of N.
43	Fargo, N. Dak.	Red of N.
44	Huron, S. Dak.	James
45	Wakonda, S. Dak.	Vermillion
46	Sioux Falls, S. Dak.	Big Sioux
47	Akron, Iowa	Big Sioux
48	James, Iowa	Floyd
49	Linn Grove, Iowa	L. Sioux
50	Turin, Iowa	L. Sioux
51	Grand Island, Nebr.	Platte
52	Ashland, Nebr.	Platte
53	Norfolk, Nebr.	Elkhorn
54	Hamburg, Iowa	Nishnabotna
55	Falls City, Nebr.	Nemaha
56	Burlington Jct. Mo.	Nodaway
57	Agency, Mo.	Platte
58	Fairbury, Nebr.	L.Blue
59	Crete, Nebr.	Big Blue
60	Barneston, Nebr.	Big Blue
61	Topeka, Kans.	Kansas
62	Chillicothe, Mo.	Grand
63	Rathbun, Iowa	Chariton
64	Prairie Hill, Mo.	Chariton
65	Sioux City, Iowa	Missouri
66	Omaha, Nebr.	Missouri
67	St. Joseph, Mo.	Missouri
68	Kansas City, Mo.	Missouri
69	Jefferson City, Mo.	Missouri
70	St. Charles, Mo.	Missouri

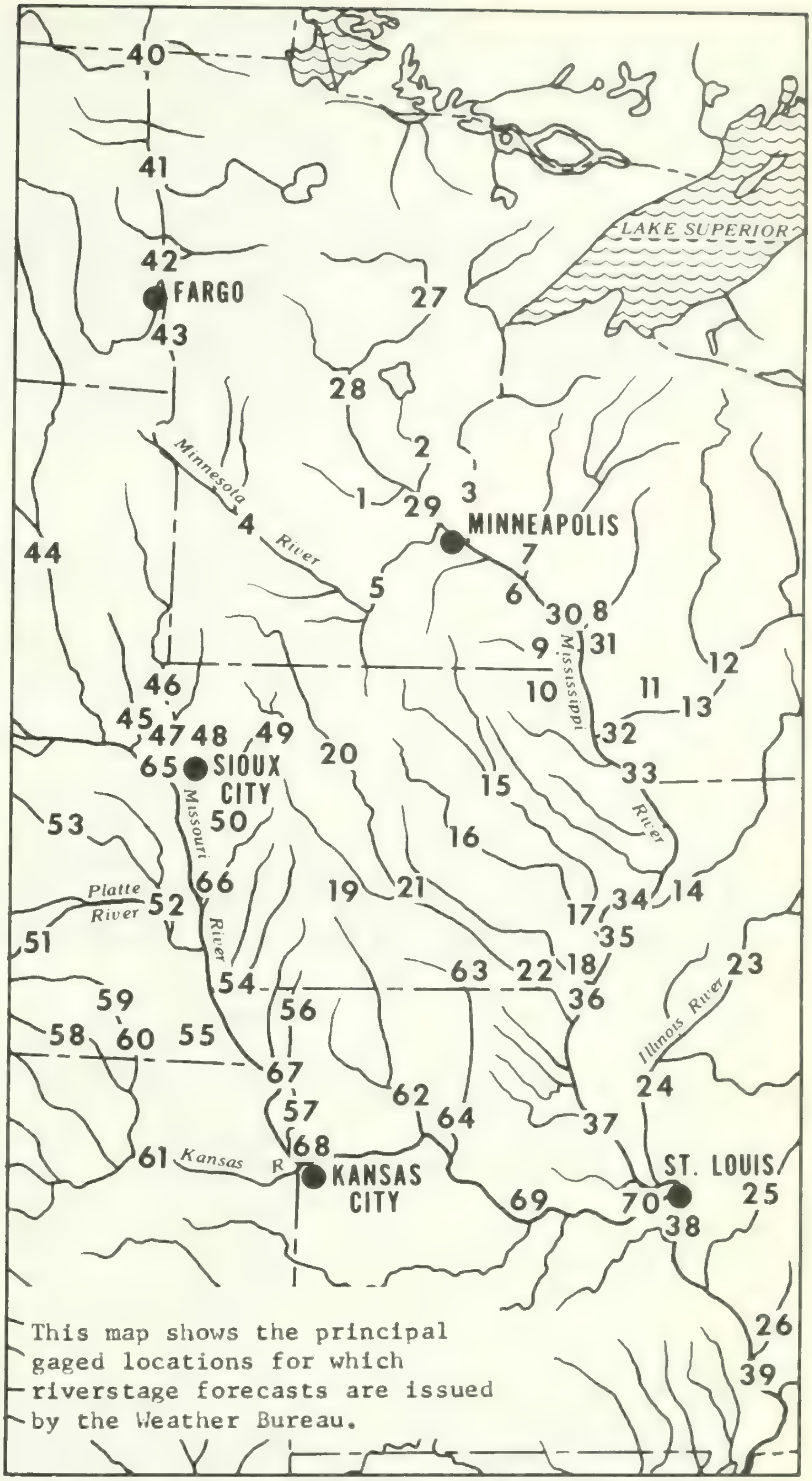


Figure 6. Area of spring floods 1969.

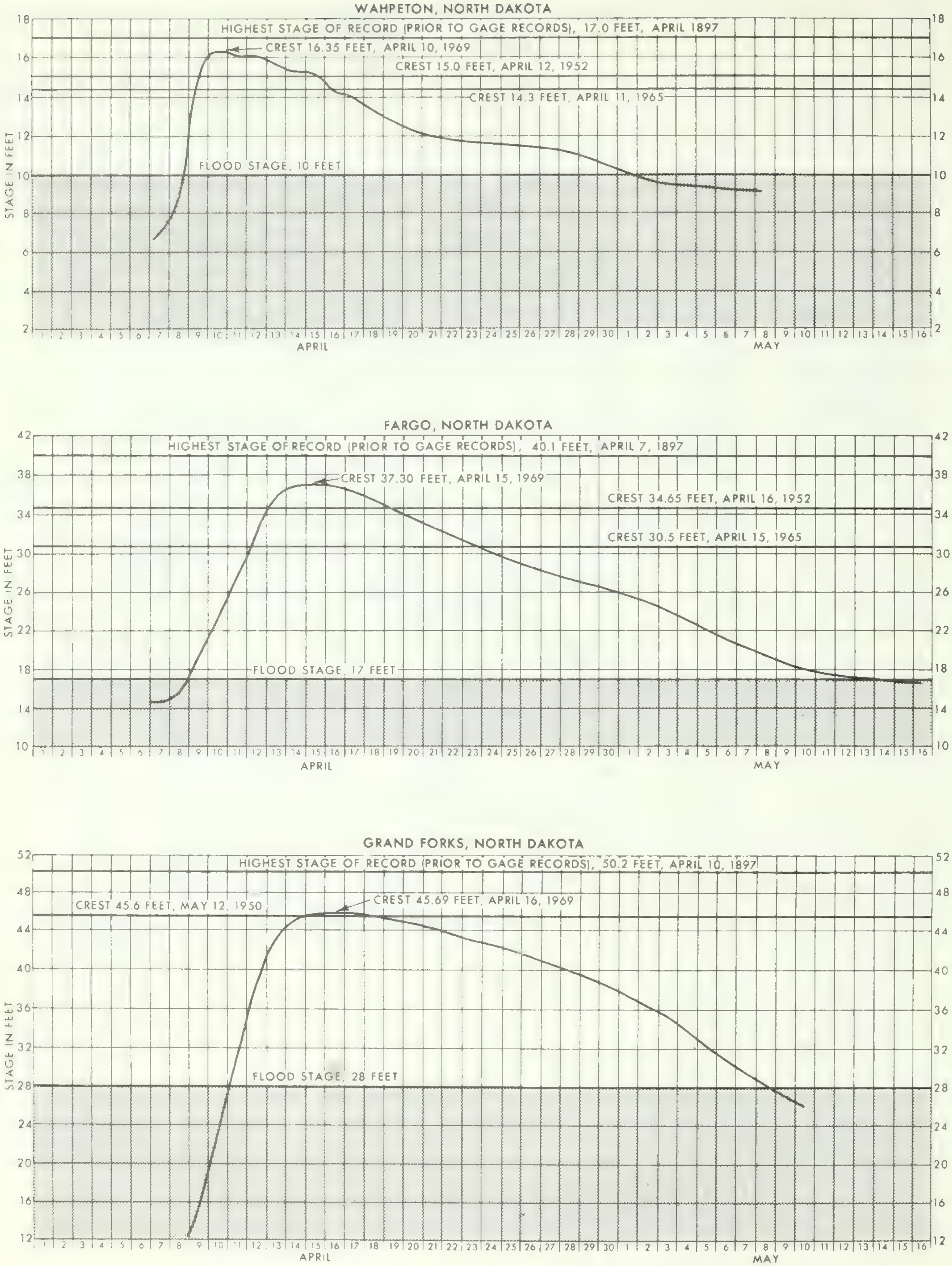


Figure 7A. - April-May 1969 river stage hydrographs - Red River of the North at Wahpeton, Fargo, and Grand Forks, North Dakota

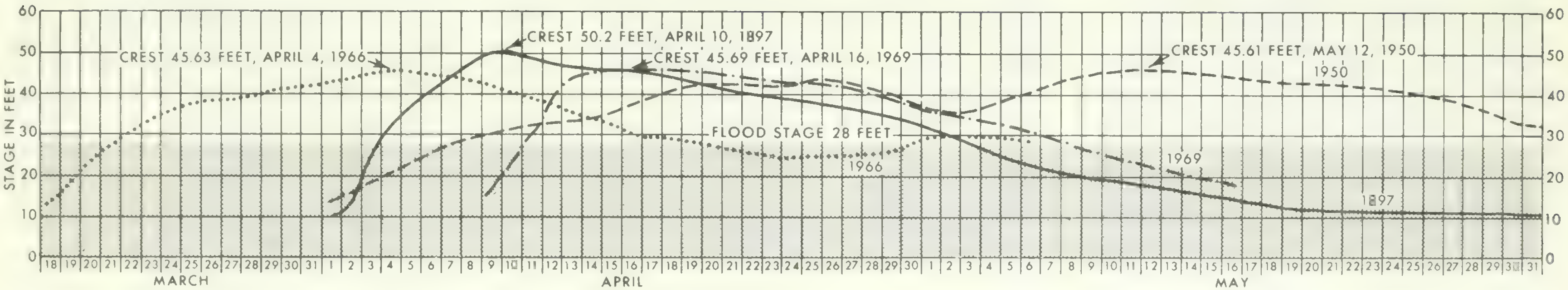


Figure 7B. - River stage hydrographs at Grand Forks, North Dakota - April 1-May 31, 1897; April 1-May 31, 1950; March 18-May 6, 1966 and April 9-May 16, 1969

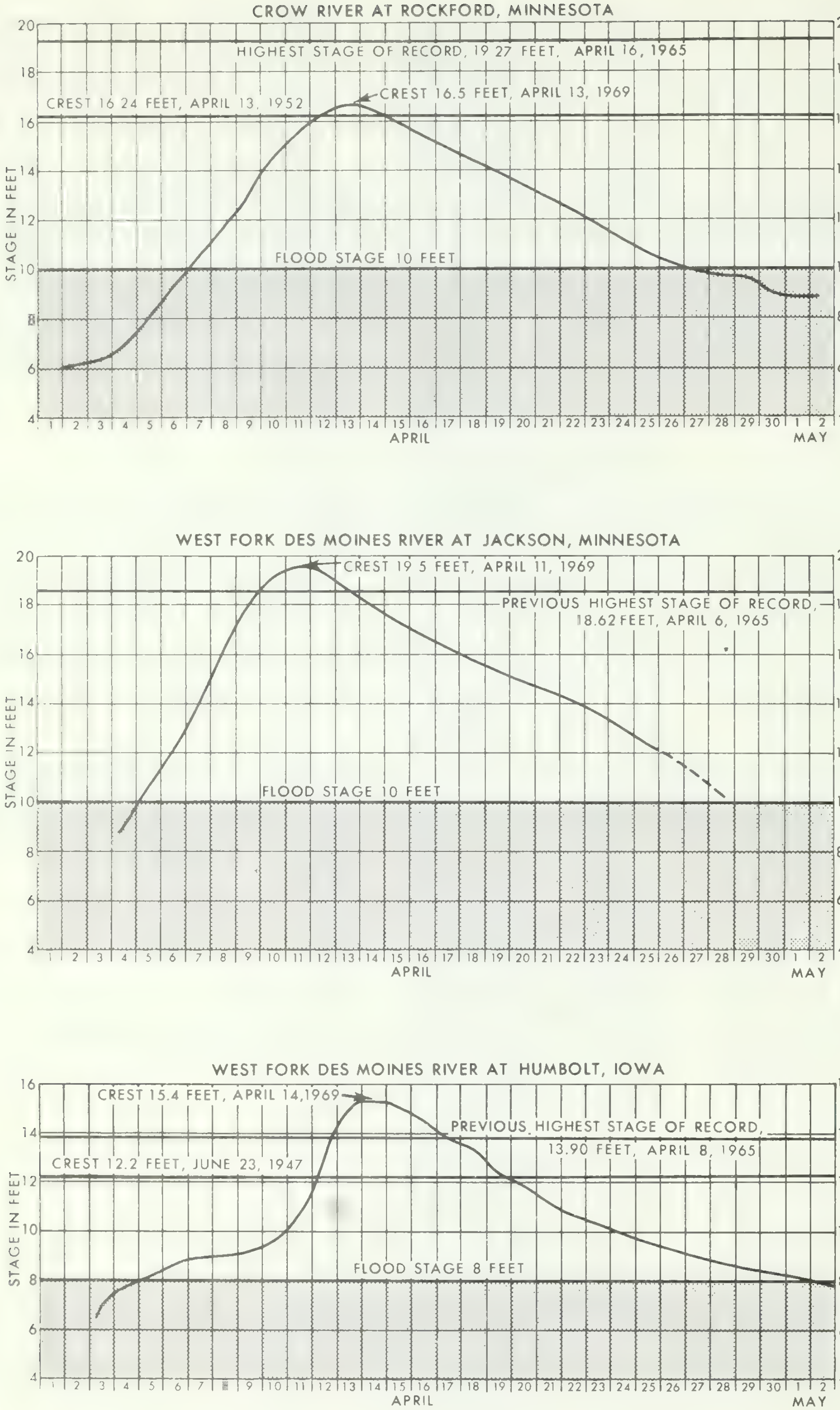


Figure 7C. - April-May 1969 river stage hydrographs - Crow and West Fork Des Moines Rivers

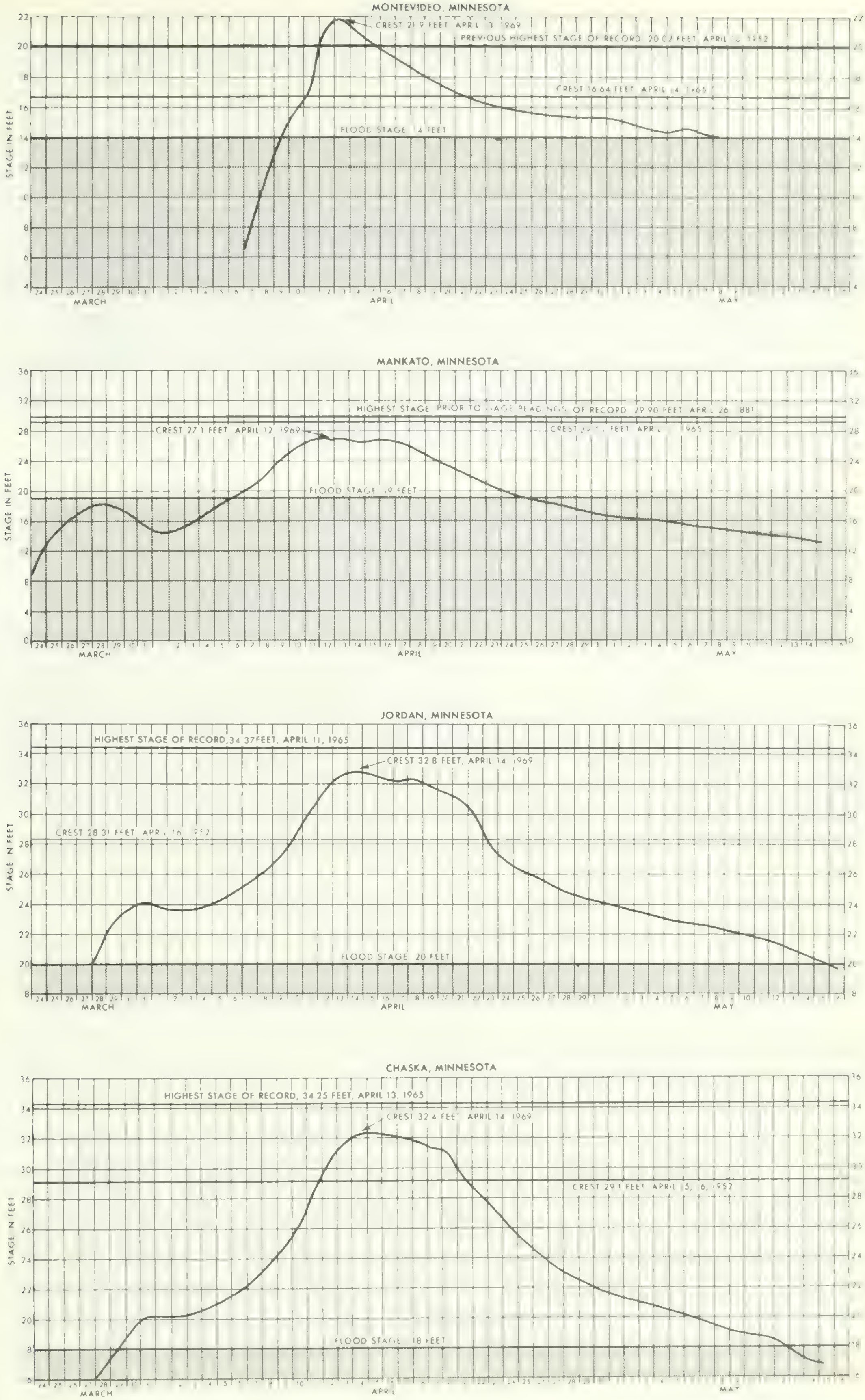


Figure 7D. - March-May 1969 river stage hydrographs - Minnesota River at Montevideo, Mankato, Jordan and Chaska, Minnesota

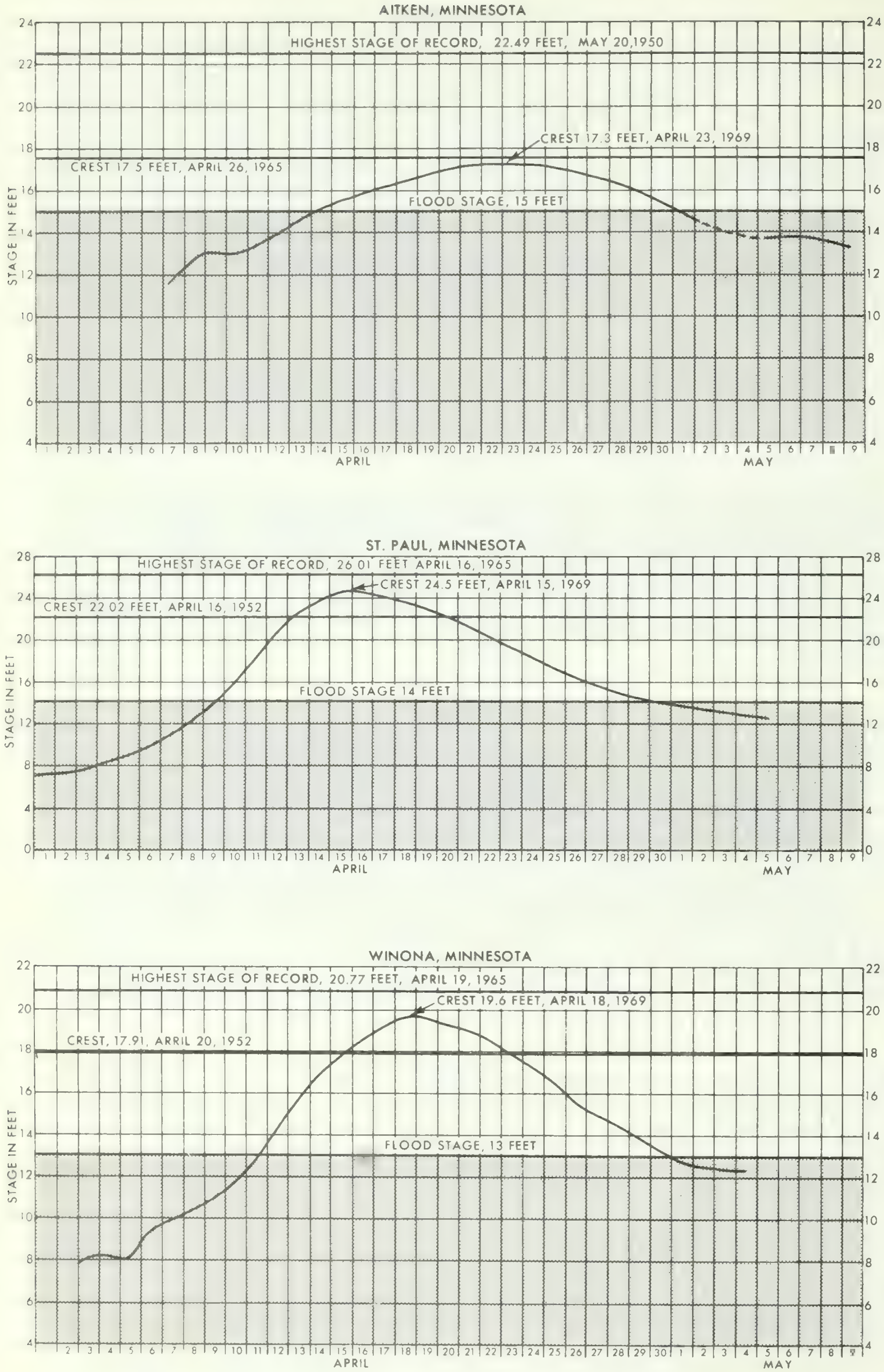
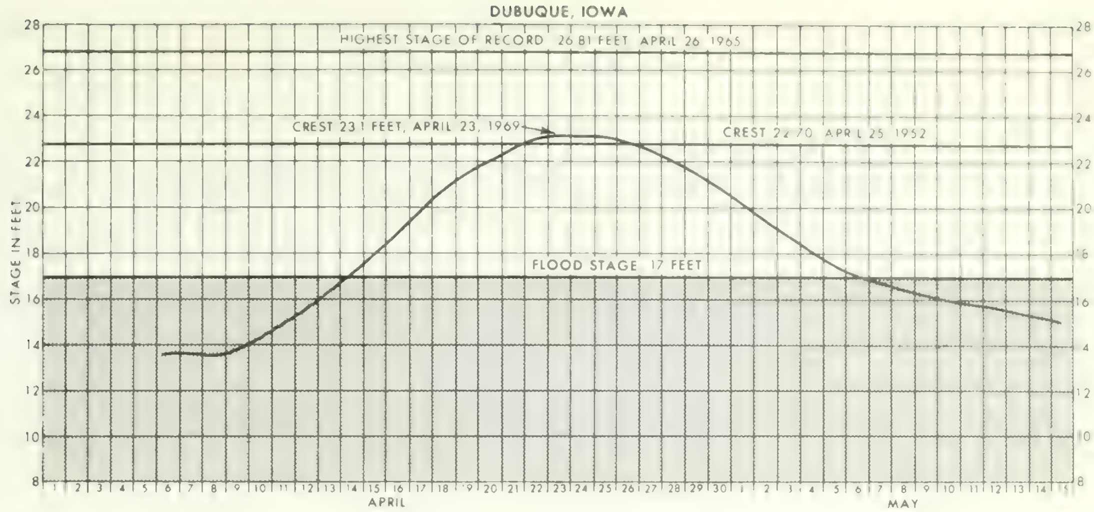
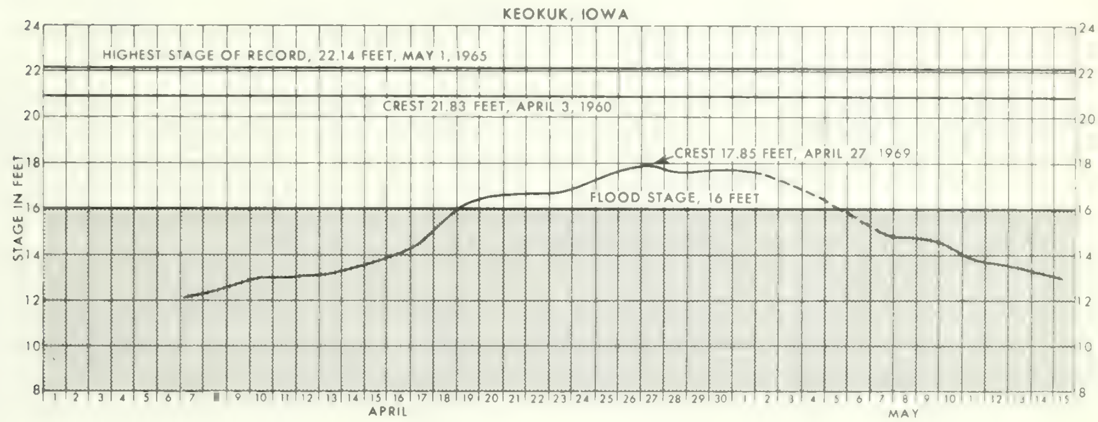


Figure 7E. - April-May 1969 river stage hydrographs - Mississippi River at Aitken, St. Paul and Winona, Minnesota





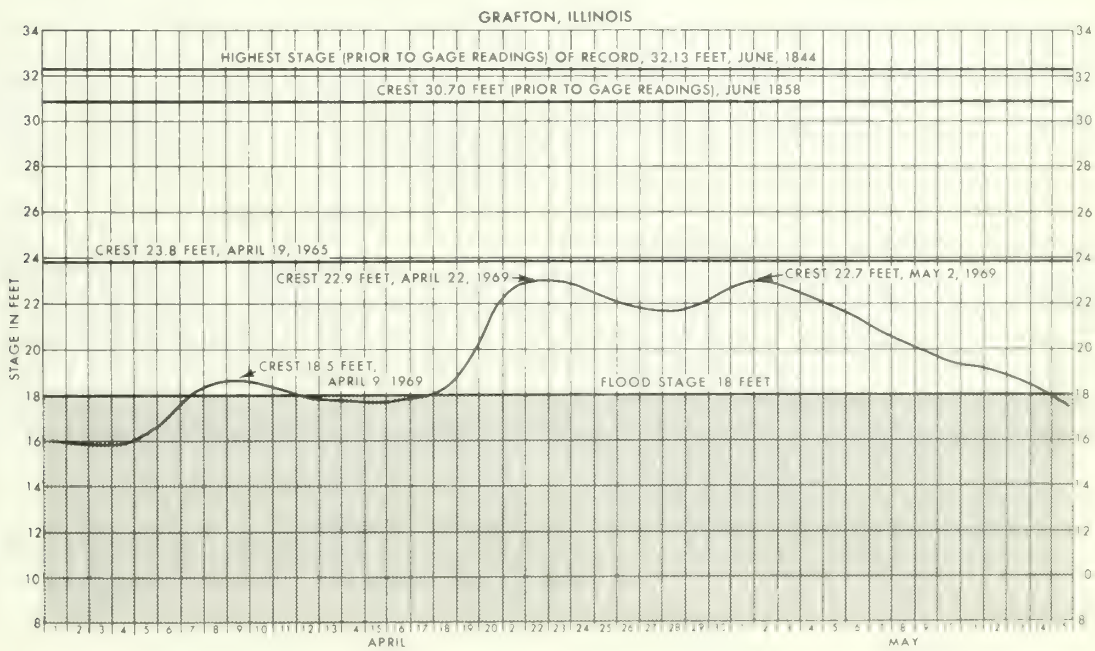


Figure 7F. - April-May 1969 river stage hydrographs - Mississippi River at Dubuque, Iowa; Keokuk, Iowa; and Grafton, Illinois

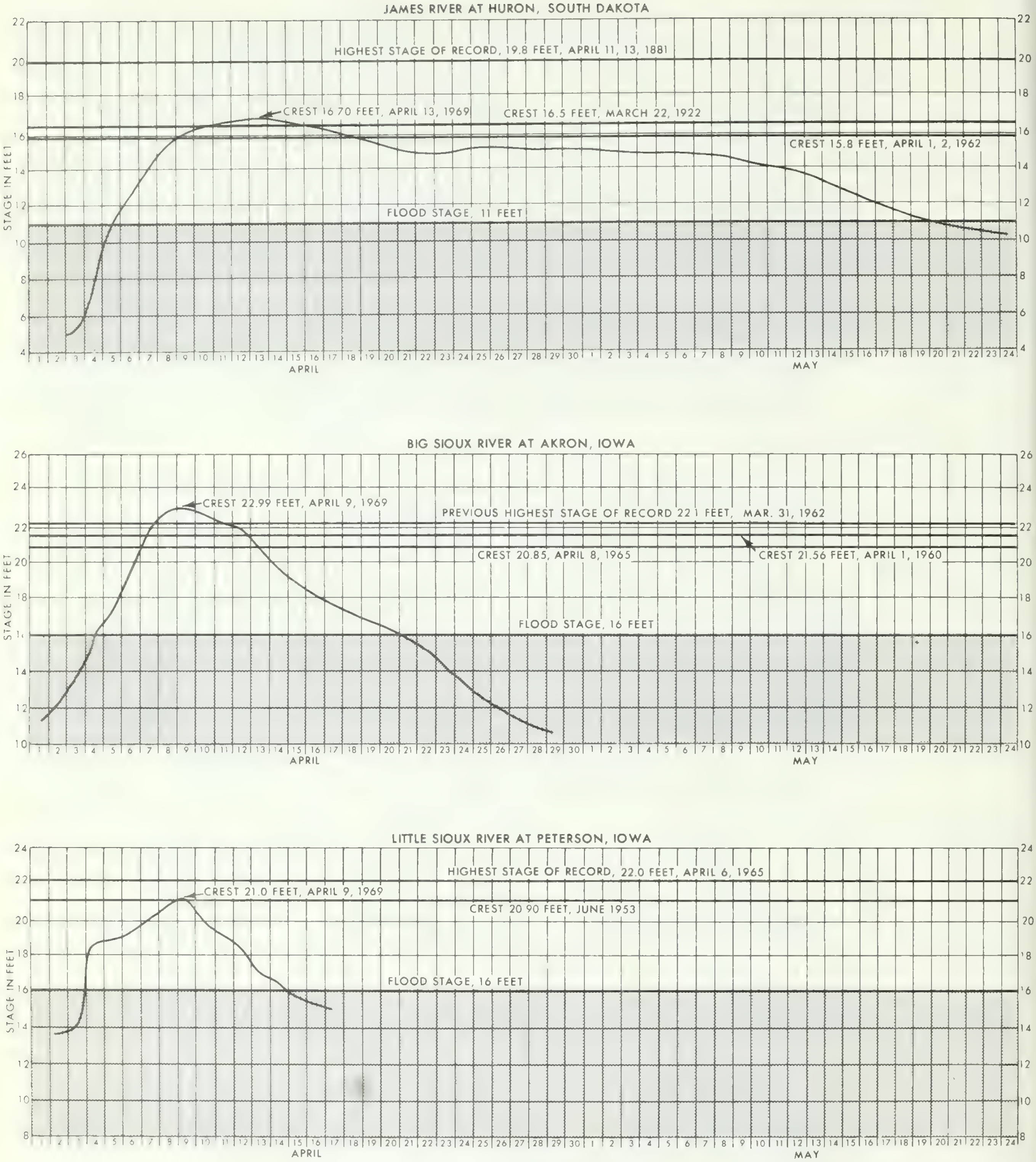


Figure 7G. - April-May 1969 river stage hydrographs - James, Big Sioux and Little Sioux Rivers

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

APRIL 1969

Elmer R. Nelson, Office of Hydrology

The most significant flooding during April was the snowmelt floods in the Red River of the North, the Upper Mississippi, and Missouri Basins.

In the Red River of the North Basin, the spring flood of 1969 was the greatest since 1897 from the headwaters to Grand Forks, N. Dak. Below Grand Forks, N. Dak., the flood crests were slightly lower than in April 1966. Record stages were reached on the Red Lake River at Crookston, Minn., and on the Sheyenne River at West Fargo, N. Dak. The preliminary estimates of damage in the Red River of the North Basin excluding the Souris Basin was placed at $3.8 million and was considerably lower than in 1966.

In the Upper Mississippi Basin, record flooding occurred on some tributary streams in southern Minnesota and northwestern Iowa. Along the mainstem of the Mississippi, the flooding from the headwaters to Davenport, Iowa, was generally of the second and third magnitudes. In the reach from St. Paul, Minn., to Winona, Minn., and at scattered points to Davenport, Iowa, the flood of 1969 was exceeded only by the record flood of 1965.

In the Missouri Basin, record flooding occurred on some tributary streams in eastern Montana, Nebraska, the Dakotas and Iowa. Flooding along the mainstem of the Missouri River was comparatively light.

ST. LAWRENCE DRAINAGE

Lake Huron.--Heavy local rains near 1 inch from the 16th to the 18th caused a rise to bankfull stage on the Chippewa River at Mt. Pleasant, Mich., on the 19th. No damage resulted from the minor rise.

Lake Erie.--Minor flooding occurred on the St. Marys and Maumee Rivers in Indiana on the 19th and 20th. The St. Marys River at Decatur, Ind., crested 1.5 feet above flood stage on the 19th. The Maumee River at Fort Wayne, Ind., crested 1.1 feet above flood stage on the 20th. The St. Joseph River at Montpelier, Ohio, was out of its banks on the 19th-23d. The crest on the 21st was 2.1 feet above flood stage.

Lake Ontario.--Minor flooding occurred on the Canaseraga Creek at Groveland, N. Y., on the 19th and on the Oatka Creek at Garbutt, N. Y., on the 20th. No damage resulted from the flooding on Oatka Creek where the crest at Garbutt was 0.2 foot above flood stage. Canaseraga Creek crested 1.5 feet above flood stage at Groveland, N. Y. Route 258, west of Groveland, was closed briefly due to the high water.

ATLANTIC SLOPE DRAINAGE

There were three rises to above flood stage on Otter Creek at Center Rutland, Vt., during April. The first rise occurred on the 10-13th; the second, on the 15th-21st; and the 3d on the 23d-25th. Considerable minor lowland flooding occurred during these rises. The most serious condition occurred on the 19th, when overnight rains plus snowmelt caused extensive lowland flooding. Minor lowland flooding and flash flooding of small streams occurred in and near Winooski, Vt., on that date. Also minor lowland flooding occurred on the Lamoille and Missisquoi Rivers.

The second highest freshet since 1955 occurred in New England during April. Flooding along the Connecticut River from central Vermont through Connecticut lasted from 1 day to 3 weeks. Mainly lowland flooding was reported; however, in some areas flood plain structures received some water. A number of Connecticut River tributaries went above flood stage, but no substantial damage was reported. Lowland flooding was also reported along major rivers in Massachusetts, New Hampshire, and Rhode Island. In Maine, flooding occurred along the Saco, Kennebec, and Androscoggin Rivers. Some evacuations were required as some homes, and businesses were flooded. No dollar estimate of damages is available but in comparison with the flood of March 1968, the damage was nominal. Precipitation in New England during April was near or above normal over most of the area, with about 1 to 2 inches above normal over southern Vermont, northern New Hampshire, Massachusetts, and Connecticut. Near or above record amounts of water equivalents were common through central and northern New England.

Moderate to heavy rainfall from the 16th through the 20th caused the Schroon River at Riverbank, N. Y., to overflow its banks on the 16-28th. The crest on the 25th was 2.1 feet above flood stage. There was considerable flooding along its lowland banks and some highways were blocked. Many vacation lodges were flooded along the Schroon, and the banks of Schroon Lake. Heavy rainfall and melting snow on the 23d-25th caused sharp rises in all streams in the Hudson River Basin. Large streams remained well below flood level or about two-thirds bankfull. Small streams and creeks overflowed on the 24-25th, especially north of the Mohawk-Hoosic Valleys where the snowmelt was heavy. No extensive damages were reported.

Precipitation over the Delaware Basin ranged mostly from near 100% up to 120% of normal, except in New York State where amounts ranged from 105% at Liberty to 156% at Claryville. In New Jersey, precipitation ranged from near 90% in the north to 80% in most southern sections, except 60% to 70% of normal in the southwest portion. Rainfall amounts were spread throughout the month with generally heavy amounts on the 5-6th, 17th, 19th, 20th, 22d, 23d, and 24th. Some minor flooding occurred on the East Branch Delaware River with minor flooding in a few low-lying areas in east-central and northeastern Pennsylvania from the heavy showers on the 5-6th. Ground water levels recovered rapidly during April except in southwestern New Jersey. Reservoirs in New Jersey were almost filled or spilling at the end of the month. Storage in New York City's reservoirs in the Delaware River Basin increased 73.7 billion gallons during April and all reservoirs were spilling at the end of the month.

The Tioughnioga River at Whitney Point, N. Y., was above flood stage on the 6th and the Chemung River at Chemung, N. Y., on the 5th and 6th. No damage resulted from the minor overflows.

Minor flooding occurred along the lower Cape Fear River in eastern North Carolina on the 20th-23d. The rainfall over the upper Cape Fear Basin during the 24-hour period ending at 8 a.m., on the 16th averaged near 1.25 inches. No damages were reported.

Minor flooding occurred on the Rocky River at Norwood, N. C., on the 19th. The Lumber River at Lumber, N. C., continued in flood from Jan. 23 to May 5. There were several crests with the highest crest of 10.9 feet (flood stage, 8 feet) occurring on April 24. Swamps and drainage ditches were affected by the prolonged overflow. Shallow flooding occurred along the middle and lower portions of the Pee Dee River in South Carolina during the latter part of April.

Flooding over the Santee River System was the most widespread since August 1967. Crests on the Saluda River at West Pelzer and Chappells, S. C., were the

highest since 1964. These high stages caused Lake Murray to fill rapidly, forcing flood gates to be opened which added to the crest at Columbia, S. C. All streams in the Santee System approached or exceeded flood stage. The Broad River near Gaffney, S. C., reached, but did not exceed, flood stage on the 19th. At Blair, S. C., the crest was 9.5 feet above flood stage on the 19th. The heavy flow from the Broad and Saluda Rivers (Lake Murray) caused the Congaree River at Columbia, S. C., to crest 4.3 feet above flood stage. On the Wateree River, Lake Wateree reached 2.2 feet over the dam but Camden crested 1.6 feet below flood stage. As this water moved into the upper Santee, the flood gates at Lake Marion were opened to allow for this rise. Widespread flooding occurred from Lake Marion to the coast. As the month ended, flooding was still occurring on the lower Santee from Jamestown, S. C., to the coast.

Minor flooding occurred on the North Fork Edisto at Orangeburg, S. C., on the 19th-22d and on the Edisto at Givhans Ferry, S. C., on the 25-28th. Severe urban flooding occurred at Aiken, S. C., from 10.42 inches of rain on the 15th and 16th. The water rose several feet into many homes and some automobiles were completely inundated. Approximately 200 persons were forced to evacuate. The urban flood damage was estimated at $0.5 million.

The light flooding that began on the Savannah River at Clyo, Ga., on Mar. 25 continued until Apr. 9. The crest on Apr. 3 was 1.5 feet above flood stage. Heavy rains caused additional flooding in the central and lower portions of the Savannah River during the last 10 days of April and most of May. The crest at Clyo, Ga., was 5.8 feet above flood stage on the 29th-30th. Flooding continued into May at Millhaven-Wade and Clyo, Ga. Damages in the lower portion were moderate but the overall damage was greatly reduced by the timely and accurate forecasts provided by ESSA Weather Bureau River Forecast Center.

Considerable flooding occurred in the Altamaha Basin during the last half of April. The Ocmulgee River at Macon, Ga., rose above flood stage on the 18th and continued in flood to the 21st. The crest on the 19th was 4.1 feet above flood stage. The Oconee River rose above flood stage at Milledgeville, Ga., on the 19th, at Dublin, Ga., on the 24th and at Mt. Vernon, Ga., on the 26th. The highest crest occurred at Milledgeville on the 20th where it rose 7.7 feet above flood level. It receded within its banks on the 22d-29th. The mainstem of the Altamaha River rose above flood stage at Charlotte, Ga., on the 30th and continued in flood to May 3. The Satilla River at Atkinson, Ga., rose above flood stage on Mar. 19 and continued in flood to Apr. 7. The crest on the 30th was 2.1 feet above flood stage. No damages resulted from the flooding.

EAST GULF OF MEXICO DRAINAGE

Heavy rains on the 17-18th caused considerable flooding on tributaries of the Chattahoochee River in Metropolitan Atlanta, Ga., on the 18th. The Apalachicola River at Blountstown, Fla., was in flood from the 20th to the 26th. The crest on the 22d was 4.9 feet above flood stage. The flood damage in metropolitan Atlanta was confined mostly to water-soaked household furnishings, mud deposits on lawns, and flooded automobiles.

Considerable flooding occurred in the Tombigbee Basin in Mississippi and Alabama during the last two decades of the month. The Old Town Creek at Tupelo, Miss., rose 2.1 feet above flood stage on the 14th and receded within its banks on the same date. The East Fork Tombigbee at Fulton, Miss., the Tibbee River at Tibbie, Miss., and the Noxubee River at Macon, Miss., were out of their banks on the 11-19th. The crests on the 15th ranged from 2.8 feet above flood stage at Fulton, Miss., to 5.6 feet above flood stage at Tibbie. The crest at Macon, Miss., was 4 feet above flood stage on the 14th. The Black Warrior River at Warrior, Ala., was in flood on the 14-20th. The crest on the 17-18th was 3.3 feet above flood stage. The mainstem of the Tombigbee rose above flood stage at Aberdeen, Miss., on the 12th, at Gainesville, Ala., Demopolis, Ala., and Jackson, Ala., on the 14th and at Columbus, Miss., on the 15th. It receded within its banks between the 21st and May 3. The highest crests occurred in Alabama and ranged from 10.7 feet above flood stage at Jackson to 13.1 feet above flood stage at Gainesville. Crests in Mississippi ranged from 6 feet above flood stage at Columbus on the 17th to 7.8 feet above flood stage at Aberdeen on the 15th.

Exceptionally heavy rains on the 9th, supplemented by additional heavy precipitation on the 12th and 13th, produced sharp rises and flooding on streams in the Pearl River Basin. Flooding began between the 11th and 17th and continued into May along the lower Pearl. Scattered heavy precipitation on the 17th helped to maintain the rivers at a high level. Flooding was generally confined to low-lying farm- and timberlands. Flash flooding did some damage to secondary roads in Mississippi where tributaries spilled over the roads causing local washouts. Locally heavy rains (8 inches in 6 hours) inundated major highways in a narrow strip from Beaumont, Miss., to near Waynesboro, Miss. At Laurel, Miss., flash flooding on Tallahala Creek caused the evacuation of 42 families. Some local flooding occurred at Jackson, Miss., when water backed up local creeks and spread into low areas of the town, necessitating the evacuation of 21 families. Flood damage was held to a minimum as the new system of levees built along the Pearl River in the vicinity of Jackson, during the past few years contained the flood waters. Gravel operations on the lower Pearl River and on the Bogue Chitto were interrupted for several days due to the high water. Flood damage was mostly confined to planted low-lying areas in the flood plain and to secondary roads.

MISSISSIPPI SYSTEM

Ohio Basin.--Minor flooding occurred on the Scioto River at Circleville, Ohio, on the 20th. The crest was 0.2 foot above flood stage. This minor overflow was due to moderate rains on the 18th and 19th. No damage resulted.

Heavy rain (1 inch) on the 4-5th over the upper half of the Wabash Basin caused a rise to a little above flood stage in the reach from Lafayette to Terre Haute, Ind., from the 6th to the 11th. Heavy rainfall on the 18th and 19th caused rapid rises to about flood stage or a little higher at numerous points along the Wabash and the upper East Fork of the White River. Crests ranged from 3.5 to 4.5 feet above flood stage along the White River. Some overflow occurred on the Embarrass River in Illinois. Although considerable bottom land was overflowed, no known damage occurred. Flood forecasts by the Weather Bureau were useful for operational and planning purposes and in allaying fears of greater flooding.

There were two periods of overflow on the Saline River

at Harrisburg, Ill. The first occurred on the 9th and 10th with a crest 5.6 feet above flood stage on the 9th. The second overflow occurred on the 14-20th with a crest 7.1 feet above flood stage on the 19th. Flooding was mainly confined to low farm ground with little or no damage except delaying fieldwork.

Minor flooding occurred along the mainstem of the lower Ohio River in the Shawneetown, Ill.-Fords Ferry, Ky., and Grand Chain-Cairo, Ill., reaches. The crests ranged from bankfull at Shawneetown, Ill., on the 24th to 4.8 feet above flood stage at Cairo, Ill. Flooding was mainly confined to low farm ground with little or no damage.

White Basin.--The Black River at Black Rock, Ark., rose above flood stage on Mar. 24 and receded within its banks on April 1. The crest on Mar. 25 was 3 feet above flood stage. It rose above flood stage again on Apr. 4 and continued in flood to Apr. 29. The crest on Apr. 17 was 6.5 feet above flood stage. Upstream at Pocahontas, Ark., the Black rose out of its banks on Apr. 12 and receded within its banks on Apr. 23. The crest on the 16th was nearly 3 feet above flood stage.

The Cache River at Patterson, Ark., continued in flood from Mar. 24 through May 8. The crest on Apr. 15 was 2.3 feet above flood stage.

The White River continued in flood at Clarendon, Ark., from Dec. 27 to May 11, a period of 136 days, and at St. Charles, Ark., from Mar. 25 to May 9, a period of 46 days. At Georgetown, Ark., the White rose above flood stage on Mar. 28 and receded within its banks on Apr. 1. It was out of its banks again on Apr. 5-8 and Apr. 10-26. The crests ranged from 1 to 2 feet above flood stage from Georgetown to St. Charles between Apr. 14 and Apr. 22.

No appreciable damage resulted from the flooding in the White Basin.

Arkansas Basin.--Flooding in the Arkansas Basin during April was confined mostly to streams in southern Kansas during the last few days of the month. The Little Arkansas River at Sedgwick, Kans., rose 2.2 feet above flood stage on the 27th. The Whitewater River at Towanda, Kans., rose 2.6 feet above flood stage on the 27th and receded within its banks on the 28th. The Walnut River at El Dorado, Kans., rose 0.8 foot above flood stage on the 27th and 8 feet above flood stage at Augusta, Kans., on the 28th. The Cottonwood River was in flood from Florence, Kans., to Emporia, Kans., between Apr. 27 and May 1. The crests ranged from 2.3 feet above flood stage at Florence to 6.2 feet above flood stage at Plymouth, Kans. The Neosho River was out of its banks at Americus and Neosho Rapids, Kans., between the 27th and 30th. The crests on the 27th ranged from 2 to 4 feet above flood stage. The rainfall in southern Kansas during April ranged from 100% to 200% of normal. The heaviest precipitation occurred over the Cottonwood and upper Neosho Rivers. The greatest amount was reported at Clements, Kans., with a total of 7.19 inches. The total flood damages in southern Kansas during April was estimated at $196,000.

Minor flooding occurred on the Little Caney River at Copan, Okla., on the 10th. This overflow was due to rainfall averaging 2.25 inches on Apr. 9. No damage was reported from the slight overflow.

Red Basin.--Three to 6 inches of rain in extreme south-central Oklahoma on the 26-27th caused flash flooding of creeks and small tributaries of the Washita River. Minor flooding of bottomlands resulted on the 28th near Durwood, Okla.

The Sulphur and Cypress Rivers in northeast Texas rose out of their banks during the last decade of March and continued in flood to April 3. The cypress River rose above flood stage at Jefferson, Tex., again on Apr. 5-7 and Apr. 17-22. The Sulphur River was in flood between the 12th and 22d. The crests ranged from 2 to 7 feet above flood stage.

The Blue River at Blue, Okla., rose 5.7 feet above flood stage on the 28th. It was in flood from the 27th to the 29th. The Clear Boggy River at Caney, Okla., rose briefly 4.1 feet above flood stage on the 27th. Minor flooding occurred on the Muddy Boggy at Farris, Okla., on the 28th. The crest was 2.6 feet above flood stage. No damages were reported from the flooding.

Lower Mississippi Basin.--Heavy rains during the first 2 weeks of April resulted in 3 feet of overflow along the St. Francis River at Fisk, Mo., and St. Francis, Ark. At Fisk, the river was out of its banks from the 11th to the 24th and at St. Francis from the 10th to the 28th.

The spring rise on the lower Mississippi River began on Apr. 7 with Caruthersville, Mo., reaching 30.5 feet (flood stage, 32 feet.) on the 16-17th. Heavy rains on all tributaries during the next 2 days resulted in a second rise with Caruthersville reaching flood stage on the morning of the 22d. The crest was 33.7 feet on the 27-28th. By the morning of May 1, the river had fallen below flood stage. Upstream at New Madrid, Mo., the crest was 0.4 foot above flood stage on the 26-27th; it was out of its banks on the 25-28th.

Atchafalaya Basin.--Minor flooding occurred on the Atchafalaya River at Morgan City, La., on the 28th. The crest was 0.1 foot above flood stage.

WEST GULF OF MEXICO DRAINAGE

Light flooding occurred on the Mermentau and Calcasieu Rivers in Louisiana on the 13th-23d. The crest on the Mermentau at Mermentau, La., was 3.3 feet above flood stage on the 18th. Crests on the Calcasieu River on the 17-18th ranged from 1 to 2 feet above flood stage. The heaviest rain during the month occurred on the 13th with Mermentau, La., reporting 8.18 inches. No damage resulted from the flooding.

The flooding on the Sabine River in Texas in the beginning of the month was due to heavy rains between Mar. 16 and Mar. 24. The river began overflowing at Mineola, Tex., on Mar. 16 and 2 days later at Edgewood, Gladewater, and Longvieu Bon Wier, Tex., and Logansport, La. Flooding began at Deweyville, Tex., on Mar. 24 and continued until May 4. The Sabine receded below flood stage at all other points by the end of April. Lowlands were flooded along the Sabine and thousands of oilwells were inundated. No other damage was reported.

Flooding was in progress on the Trinity River at Long Lake, Liberty, and Moss Bluff, Tex., in the beginning of April. Flooding began at Liberty, Tex., on Mar. 17 and at Long Lake on Mar. 20. This overflow was due to heavy rains on Mar. 15-18. Additional heavy rains on Mar. 23-24 prolonged the flooding. The overflow at Liberty, Tex., continued to Mar. 28. At Moss Bluff, Tex., the flooding began on Feb. 21 and was still in progress at the end of May. The heavy rains on Mar. 15-18 caused flooding on the Neches near Alto, Tex., on Mar. 15 and at Beaumont, Tex., on Mar. 22. The heavy rains on Mar. 23-24 prolonged the flooding. At Beaumont, the flooding continued until May 26, a period of 66 days. The San Jacinto at Lake Houston, Tex., rose above flood stage on Dec. 1 and was still in flood at the end of May. The crest during April was 45.9 feet (flood stage, 44.5 ft). Heavy rains on Apr. 5 caused flooding on the

Navasota River at Easterly, Tex., on Apr. 6-8. Rains on the 12-13th caused flooding on the Little River at Cameron, Tex., on the 13-14, and flooding on the Neches River at Rockland, Tex., on the 16-19th. Considerable damage occurred to immovable property near the streams due to the extended flooding.

Heavy rainfall on Apr. 11-12 caused minor flooding on the Navidad, Lavaca, and Guadalupe Rivers in Texas. The rainfall amounts ranged from 3 to nearly 6 inches. The heaviest precipitation reported was 5.85 inches at Edna, Tex. Ganado, Tex., reported 5.15 inches. The heaviest rainfall in the Guadalupe Basin was from Cuero southward. Flooding on the Navidad and Guadalupe Rivers began on the 12th and continued through the 17th. On the Lavaca River at Edna, Tex., flooding continued from the 13th to the 15th.

General heavy rains of 2 to 4 inches over the middle and lower Nueces, lower Frio, Atascosa, and Gulf drainage streams caused minor flooding in low-lying areas. No damage resulted. Local heavy rains up to 7 inches on the Texas Coastal Bend caused considerable flash flooding in San Patricio and Nueces Counties, Tex.

GREAT BASIN

Flows on the Humbolt River in Nevada remained excessively high during the first 3 weeks of April. At Palisade, Nev., a crest of 7.7 feet was observed on Apr. 7. It remained above 7 feet from Apr. 3 through Apr. 10. The crest of 7.7 feet was the highest snowmelt crest since May 1952 when it reached a stage of 9.53 feet. However, it was 2 feet below the Feb. 1962 winter flood. From near Beowawe, Nev., downstream about 150 miles to the river's entry into Rye Patch Reservoir, there was overbank flow into pasture- and meadowlands. The flat crest reached the Winnemucca, Nev., area on Apr. 17-18. The rise of the river was gradual and there was very little loss of livestock or farm equipment in the flooded areas. In north Winnemucca, minor flooding occurred on streets immediately adjacent to the river. The water level reached the floor level in a few buildings along the river front. There was little damage in towns from overbank flows since residences and businesses in towns along the Humbolt are mostly away from the immediate flood plain. Erosion damage to bottom lands and damage to county and private roads were quite general. The total volume flow at Palisade in April was 170,000 acre-feet, the third highest monthly amount in 60 years of record.

The City of Ely, Nev., at the mouth of Murray and Robinson Canyons, experienced snowmelt flooding during the first 3 days of April. Daytime snowmelt (primarily from Robinson Canyon) flowed into the main street of Ely in the evening and during the night. From the main street it flowed northward into a rather large residential area. Temporary sandbagging and diking by the citizenry helped to decrease the losses and damages. The total damages were estimated in excess of $100,000.

During the first 3 days of April about 20,000 acres of meadowland near Randolph, Utah, were flooded. This overflow was due to snowmelt discharge from the valley floor and minor tributaries of the Bear River reached 2,000 c.f.s. from a contributing area of about 100 square miles. Damages were light, mostly to roads.

The two small reservoirs above Enterprise, Utah, that filled during March and were spilling continued into April. This was an unprecedented event in recent history. This overflow, combined with the high snowmelt runoff down Schoal Creek, caused considerable flooding in the valley below Beryl Junction. About 2,000 acres of farmland were inundated for almost 1 month. By the end of April, the flooded area was drying out; alfalfa fields were recovering and some replanting was being planned. A few county roads were cut or partially washed out during the flooding.

PACIFIC SLOPE DRAINAGE

San Joaquin Basin.--The San Joaquin River at Mendota, Calif., receded within its banks during April. Due to the release of water from the Terminus, Success, and Isabella Reservoirs, the flooding in the normally dry Tulare Lake Basin increased markedly. There were 73,000 acres containing 524,000 acre-feet of water on Apr. 1 and 78,500 acres inundated containing 746,000 acre-feet of water on Apr. 30.

Columbia Basin.--Some minor flooding occurred in southern Idaho during April. Substantial rises occurred on tributary streams in eastern Washington, eastern Oregon, and the lower Snake but no flooding was reported.

The average stage of the Columbia River at Vancouver, Wash., during April was 12.2 feet. This was 4.2 feet higher than the long term (65-year) normal stage and the 4th highest average April stage of record.

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
HUDSON BAY DRAINAGE	Ft.			Ft	
Red River of the North Basin					
Sheyenne: Lisbon, N. Dak.	14.6	10 19	14 27	16.4 16.5	12 24
West Fargo, N. Dak.	16.5	11	May 6	21.8	17
Red Lake: Crookston, Minn.	15	9	20	27.3	12
Red River of the North: Wahpeton, N. Dak.	10	8	May 1	16.35	10
Fargo, N. Dak.	17	8	May 14	37.3	15
Halstad, Minn.	24	11	May 3	38.25	18
Grand Forks, N.Dak.	28	11	May 8	45.7	16
Oslo, Minn.	28	12	May 9	36.9	17
Drayton, N. Dak.	32	14	May 15	41.4	25
Pembina, N. Dak.	42	16	May 15	49.7	26
Emerson, N. Dak.	781.5	18	May 14	787.6	Apr. 26
ST. LAWRENCE DRAINAGE					
Lake Huron					
Chippewa: Mt. Pleasant, Mich.	13	19	19	13.0	19
Lake Erie					
St. Marys: Decatur, Ind.	15	19	20	16.5	19
St. Joseph: Montpelier, Ohio	10	19	23	12.1	21
Maumee: Fort Wayne, Ind.	15	19	20	16.1	20
Lake Ontario					
Canaseraga Creek: Groveland, N. Y.	11	19	19	12.5	19
Oatka Creek: Garbutt, N. Y.	5	20	20	5.2	20
ATLANTIC SLOPE DRAINAGE					
Kennebec: Augusta, Me.	13	18	20	13.9	20
Pemigewasset: Plymouth, N. H.	11	18	19	14.25	19
Merrimack: Concord, N. H.	12	15	May 1	14.3	19
Manchester, N. H.	7	20 24	20 24	7.0 7.0	20 24
Charles: Charles River Village, Mass.	4	Mar. 25	10	6.3	Mar. 29
Blackstone: Woonsocket, R. I.	9	Mar. 26	Mar. 26	10.2	Mar. 26
Housatonic: Gaylordsville, Conn.	8	6	9	8.5	8
Ammonoosuc: Bath, N. H.	10	19	19	11.0	19
Farmington: Simsbury, Conn.	12	24	24	12.7	24
Connecticut: White River Junction, Vt.	18	16	22	22.1	19
Montague City, Mass.	28	11 17	12 25	30.0 32.5	11 23
Northampton, Mass.	112	11 16	12 26	E113.6 E115.4	11 23
Holyoke, Mass.	9	23	23	9.3	23
Hartford, Conn.	16	11	May 2	23.2	24
Bodkin Rock, Conn.	8	11	May 3	14.4	24
Otter Creek: Center Rutland, Vt.	7	10 15 23	13 21 25	10.3 11.7 10.2	11 19 24
Tioughnioga: Whitney Point, N. Y.	12	5	6	12.4	6
Chemung: Chemung, N. Y.	12	6	6	12.2	5
Schroon: Riverbank, N. Y.	7	16	28	9.1	25
Cape Fear: William O. Huske Lock & Dam, N. C.	45	20	22	46.9	20
Lock No. 2, Elizabethtown, N. C.	20	20	23	24.3	21
Rocky: Norwood, N. C.	15	19	19	15.2	19
Lumber: Lumber, N. C.	8	Jan. 23	May 5	8.5 8.8 9.8 10.8 11.2 10.2 10.0 10.25 10.1 10.9	Jan. 31 Feb. 12-13 Feb. 20 Feb. 27 Mar. 9 Mar. 21 Mar. 26 7 19 24
Pee Dee: Peedee, S. C.	19	20	28	20.7	24
Saluda: West Pelzer, S. C.	9	16 18	17 19	9.0 12.7	16 18
ATLANTIC SLOPE DRAINAGE	Ft.			Ft	
Saluda: Chappells, S. C.	14	15	22	23.2 24.1	17 19
Broad: Gaffney (nr), S. C.	10	19	19	10.0	19
Blair, S. C.	14	16	22	21.3 23.5	17 19
Congaree: Columbia, S. C.	19	17 18	17 21	19.0 23.3	17 19
Santee: Jamestown, S. C.	9	23	May 1	16.0	27
North Fork Edisto: Orangeburg, S. C.	8	19	22	8.6	21
Edisto: Givhans Ferry, S. C.	10	24	28	#10.5	26
Savannah: Butler Creek, Ga.	21	20	23	22.2	21
Millhaven-Wade, Ga.	15	21	May 8	#18.2	25-26
Clyo, Ga.	11	Mar. 25 22	9 May 29	#12.5 #16.8	[illegible] 29-30
Ocmulgee: Macon, Ga.	18	18	21	22.1	19
Oconee: Milledgeville, Ga.	20	19	22	27.7	20
Dublin, Ga.	21	24	25	21.2	24
Mt. Vernon, Ga.	16	26	29	16.85	27
Altamaha: Charlotte, Ga.	15	30	May 3	15.35	May 1
Satilla: Atkinson, Ga.	13	Mar. 19	7	15.1	Mar. 30
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	20	26	19.9	22
Old Town Creek: Tupelo, Miss.	21	14	14	23.1	14
East Fork Tombigbee: Fulton, Miss.	16	11	19	18.8	15
Tibbee: Tibbie, Miss.	23	11	18	28.6	15
Noxubee: Macon, Miss.	26	11	19	30.0	14
Black Warrior: Warrior L&D, Ala.	30	14	20	33.3	17-18
Tombigbee: Aberdeen, Miss.	34	12	21	41.8	16
Columbus, Miss.	29	15	22	35.0	17
Gainesville, Ala.	36	14	28	49.1	22
Demopolis, Ala.	48	14	29	59.4	20-21
Jackson L&D, Ala.	43	14	May 3	53.7	24-25
Chickasawhay: Enterprise, Miss.	20	14	17	27.15	16
Shubuta, Miss.	30	17	22	33.8	19
Leaf: Beaumont, Miss.	20	16	22	23.7	19
Pascagoula: Merrill, Miss.	22	15	25	23.7	19
Bogue Chitto: Franklinton, La.	11	12	14	12.65	14
Pearl: Edinburg, Miss.	20	13	24	25.8	15
Jackson, Miss.	18	Mar. 20 11	2 30	24.3 34.4	Mar. 30 29
Monticello, Miss.	19	14	May 2	26.8	24
Columbia, Miss.	17	15	May 2	21.95	27
Bogalusa, La.	15	Mar. 9 12	9 May 4	18.75 19.9	Mar. 29 29
Pearl River, La.	12	Mar. 21 15	5 May 8	14.0 15.55	Mar. 28 May 2
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Crow: Delano, Minn.	8	4	28	15.6	12
Rockford, Minn.	10	7	27	16.5	13
Rum: St. Francis, Minn.	8.5	10	19	11.7	13
St. Croix: Stillwater, Minn.	87	11	25	92.3	16
Yellow Medicine: Granite Falls (nr), Minn.	6	8	21	14.9	10
Redwood: Marshall, Minn.	7	9	9	7.5	9
Redwood Falls, Minn.	6	6	18	14.6	9
Cottonwood: New Ulm (nr), Minn.	11	4	18	19.5	9
Minnesota: Montevideo, Minn.	14	9	May 11	21.9	13
Mankato, Minn.	19	8	25	27.1	12
Jordan, Minn.	20	Mar. 27	May 16	32.8	14

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

APRIL 1969

River and station	Flood stage	Above flood stages -dates From—	To—	Crest * Stage	Date
MISSISSIPPI SYSTEM	Ft			Ft	
Minnesota: Chaska, Minn.	18	Mar. 29	May 12	32.4	14
Savage, Minn.	698	Mar. 30	May 17	716.9	15
Mendota, Minn.	699	7	May 7	714.7	15
Chippewa: Durand, Wis.	11	9	13	12.5	10
Zumbro: Zumbro Falls, Minn.	18	4	5	19.9	5
Theilman, Minn.	38	5	7	40.6	5
Trempealeau: Dodge, Wis.	7	7	9	7.8	8
Black: Galesville (nr), Wis.	12	7	9	12.8	7
Root: Hokah, Minn.	47	4	6	49.1	5
Kickapoo: Steuben, Wis.	8	7	10	8.8	9
Wisconsin: Portage, Wis.	17	9	12	17.2	11
Iowa: Marshalltown, Iowa	13	4	5	14.2	4
Wapello, Iowa	10	Mar. 27	4	11.9	1
		11	14	10.4	12-13
West Fork Des Moines: Jackson, Minn.	10	5	28	19.5	11
Estherville, Iowa	7	4	30	17.7	12
Humbolt, Iowa	8	5	May 2	15.4	11
North Racoon: Jefferson, Iowa	10	Mar. 20	12	15.9	Mar. 26
				14.5	7
		18	20	10.1	18
Cedar Creek: Bussey, Iowa	16.5	27	27	17.0	27
Des Moines: Fort Dodge, Iowa	10	11	20	12.8	15
Boone, Iowa	12	4	10	14.5	7
		13	21	14.4	16
Des Moines (SE14th), Iowa	21	Mar. 22	1	26.3	Mar. 27
		7	12	24.2	11
		15	22	24.2	19
Tracy, Iowa	11	Mar. 26	19	15.55	Mar. 28
				15.9	11
Eddyville, Iowa	15	Mar. 26	19	16.9	Mar. 28
				17.5	10
Ottumwa, Iowa	10	Mar. 27	19	10.4	Mar. 28
				11.6	17
Salt: New London, Mo.	19	6	7	19.75	6
		20	20	19.85	20
Sangamon: Riverton, Ill.	13	6	7	13.7	6
		10	27	14.5	11
				15.9	15
				20.3	20
Petersburg, Ill.	497	21	22	498.2	21
Illinois: La Salle, Ill.	20	18	19	20.0	18
Havana, Ill.	14	20	May 2	15.3	25
Beardstown, Ill.	18	19	May 6	17.0	25
Meredosia, Ill.	428	1	May 18	434.5	25
Kaskaskia: Shelbyville, Ill.	13	19	21	14.1	20
Vandalia, Ill.	18	15	23	19.3	17
				23.2	19
Big Muddy: Murphysboro, Ill.	16	10	May 7	23.7	23
Mississippi: Libby, Minn.	13	14	May 11	16.5	20
Aitkin, Minn.	15	14	May 1	17.3	23
Fort Ripley, Minn.	10	9	May 2	13.1	13
Anoka, Minn.	838	10	20	841.4	13
Minneapolis, Minn.	16	11	17	17.5	14
St. Paul, Minn.	14	9	30	24.5	15
Hastings, Minn.	15	10	May 2	24.0	16
Red Wing, Minn.	14	12	26	18.8	17
Lake City, Minn.	16	11	27	20.2	17
Wabasha, Minn.	12	10	May 3	17.6	17
Alma, Wis.	16	14	23	17.6	18
Winona, Minn.	13	11	30	19.6	18
LaCrosse, Wis.	12	11	30	15.7	20
Lansing, Iowa	18	19	25	18.9	22
McGregor, Iowa	18	15	30	21.6	22
Guttenberg, Iowa	15	14	May 3	19.9	22

River and station	Flood stage	Above flood stages -dates From—	To—	Crest * Stage	Date
MISSISSIPPI SYSTEM	Ft			Ft	
Mississippi: Cassville, Wis.	17	14	May 4	20.5	23
Dubuque, Iowa	17	14	May 5	23.1	23
Clinton, Iowa	16	17	May 7	21.25	25
LeClaire, Iowa	12	18	May 6	14.8	26
Moline, Ill.	13.5	18	May 6	19.2	26-27
Davenport, Iowa	15	18	May 6	19.3	27
Muscatine, Iowa	16	18	May 7	21.2	26
Keithsburg, Ill.	12	11	May 16	17.2	26
Burlington, Iowa	15	18	May 10	18.4	30
Keokuk, Iowa	16	19	May 5	17.85	27
Gregory Landing, Mo.	15	18	May 10	18.3	27
				18.25	30
Quincy, Ill.	17	18	20	19.6	20
		20	May 10	20.2	29
Hannibal, Mo.	16	6	7	16.2	6
		11	21	20.4	21
		21	May 14	20.45	May 1
Louisiana, Mo.	15	6		15.9	7
		15	May 15	19.2	21
				18.9	30
Clarksville, Mo.	25	6	9	26.0	7
		15	May 16	29.5	22
				29.2	Apr. 30
Winfield, Mo.	26	8	8	26.0	8
		19	22	30.0	22
		22	May 15	29.7	May 1
Grafton, Ill.	18	7	12	18.5	9
		17		(22.9	22
			May 14	(22.7	May 2
Alton, Ill.	21	8	10	21.8	9
		19	May	26.2	22
				25.8	May 2
St. Louis, Mo.	30	21	23	31.1	21
		May 1	May 3	30.9	May 1
Chester, Ill.	27	9	11	27.6	10
		20	23	31.3	23
		23	May 7	30.55	May 2-3
Cape Girardeau, Mo.	32	10	12	32.4	11
		20	May 7	36.1	24
				34.8	May 3-4
Missouri Basin					
Knife: Hazen, N. Dak.	21	3	[illegible]	24.9	7
Heart: Mandan, N. Dak.	17	3	9	22.9	7
Cannonball: Breien, N. Dak.	8	4	7	13.9	4
James: Jamestown, N. Dak.	12	10	17	16.9	11
La Moure, N. Dak.	8.2	9	18	16.1	14
Columbia, S. Dak.	11	9	1/	16.4	11
				17.1	23
Stratford, S. Dak.	14	11	1/	18.2	19
Ashton, S. Dak.	13	7	May 27	21.2	13
				20.6	24
Redfield, S. Dak.	20	6	May 5	24.9	13
				22.4	24
Huron, S. Dak.	11	5	May 20	16.7	13
				15.2	25
Forestburg, S. Dak.	12	4	May 25	17.2	9
Mitchell, S. Dak.				18.3	11
Scotland, S. Dak.	13	2	May 31	18.55	13
Vermillion: Wakonda (nr), S. Dak.	14			17.2	6
Skunk Creek: Sioux Falls, S. Dak.	10	4	8	10.5	5
				13.2	[illegible]
Little Rock: Doon (nr), Iowa	15	3	9	19.3	5
				19.7	5
				19.2	7
Rock: Rock Rapids, Iowa	9	5	10	15.7	6
				16.8	7
				17.5	8
Rock Valley, Iowa	11	3	12	16.5	6
				17.3	7
				17.0	9
Big Sioux: Flandreau, S. Dak.	6	6	15	12.0	9
Del Rapids, S. Dak.	12	6	18	16.5	9

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
MISSISSIPPI SYSTEM	Ft			Ft	
Big Sioux: Sioux Falls, S. Dak.	10	6	13	14.2	10
Hawarden, Iowa	15	4	20	24.6	9
Akron, Iowa	16	4	21	23.0	9
Sioux City, Iowa	99	8	17	110.7	10
West Branch Floyd: Struble, Iowa	14	1	7	15.4	4
Floyd: Alton, Iowa	12	1	9	17.8	4
LeMars, Iowa	20	3	8	20.0	2
				23.9	4
				21.9	6
Merrill, Iowa	12	3	8	16.6	5
James, Iowa	16	2	9	21.6	5
West Fork Little Sioux: Holly Springs, Iowa	18	5	5	18.7	5
Little Sioux: Spencer, Iowa	10	3	21	16.2	7
Gillet Grove, Iowa	12			17.8	8
Linn Grove, Iowa	12	Mar. 29	24	21.1	9
Peterson, Iowa	16	3	14	21.0	9
Cherokee, Iowa	17	3	16	23.8	7
Correctionville, Iowa	19	4	16	23.6	8
North Branch Elkhorn: Osmond (nr), Nebr.	10	2	2	10.7	2
Pierce (nr), Nebr.	12	2	4	13.8	.2
Hadar (nr), Nebr.	12	2	4	14.0	3
Salt Creek: Roca, Nebr.	15	4	4	19.0	4
Platte: Smithfield, Mo.	24	4	5	24.1	4
		27	28	26.3	28
Agency, Mo.	20	27	29	23.0	28
Lyon Creek: Woodbine (nr), Kans.	17	27	27	22.7	27
West Fork Big Blue: Dorchester (nr), Nebr.	15	4	5	19.0	4
Turkey Creek: Wilber (nr), Nebr.	11	4	7	13.9	4
		17	20	13.7	18
Black Vermillion: Frankfort, Kans.	19	27	27	25.85	27
Big Blue: Crete, Nebr.	18	4	7	24.25	5
Beatrice, Nebr.	16	5	7	19.25	6
Barneston, Nebr.	18	6	6	18.0	6
Mill Creek: Paxico, Kans.	19	26	27	29.8	27
Soldier Creek: Delia (nr), Kans.	12	27	27	21.2	27
Topeka (nr), Kans.	12	27	27	14.15	27
Wakarusa: Lawrence (nr), Kans.	23	28	29	28.3	28
Stranger Creek: Easton, Kans.	15	27	28	20.6	27
Tonganoxie, Kans.	22	27	29	23.9	27
Grand: Pattonsburg, Mo.	25	27	27	26.95	27
Gallatin, Mo.	21	27	28	21.65	28
Chillicothe, Mo.	24	28	29	28.7	28
Sumner, Mo.	26	17	20	30.3	19
Lamine: Clifton City, Mo.	19	5	6	23.2	5
Blackwater: Valley City, Mo.	20	4	6	27.0	5
		17	19	26.0	18
		27	27	22.1	27
Blue Lick, Mo.	25	7	9	26.75	8
		18	22	27.25	21
Dragoon Creek: Burlingame, Kans.	15	15	15	20.7	27
Pottawatomie Creek: Lane, Kans.	23	28	28	23.4	28
Little Osage: Horton, Mo.	23	5	7	24.0	6
		17	20	24.3	18
		28	28	23.2	28
Big Creek: Blairstown, Mo.	20	5	5	21.15	5
		18	19	22.3	18
		27	27	21.5	27
South Grand: Urich, Mo.	22	18	18	23.75	18
Brownington, Mo.	19	21	21	19.5	21
Marais des Cygnes: Reading Kans.	18	17	17	19.25	17
		27	28	26.4	27
Melvern, Kans.	23	27	28	26.4	28

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
MISSISSIPPI SYSTEM	Ft			Ft	
Osage: Schell City, Mo.	[illegible]	7	8	25.95	7
		19	23	27.4	[illegible]
		29	May 2	[illegible]	30
Missouri: Nebraska City, Nebr.	18	13	14	18.3	13
St. Joseph, Mo.	17	13	19	17.6	17
		27	27	18.15	27
Leavenworth, Kans.	19	27	27	19.8	27
Napoleon, Mo.	17	28	28	19.1	28
Lexington, Mo.	22	5	6	22.3	5
		17	21	23.5	18
		18	29	26.0	28
Waverly, Mo.	18	17	21	20.1	18
		27	30	22.5	28
Glasgow, Mo.	25	19	19	25.7	19
		28	29	26.6	29
Boonville, Mo.	21	18	20	22.8	20
Jefferson City, Mo.	23	19	20	23.2	19
Herman, Mo.	21	6	9	23.4	7
		19	22	25.75	19
		29	May 2	25.0	30
St. Charles, Mo.	25	7	9	26.1	8
		19	23	27.9	20
		30	May 2	27.6	30
Ohio Basin					
Scioto: Circleville, Ohio	14	20	20	14.2	20
Embarrass: Lawrenceville, Ill.	T15	19	25	17.4	22
St. Marie, Ill.	18	19	21	19.3	20
Muscatatuck: Austin, Ind.	13	15	21	20.4	16
East Fork White: Seymour, Ind.	14	19	20	14.2	19
White: Anderson, Ind.	10	19	19	#10.9	19
Spencer, Ind.	14	19	22	16.25	20
Elliston, Ind.	18	19	23	22.6	21
Edwardsport, Ind.	15	19	25	#19.2	22
Petersburg, Ind.	16	19	26	20.2	24
Hazleton, Ind.	16	19	28	20.55	25
Skillet Fork: Wayne City, Ill.	15	10	10	15.9	10
		14	17	17.6	16
		18	22	15.3	22
Little Wabash: Wilcox, Ill.	16	6	13	19.1	11
		14	25	21.0	20
Carmi, Ill.	27	18	29	29.8	24
Wabash: LaFayette, Ind.	11	6	7	12.4	6
		20	21	12.75	20
Covington, Ind.	16	8	8	#16.9	8
Montezuma, Ind.	14	7	11	15.3	10
		20	23	15.4	21
Terre Haute, Ind.	14	10	10	14.0	10
		22	22	14.0	22
Vincennes, Ind.	16	20	23	16.6	21
Mt. Carmel, Ill.	16	19	28	19.7	25
New Harmony, Ind.	15	23	27	15.5	25
Saline: Harrisburg, Ill.	13	9	10	18.6	9
		14	20	20.1	19
Ohio: Shawneetown, Ill.	33	24	24	33.0	24
Fords Ferry, Ky.	34	22	26	35.0	24
Grand Chain, Ill.	42	20	29	44.2	26
Cairo, Ill.	40	14	May 1	44.8	26
White Basin					
Black: Pocahontas, Ark.	17	12	23	19.85	16
Black Rock, Ark.	14	Mar. 24	1	17.0	[illegible]
		4	29	20.5	17
Cache: Patterson, Ark.	[illegible]	Mar. 24	May 8	9.3	[illegible]
White: Georgetown, Ark.	21	Mar. 28	1	27.3	Mar. 31
		5	8	21.0	5
		10	26	22.2	14
Des Arc, Ark.	24	12	23	25.1	15
Clarendon, Ark.	26	Dec. 27	May 11	29.0	Jan. 7-9
				32.0	Feb. 7
				28.4	19

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM	Ft			Ft.	
White: St. Charles, Ark.	25	Mar. 25	May 9	26.2	22
Arkansas Basin					
Little Arkansas: Sedgwick, Kans.	18	27	27	#20.2	27
Whitewater: Towanda, Kans.	22	27	28	#24.6	27
Walnut: El Dorado, Kans.	18	27	27	#18.8	27
Augusta, Kans.	23	27	28	30.95	28
Little Caney: Copan, Okla.	21	10	10	21.2	10
Cottonwood: Florence, Kans.	22	27	27	#24.3	27
Cottonwood Falls, Kans.	9	26	29	14.0	27
Plymouth, Kans.	28	27	30	#34.2	27
Emporia, Kans.	20	27	May 1	25.4	28
Neosho: Americus, Kans.	26	27	28	28.15	27
Neosho Rapids, Kans.	22	27	30	26.0	27
Red Basin					
Blue: Blue, Okla.	21	27	29	26.7	28
Clear Boggy: Caney, Okla	19	27	May 5	23.1	27
Muddy Boggy: Farris, Okla.	36	28	28	38.6	28
Sulphur: Hagansport, Tex.	38	Mar. 31 12	2 16	41.8 44.9	1 13
Naples, Tex.	22	Mar. 20 17	3 22	27.2 24.3	Mar. 28 20
Cypress: Jefferson, Tex.	18	Mar. 22 5 13	3 7 22	18.9 18.2 19.3	Mar.24,25 6 18
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	11	24	23.2	14
St. Francis, Ark.	18	10	28	20.7	19
Mississippi: New Madrid, Mo.	34	25	28	34.4	26-27
Caruthersville, Mo.	32	22	30	33.7	27-28
Atchafalaya Basin					
Atchafalaya: Morgan City, La.	7	28	28	7.1	28
WEST GULF OF MEXICO DRAINAGE					
Mermentau: Mermentau, La.	5	13	23	8.3	18
Calcasieu: Hineston, La.	12	14	21	13.9	17
Kinder, La.	16	18	19	17.5	18
Old Town Bay, La.	4	13	19	5.1	17

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
WEST GULF OF MEXICO DRAINAGE	Ft.			Ft.	
Sabine: Edgewood, Tex.	12	Mar. 18	1	14.1	Mar. 24
Mineola, Tex.	14	Mar. 16 13	7 19	17.6 15.6	Mar. 26 15
Gladewater, Tex.	26	Mar. 18	10	33.0	Mar. 27
Longview, Tex.	25	Mar. 18	21	30.0	1
Logansport, La.	28	Mar. 18	3	31.1	Mar. 31
Bon Wier, Tex.	17	Mar. 18	30	#19.9	Mar. 25,2
Deweyville, Tex.	14	Mar. 24	May 4	#15.3 15.2	Mar. 26 5
Neches: Alto SSW, Tex.	16	Mar. 15	30	18.5 #18.85	Mar. 28 14
Rockland, Tex.	22	16	19	#22.9	17
Beaumont, Tex.	5	Mar. 22	May 26	6.6 6.5	Mar.24-25 17-18
Trinity: Dallas, Tex.	30	17	18	30.6	18
Long Lake, Tex.	35	Mar. 20 14	2 18	39.95 36.1	Mar. 28 17
Liberty, Tex.	24	Mar. 17	28	#27.7 #28.5	Mar. 23 20
Moss Bluff, Tex.	4	Feb. 21	1/	7.2 7.8 8.1	Feb. 28 Mar. 24 21-22
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	1/	45.3 44.8 46.7 46.2 45.9	Dec. 3 Jan.17-19 Feb. 23 Mar. 19 16
Little: Cameron, Tex.	30	13	14	#33.3	14
Navasota: Easterly, Tex.	14	6	8	#16.6	6
Navidad: Ganado, Tex.	21	12	17	27.8	14
Lavaca: Edna, Tex.	21	13	15	24.5	14
Guadalupe: Victoria, Tex.	21	12	17	26.7	13

* Provisional
\# Highest stage observed
E Estimated
__ Exceeded previous maximum stage of record
1/ Continued at end of month
T Tentative

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. — 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	86	4.8	1.3	18	.6
1000	30	135			34	.5
950	30	554	5.0	-2.5	26	2.6
900	30	994	3.6	-4.7	28	5.7
850	30	1,457	1.9	-7.1	28	8.5
800	30	1,945	.4	-9.9	28	10.7
750	30	2,457	-1.9	-11.8	28	12.3
700	30	3,007	-4.8	-15.5	28	13.2
650	30	3,583	-7.7	-19.2	28	15.9
600	30	4,205	-11.0	-23.0	28	17.3
550	30	4,865	-15.2	-27.4	28	19.1
500	30	5,582	-19.9	-32.8	28	20.4
450	30	6,349	-25.4	-38.3	28	21.8
400	30	7,199	-31.6	-44.1	27	22.5
350	30	8,130	-38.4	-46.6	28	25.4
300	30	9,173	-45.8		28	28.2
250	30	10,366	-53.3		28	31.2
200	30	11,782	-58.0		28	28.9
175	30	12,625	-56.7		28	27.1
150	30	13,604	-55.5		28	24.4
125	30	14,767	-55.6		28	19.4
100	30	16,182	-57.1		27	16.9
80	29	17,591	-57.3		28	14.4
70	28	18,436	-57.8		28	11.2
60	28	19,409	-57.5		29	10.3
50	28	20,563	-56.6		29	5.4
40	28	21,983	-55.5		29	3.8
30	25	23,816	-54.3		27	2.8
25	23	24,983	-53.0		25	2.2
20	22	26,425	-51.0		23	2.5
15	19	28,324	-47.6		25	3.0
10	15	31,034	-41.7		24	4.6
7						

ALBUQUERQUE, N. MEX. — 836 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	1,619	7.9	-4.4	05	1.2
1000	30	111				
950	30	545				
900	30	1,002				
850	30	1,482				
800	30	1,984	9.1	-7.3	28	1.8
750	30	2,511	5.9	-10.0	28	4.5
700	30	3,077	1.9	-12.3	27	5.3
650	30	3,666	-2.4	-16.0	26	6.8
600	30	4,302	-6.8	-19.6	26	8.5
550	30	4,969	-11.0	-25.1	26	10.0
500	30	5,702	-15.9	-30.5	26	11.4
450	30	6,483	-21.8	-35.9	26	11.9
400	30	7,346	-28.2	-41.8	26	12.9
350	30	8,290	-35.7	-48.4	26	14.1
300	30	9,345	-43.6		26	16.0
250	30	10,548	-51.8		26	18.9
200	30	11,973	-57.9		27	20.2
175	30	12,813	-58.7		27	18.9
150	30	13,784	-57.8		27	18.9
125	29	14,931	-59.0		26	16.7
100	29	16,325	-60.6		26	15.3
80	29	17,713	-61.3		27	9.7
70	29	18,539	-62.5		26	6.7
60	29	19,491	-62.2		27	4.5
50	29	20,620	-61.3		29	2.8
40	29	22,008	-60.4		31	2.0
30	28	23,815	-57.2		29	3.3
25	27	24,972	-55.5		28	4.0
20	26	26,405	-52.5		28	6.4
15	25	28,294	-46.9		28	7.0
10	15	31,008	-40.5		26	13.8
7	5	33,473	-35.3			

AMARILLO, TEXAS — 889 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	1,095	8.8	3.6	19	1.9
1000	30	103				
950	30	536				
900	30	994				
850	30	1,465	10.1	2.1	20	4.2
800	30	1,969	9.6	-1.4	24	5.0
750	30	2,499	7.0	-6.1	26	5.8
700	30	3,066	3.3	-9.9	26	7.7
650	30	3,656	-.9	-13.6	26	8.6
600	30	4,297	-5.6	-18.3	26	10.0
550	30	4,967	-10.8	-23.5	25	10.2
500	30	5,699	-16.0	-28.7	25	11.7
450	30	6,474	-21.7	-34.2	26	14.1
400	30	7,340	-28.5	-40.8	26	16.3
350	30	8,283	-35.5	-46.9	26	17.2
300	30	9,338	-43.4		26	20.1
250	30	10,542	-51.7		25	22.5
200	30	11,963	-58.6		26	23.6
175	30	12,800	-59.2		26	23.8
150	30	13,768	-57.9		26	21.2
125	30	14,916	-58.8		26	19.4
100	29	16,314	-60.3		27	15.0
80	29	17,698	-62.3		27	9.8
70	29	18,522	-62.2		27	6.6
60	28	19,474	-62.3		28	3.5
50	28	20,602	-61.7		33	2.7
40	27	21,989	-60.3		32	2.0
30	27	23,798	-56.8		31	2.3
25	25	24,958	-54.5		29	3.6
20	23	26,392	-51.8		28	5.4
15	20	28,296	-47.3		27	8.5
10	12	31,010	-41.3			

• ANCHORAGE, ALASKA — 999 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	45	2.3	-3.2	17	.9
1000	30	33			16	1.4
950	30	451	2.1	-5.[illegible]	09	1.4
900	30	882	-.5	-7.9	10	2.9
850	30	1,336	-3.8	-9.6	11	5.0
800	30	1,812	-7.1	-11.7	12	6.6
750	30	2,312	-11.1	-14.9	13	8.0
700	30	2,838	-14.8	-18.6	14	8.2
650	30	3,396	-18.5	-22.5	14	7.7
600	30	3,987	-22.3	-26.8	14	7.3
550	30	4,617	-26.1	-32.0	15	8.0
500	30	5,305	-30.9	-36.9	15	8.4
450	30	6,044	-36.1	-42.1	15	8.6
400	30	6,854	-41.7	-44.7	16	8.9
350	30	7,747	-47.7		16	9.3
300	30	8,751	-53.3		16	9.6
250	30	9,922	-52.4		16	7.8
200	30	11,377	-48.6		17	5.9
175	30	12,257	-47.7		17	5.0
150	30	13,275	-47.7		18	5.3
125	30	14,477	-48.1		17	5.5
100	30	15,946	-48.5		18	5.4
80	29	17,410	-49.6		16	5.1
70	29	18,283	-50.1		17	4.9
60	29	19,289	-50.6		16	4.1
50	29	20,475	-51.5		16	4.1
40	29	21,921	-52.1		14	3.9
30	28	23,779	-53.2		13	4.0
25	28	24,951	-53.7		11	3.4
20	27	26,388	-53.5		10	4.6
15	22	28,256	-52.1		10	6.1
10	19	30,906	-49.6		09	7.4
7	8	33,267	-46.1			

• ANNETTE, ALASKA — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	37	5.[illegible]	3.2	13	3.4
1000	30	77			14	4.2
950	30	491	2.6	.2	15	10.3
900	30	930	-.4	-2.2	14	12.8
850	30	1,385	-3.2	-5.6	17	13.4
800	30	1,863	-6.2	-9.[illegible]	17	12.7
750	30	2,364	-9.2	-13.2	17	13.4
700	30	2,897	-12.2	-17.[illegible]	18	13.9
650	30	3,458	-15.5	-21.6	19	13.7
600	30	4,061	-18.9	-24.[illegible]	18	14.2
550	30	4,699	-22.8	-29.5	19	15.2
500	30	5,398	-27.2	-34.5	19	15.6
450	30	6,147	-32.3	-39.0	19	14.8
400	30	6,973	-38.5	-43.6	20	16.2
350	30	7,878	-44.9		20	18.2
300	30	8,897	-50.1		21	16.9
250	30	10,079	-52.9		21	17.7
200	29	11,518	-50.8		21	13.6
175	29	12,391	-49.5		21	11.2
150	29	13,401	-49.3		21	10.7
125	29	14,595	-49.9		21	8.7
100	29	16,050	-51.3		20	7.6
80	28	17,499	-51.8		20	5.7
70	28	18,362	-52.5		20	5.4
60	28	19,357	-53.1		20	3.8
50	28	20,529	-54.1		19	2.9
40	28	21,958	-55.0		17	1.6
30	28	23,794	-55.7		13	2.0
25	28	24,955	-55.9		10	2.5
20	26	26,376	-55.9		10	3.8
15	23	28,207	-54.7		10	4.5
10	19	30,836	-51.9		09	5.1
7	10	33,159	-49.1			

ATHENS, GEORGIA — 988 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	246	11.3	8.7	23	.6
1000	30	144				
950	30	573	13.8	7.4	22	2.9
900	30	1,031	11.9	4.9	23	4.0
850	30	1,507	9.0	1.7	24	4.6
800	30	2,008	6.7	-3.9	26	5.8
750	30	2,535	4.6	-10.2	26	7.5
700	30	3,096	1.5	-13.5	26	8.7
650	30	3,685	-1.9	-18.9	27	9.9
600	30	4,322	-5.6	-22.8	27	10.4
550	30	4,990	-10.0	-27.1	27	11.6
500	30	5,728	-14.9	-31.5	27	13.6
450	30	6,508	-20.6	-36.2	27	15.2
400	30	7,379	-27.0	-41.5	28	18.2
350	30	8,327	-34.0	-47.5	28	20.9
300	30	9,389	-42.1		28	23.6
250	30	10,599	-50.9		28	26.9
200	30	12,023	-58.7		28	29.4
175	30	12,860	-59.0		27	29.8
150	30	13,828	-58.3		27	29.9
125	30	14,972	-60.0		27	27.5
100	30	16,355	-62.7		27	22.4
80	30	17,724	-64.3		28	16.6
70	28	18,541	-64.5		28	11.2
60	28	19,486	-62.9		29	7.9
50	28	20,611	-61.6		29	5.7
40	27	22,001	-58.9		30	5.8
30	27	23,823	-55.1		29	4.5
25	26	24,994	-53.1		28	4.8
20	25	26,441	-50.0		27	6.2
15	22	28,331	-46.5		27	8.8
10	21	31,070	-39.6		27	14.5
7	15	33,538	-33.6			

BARROW, ALASKA — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	8	-17.7	-19.3	07	2.6
1000	30	120	-15.8	-17.6	09	3.2
950	30	516	-12.6	-14.4	11	3.0
900	30	924	-10.2	-14.3	13	2.2
850	30	1,364	-10.8	-17.4	14	1.9
800	30	1,828	-12.4	-19.4	15	1.6
750	30	2,322	-14.7	-22.0	17	1.7
700	30	2,839	-17.5	-24.8	19	2.7
650	30	3,391	-20.3	-28.7	19	2.9
600	30	3,980	-23.8	-33.1	20	3.8
550	30	4,606	-27.6	-36.8	19	3.9
500	30	5,290	-32.0	-41.0	18	4.4
450	30	6,025	-37.0	-43.3	18	4.8
400	30	6,832	-42.6	-45.9	17	5.1
350	30	7,722	-48.6		18	6.2
300	30	8,723	-53.8		18	6.4
250	30	9,893	-53.2		19	6.5
200	30	11,345	-49.1		18	6.5
175	30	12,222	-48.5		19	6.6
150	30	13,237	-48.0		18	6.3
125	30	14,439	-48.0		19	6.9
100	30	15,908	-48.5		19	7.6
80	28	17,371	-49.4		18	6.9
70	27	18,247	-49.7		18	6.5
60	27	19,255	-49.9		18	6.6
50	23	20,444	-50.1		18	5.8
40	18	21,895	-50.5		17	5.1
30	7	23,813	-51.5			

BARTER IS., ALASKA — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	15	-15.1	-17.3	14	.7
1000	30	109	-13.8	-15.1	11	2.2
950	30	502	-10.4	-12.4	09	2.2
900	30	919	-7.9	-12.1	11	1.8
850	30	1,364	-8.0	-14.2	15	1.8
800	30	1,833	-10.1	-16.0	18	2.4
750	30	2,325	-12.4	-18.3	19	2.9
700	30	2,852	-15.3	-21.4	19	2.9
650	30	3,404	-18.2	-24.6	19	3.5
600	30	4,003	-21.5	-28.3	20	4.5
550	30	4,631	-25.5	-32.5	20	5.5
500	30	5,324	-30.3	-37.0	20	6.3
450	30	6,057	-35.8	-41.4	20	7.0
400	30	6,875	-41.7	-44.4	20	8.1
350	30	7,767	-47.9		20	7.1
300	30	8,769	-53.7		20	8.7
250	30	9,939	-53.3		20	7.7
200	30	11,389	-49.2		20	6.5
175	30	12,267	-48.2		20	6.1
150	30	13,283	-47.9		20	6.2
125	30	14,486	-48.0		20	6.0
100	30	15,955	-48.8		20	5.6
80	30	17,418	-49.5		19	5.1
70	30	18,292	-49.7		19	5.0
60	30	19,300	-50.1		19	3.7
50	30	20,489	-50.8		18	3.2
40	26	21,938	-51.1		17	3.0
30	28	23,805	-52.0		15	2.6
25	28	24,985	-52.1		13	2.7
20	25	26,444	-50.7		11	4.6
15	21	28,335	-49.1		11	5.7
10	18	31,031	-45.3		12	8.1
7	8	33,459	-40.0			

BETHEL, ALASKA — 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	24	39	-3.2	-5.1	35	2.2
1000	24	34				
950	24	442	-1.3	-7.4	06	2.3
900	24	872	-4.1	-9.3	10	2.1
850	24	1,320	-7.0	-11.9	12	2.7
800	24	1,791	-9.9	-15.9	12	3.2
750	24	2,287	-12.9	-19.9	12	3.8
700	24	2,810	-16.2	-23.7	12	3.5
650	24	3,363	-19.8	-28.1	12	4.3
600	24	3,953	-23.7	-31.9	12	4.4
550	24	4,580	-27.6	-35.4	13	4.7
500	24	5,265	-31.8	-38.8	12	4.0
450	24	6,000	-36.7	-43.6	11	3.0
400	24	6,810	-42.0	-45.0	09	3.0
350	24	7,702	-48.0		04	2.1
300	24	8,707	-53.2		02	1.9
250	24	9,880	-52.6		32	1.5
200	24	11,332	-49.6		17	.1
175	24	12,208	-48.9		18	1.2
150	24	13,219	-49.0		17	1.5
125	24	14,417	-48.8		18	3.0
100	24	15,882	-48.9		16	3.2
80	24	17,344	-49.5		16	4.8
70	24	18,218	-49.9		16	3.9
60	23	19,220	-50.3		16	5.5
50	23	20,408	-50.9		16	4.9
40	23	21,858	-51.6		14	4.6
30	23	23,722	-52.2		15	3.7
25	23	24,899	-52.9		13	3.8
20	22	26,335	-53.3		12	3.8
15	18	28,175	-52.8		12	4.0
10	8	30,802	-50.1			

• BISMARCK, N. DAK. — 953 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	503	2.9	.1	09	1.2
1000	30	111				
950	30	531			11	1.1
900	30	970	5.5	[illegible]	18	2.3
850	30	1,437	5.4	-5.2	20	.9
800	30	1,932	3.8	-7.6	23	.6
750	30	2,449	.7	-10.5	24	1.5
700	30	3,004	-2.6	-15.0	28	2.9
650	30	3,581	-6.3	-18.3	29	3.9
600	30	4,209	-10.6	-23.3	29	4.6
550	30	4,865	-14.8	-28.0	29	5.7
500	30	5,587	-19.9	-33.1	29	6.6
450	30	6,352	-25.6	-37.8	30	7.7
400	30	7,203	-32.2	-43.4	30	8.2
350	30	8,131	-39.6	-49.2	30	9.3
300	30	9,168	-47.5		30	9.6
250	30	10,351	-55.1		29	9.8
200	29	11,763	-58.0		28	11.5
175	29	12,606	-56.7		28	11.9
150	29	13,586	-55.5		29	10.3
125	29	14,748	-55.7		28	9.3
100	29	16,165	-56.6		28	7.5
80	29	17,581	-56.7		29	7.0
70	29	18,426	-57.5		30	6.4
60	29	19,397	-58.1		31	5.5
50	29	20,546	-58.1		32	4.9
40	29	21,953	-57.4		34	3.3
30	28	23,776	-56.4		36	2.7
25	28	24,936	-55.7		03	2.8
20	28	26,361	-54.4		06	3.0
15	26	28,213	-51.8		06	2.8
10	23	30,866	-46.5		27	.9
7	8	33,222	-41.5			

BOISE, IDAHO — 915 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	867	5.5	-2.1	14	1.0
1000	30	129				
950	30	551				
900	30	1,000	7.6	-2.4	09	.2
850	30	1,470	6.1	-4.5	31	2.6
800	30	1,965	3.0	-6.4	31	3.4
750	30	2,481	-.6	-8.3	29	4.4
700	30	3,032	-3.7	-11.9	27	5.8
650	30	3,611	-7.2	-15.6	26	5.9
600	30	4,234	-10.9	-20.2	25	6.9
550	30	4,889	-15.3	-25.4	25	8.5
500	30	5,612	-20.0	-30.4	25	9.1
450	30	6,375	-25.4	-36.0	25	9.5
400	30	7,230	-31.9	-41.4	24	9.8
350	30	8,160	-39.0	-48.3	24	10.5
300	30	9,200	-46.9		25	12.5
250	30	10,386	-54.6		26	14.6
200	30	11,801	-57.8		27	15.3
175	30	12,645	-57.1		26	13.5
150	30	13,622	-56.5		26	12.3
125	30	14,781	-56.4		26	11.1
100	30	16,196	-57.1		26	9.4
80	30	17,606	-57.3		25	7.9
70	29	18,450	-57.5		25	6.2
60	29	19,423	-57.6		25	5.2
50	29	20,572	-58.4		26	3.5
40	28	21,975	-59.4		29	2.0
30	28	23,777	-58.9		33	1.1
25	27	24,927	-57.8		35	1.2
20	27	26,339	-56.0		35	1.9
15	25	28,185	-52.6		32	2.7
10	13	30,887	-44.9		28	4.3
7						
5						
4						

BOOTHVILLE, LA. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	1	18.4	16.7	07	1.3
1000	30	127	19.0	16.1	11	1.8
950	30	566	16.9	12.6	17	2.7
900	30	1,028	14.9	7.9	19	3.7
850	30	1,511	13.5	.5	22	4.0
800	30	2,020	11.5	-4.2	24	5.4
750	30	2,554	8.4	-7.5	26	6.3
700	30	3,123	5.2	-11.7	27	7.9
650	30	3,719	1.9	-16.2	26	9.6
600	30	4,365	-2.2	-18.9	27	10.9
550	30	5,042	-6.9	-23.6	27	12.4
500	30	5,787	-12.0	-27.7	27	13.1
450	30	6,581	-17.6	-31.9	27	14.4
400	30	7,456	-23.9	-37.3	27	16.4
350	30	8,418	-30.8	-43.5	27	18.6
300	30	9,494	-38.9	-49.7	27	22.9
250	30	10,721	-48.2		27	28.0
200	30	12,160	-57.0		27	32.2
175	30	13,001	-58.2		27	34.0
150	30	13,971	-59.4		27	32.0
125	30	15,105	-61.9		26	27.8
100	30	16,473	-65.6		26	21.9
80	30	17,821	-67.6		27	14.8
70	30	18,627	-66.6		28	10.0
60	29	19,565	-64.0		28	5.4
50	29	20,689	-62.0		28	3.2
40	29	22,079	-58.8		29	4.0
30	28	23,902	-54.4		30	3.2
25	28	25,077	-51.8		29	2.8
20	27	26,534	-48.8		27	4.4
15	26	28,441	-44.8		26	8.7
10	17	31,176	-39.1		27	15.1
7	6	33,603	-32.6			

• BROWNSVILLE, TEXAS — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	7	20.5	18.0	13	2.6
1000	30	103	21.0	18.7	14	4.9
950	30	545	18.5	15.4	15	8.7
900	30	1,010	17.6	9.8	17	9.1
850	30	1,497	15.9	6.1	18	7.8
800	30	2,011	13.8	[illegible]	19	7.1
750	30	2,552	11.7	-6.4	21	5.7
700	30	3,127	8.4	-10.6	24	5.5
650	30	3,729	4.3	-14.3	26	7.3
600	30	4,380	-.5	-17.8	27	10.3
550	30	5,060	-5.9	-22.4	26	12.7
500	30	5,808	-11.3	-27.4	26	13.6
450	30	6,604	-16.8	-31.4	26	15.9
400	30	7,484	-22.8	-37.8	27	21.4
350	30	8,450	-29.6	-44.2	27	25.0
300	30	9,531	-37.8	-51.4	27	30.5
250	30	10,763	-47.0		27	34.4
200	30	12,208	-56.1		27	41.9
175	30	13,050	-59.7		26	45.0
150	30	14,008	-61.8		26	41.1
125	30	15,129	-64.8		26	31.8
100	30	16,477	-68.8		26	22.1
80	30	17,802	-71.3		25	10.1
70	30	18,592	-70.8		26	5.0
60	30	19,515	-66.0		30	1.0
50	30	20,632	-62.7		08	2.3
40	30	22,016	-59.8		08	2.2
30	30	23,835	-55.2		06	2.9
25	28	25,007	-52.5		05	2.1
20	28	26,462	-48.8		36	.6
15	28	28,373	-44.2		26	3.4
10	27	31,130	-38.6		26	10.7
7	21	33,644	-31.9		26	14.9
5	15	36,037	-26.9		25	15.8
4	6	37,623	-25.3			

BUFFALO, N. Y. — 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	218	4.3	1.1	21	.7
1000	30	132				
950	30	553	5.6	-1.3	26	2.9
900	30	992	4.0	-3.4	27	4.9
850	30	1,456	2.2	-6.7	28	6.8
800	30	1,944	.4	-9.5	28	8.9
750	30	2,462	-2.1	-11.4	28	10.6
700	30	3,006	-4.6	-14.0	28	11.6
650	30	3,590	-7.9	-17.3	28	12.5
600	30	4,206	-11.4	-21.8	28	13.9
550	30	4,868	-15.5	-26.7	28	15.7
500	30	5,582	-20.3	-30.9	28	17.3
450	30	6,355	-25.7	-37.0	28	18.1
400	30	7,199	-31.9	-42.3	28	19.3
350	30	8,128	-39.0	-46.9	28	21.5
300	30	9,169	-46.4		28	22.3
250	30	10,360	-53.5		27	24.2
200	30	11,778	-58.1		27	25.1
175	30	12,620	-57.4		28	21.0
150	30	13,599	-55.1		27	17.8
125	30	14,763	-55.9		28	17.0
100	29	16,176	-57.1		28	13.2
80	29	17,585	-57.9		28	11.5
70	29	18,425	-58.1		29	10.0
60	28	19,401	-57.9		29	8.0
50	28	20,550	-57.4		30	5.8
40	26	21,963	-56.2		29	4.1
30	25	23,797	-54.6		29	1.6
25	25	24,967	-53.4		33	.8
20	23	26,409	-51.2		25	1.1
15	19	28,302	-47.5		27	2.0
10	8	31,025	-41.1			

CAPE HATTERAS, N. C. — 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant wind Direction	Resultant wind Speed (m/s)
SURFACE	30	4	13.5	11.2	27	.8
1000	30	150	14.6	9.4	25	1.8
950	30	583	13.1	5.7	25	3.7
900	30	1,037	10.4	1.7	25	3.8
850	30	1,511	8.3	-3.8	26	4.0
800	30	2,010	5.8	-7.6	27	5.1
750	30	2,540	3.6	-11.0	27	6.4
700	30	3,094	.6	-14.7	27	7.8
650	30	3,684	-2.5	-19.4	27	9.4
600	30	4,316	-6.4	-23.2	27	10.8
550	29	4,990	-10.5	-28.[illegible]	28	11.3
500	29	5,720	-15.3	-31.9	28	13.1
450	29	6,505	-20.9	-36.4	28	14.8
400	29	7,370	-27.0	-42.4	28	15.9
350	29	8,318	-34.3	-48.0	27	17.9
300	29	9,378	-42.0	-51.9	28	20.5
250	29	10,590	-50.5		28	22.3
200	29	12,019	-57.9		27	26.6
175	29	12,858	-58.7		28	28.3
150	29	13,830	-57.1		27	28.7
125	29	14,983	-58.0		27	27.1
100	29	16,380	-60.7		27	23.0
80	29	17,764	-62.0		28	17.7
70	29	18,589	-62.6		28	13.6
60	29	19,542	-61.6		28	10.6
50	29	20,677	-59.7		29	8.5
40	28	22,080	-57.1		29	6.0
30	27	23,919	-53.3		27	5.1
25	27	25,097	-51.8		27	5.6
20	25	26,560	-49.5		27	6.0
15	23	28,457	-45.6		27	7.0
10	19	31,192	-39.7		27	10.0
7	7	33,676	-34.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Columns: Standard pressure surface mb | No. of observations | Dynamic height | Temperature | Dew Point | Resultant Wind Direction | Resultant Wind Speed M.p.s.

* CARIBOU, MAINE 992 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	191	-.7	-3.5	33	1.6
1000	30	125				
950	30	539	-2.1	-7.7	30	3.7
900	30	963	-3.6	-9.9	30	6.2
850	30	1,414	-5.1	-11.8	30	8.0
800	30	1,889	-7.3	-13.7	30	9.2
750	30	2,396	-8.6	-17.3	29	11.8
700	30	2,924	-10.5	-19.7	28	14.3
650	30	3,494	-13.2	-22.5	28	17.1
600	30	4,098	-16.3	-26.1	28	18.9
550	30	4,750	-19.9	-30.7	28	21.3
500	30	5,450	-24.2	-35.1	28	23.9
450	30	6,210	-29.5	-39.8	28	26.3
400	30	7,042	-35.3	-44.1	27	28.4
350	30	7,960	-41.8	-46.6	27	31.8
300	30	8,990	-48.4		27	34.1
250	30	10,178	-53.1		27	34.8
200	30	11,611	-53.6		27	30.4
175	30	12,473	-52.5		27	27.6
150	30	13,472	-51.6		28	23.1
125	30	14,654	-52.3		27	19.3
100	30	16,092	-53.6		27	15.4
80	30	17,523	-54.6		28	11.7
70	30	18,378	-54.5		28	8.8
60	30	19,365	-54.4		27	8.3
50	30	20,534	-53.9		28	5.7
40	29	21,965	-53.7		28	2.8
30	29	23,819	-52.9		18	.8
25	29	24,996	-52.4		23	.6
20	29	26,443	-51.2		15	1.1
15	25	28,336	-48.7		12	1.2
10	25	31,026	-44.2		23	1.7
7	16	33,471	-37.7		27	3.4

CHARLESTON, S. C. 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	13	12.5	10.7	34	.4
1000	30	151	15.3	11.9	18	.8
950	30	584	14.3	8.3	23	2.3
900	30	1,042	12.3	3.7	25	2.7
850	30	1,519	10.0	-.6	26	3.5
800	30	2,021	7.5	-4.8	26	4.2
750	30	2,545	5.2	-10.2	27	5.3
700	30	3,111	2.5	-14.6	26	7.1
650	30	3,703	-1.2	-17.8	26	8.5
600	30	4,340	-5.2	-22.0	27	10.1
550	30	5,015	-9.4	-26.3	27	12.5
500	30	5,750	-13.8	-30.3	27	14.3
450	30	6,536	-19.1	-34.7	27	16.5
400	30	7,410	-25.3	-40.2	27	17.5
350	30	8,365	-32.6	-46.0	28	19.3
300	30	9,432	-40.8	-50.8	28	22.2
250	30	10,650	-49.5		28	26.6
200	30	12,082	-57.4		28	29.4
175	30	12,923	-58.0		27	29.3
150	30	13,897	-57.6		27	29.0
125	30	15,042	-59.7		27	27.4
100	30	16,426	-63.0		27	22.7
80	30	17,794	-64.4		28	16.9
70	30	18,611	-64.1		29	12.2
60	30	19,558	-62.9		29	8.3
50	29	20,685	-61.2		29	6.3
40	29	22,081	-57.7		29	5.9
30	29	23,915	-53.7		28	3.5
25	29	25,093	-51.5		27	5.0
20	28	26,548	-49.3		27	7.1
15	24	28,441	-45.4		27	9.9
10	17	31,160	-39.1			

CHIHUAHUA, MEXICO 855 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,428	12.6	-1.4	24	2.0
1000	30	83				
950	30	520				
900	30	985				
850	30	1,475	13.4	-1.0	24	2.1
800	30	1,988	14.2	-1.4	26	4.0
750	30	2,519	10.7	-4.5	26	4.9
700	30	3,099	6.8	-7.4	26	6.7
650	30	3,695	2.6	-11.1	25	7.7
600	30	4,345	-1.9	-15.6	25	8.2
550	30	5,023	-6.9	-20.1	25	10.3
500	30	5,767	-12.2	-25.2	26	12.2
450	30	6,554	-18.0	-31.3	27	14.8
400	30	7,433	-24.7	-36.3	27	17.1
350	30	8,391	-31.8	-42.3	27	20.4
300	30	9,463	-39.8	-46.3	27	23.2
250	30	10,684	-48.9		27	27.5
200	29	12,122	-57.3		27	30.4
175	29	12,961	-59.2		27	31.2
150	28	13,923	-60.0		27	29.6
125	28	15,056	-62.3		27	25.8
100	28	16,422	-65.9		27	20.3
80	27	17,770	-67.4		27	13.8
70	27	18,576	-66.3		27	9.7
60	27	19,513	-64.6		28	5.3
50	26	20,634	-62.1		28	2.4
40	25	22,021	-59.6		28	1.9
30	23	23,841	-55.7		28	2.5
25	22	25,009	-53.5		27	3.2
20	18	26,452	-50.3		27	4.6
15	14	28,371	-45.1			

* COLD BAY, ALASKA 998 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	30	.3	-2.7	26	1.5
1000	30	14			32	6.0
950	30	421	-2.8	-4.6	24	2.2
900	30	850	-5.4	-7.5	26	2.3
850	30	1,297	-7.7	-11.3	27	2.0
800	30	1,767	-9.9	-15.0	29	2.1
750	30	2,259	-12.4	-18.6	29	2.4
700	30	2,788	-15.1	-22.4	29	2.5
650	30	3,340	-18.4	-26.8	28	2.9
600	30	3,938	-21.7	-30.5	28	2.9
550	30	4,566	-25.6	-34.3	26	3.2
500	30	5,259	-30.1	-37.8	26	4.1
450	30	5,996	-34.9	-42.1	28	5.2
400	30	6,815	-39.8	-45.7	29	7.7
350	30	7,718	-45.1		30	9.2
300	30	8,736	-49.7		27	6.4
250	30	9,922	-51.1		27	8.1
200	30	11,380	-49.2		27	8.2
175	29	12,261	-48.7		27	7.2
150	28	13,269	-48.3		26	7.0
125	28	14,467	-48.9		26	6.1
100	28	15,928	-50.4		24	4.7
80	28	17,383	-50.7		23	4.4
70	28	18,252	-51.3		21	4.1
60	28	19,252	-51.7		22	3.6
50	28	20,434	-52.1		19	3.5
40	28	21,877	-52.7		16	1.5
30	28	23,731	-53.3		16	2.0
25	28	24,905	-53.4		14	2.3
20	27	26,340	-53.6		12	2.6
15	26	28,193	-52.6		08	2.6
10	24	30,819	-50.3		08	3.7
7	22	33,170	-47.6		07	3.0
5	15	35,395	-45.2		03	4.4
4	10	36,909	-42.3			
3	5	38,955	-38.6			

COLUMBIA, MO. 986 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	238	9.5	6.1	14	.5
1000	30	122				
950	30	548	10.2	4.0	21	2.8
900	30	998	9.0	2.4	26	3.9
850	30	1,471	7.4	-1.9	28	5.0
800	30	1,968	5.4	-6.9	28	5.1
750	30	2,489	3.0	-11.3	28	5.3
700	30	3,050	-.1	-13.9	28	6.7
650	30	3,637	-3.4	-18.4	28	7.7
600	30	4,269	-7.4	-22.0	27	9.1
550	30	4,938	-12.0	-26.2	27	10.1
500	30	5,665	-16.7	-30.5	28	11.4
450	30	6,441	-22.3	-35.2	27	12.1
400	30	7,305	-28.9	-41.6	27	13.4
350	30	8,265	-36.3	-47.3	27	15.3
300	30	9,296	-44.4		27	16.8
250	30	10,494	-52.8		27	20.0
200	30	11,908	-59.5		27	22.4
175	30	12,743	-59.3		27	22.6
150	30	13,714	-57.2		27	20.0
125	30	14,866	-57.5		27	18.2
100	30	16,270	-59.0		27	16.4
80	29	17,662	-60.2		28	14.1
70	29	18,494	-60.7		29	11.5
60	28	19,454	-60.5		29	8.6
50	28	20,590	-60.3		29	6.1
40	28	21,986	-59.0		30	4.9
30	26	23,807	-56.6		30	3.4
25	26	24,967	-55.1		29	3.3
20	25	26,406	-52.6		28	4.7
15	19	28,291	-48.9		27	7.3
10	11	30,983	-43.7			

DAYTON, OHIO 981 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	297	7.4	4.0	20	.9
1000	30	135				
950	30	560	9.2	2.0	22	3.6
900	30	1,006	7.4	-.8	26	5.9
850	30	1,475	5.5	-4.9	27	6.8
800	30	1,970	3.8	-8.1	27	7.7
750	30	2,491	.9	-10.7	27	8.7
700	30	3,044	-1.9	-15.0	27	9.5
650	30	3,627	-5.1	-19.1	27	8.6
600	30	4,255	-8.8	-24.1	27	10.0
550	30	4,917	-13.0	-29.1	27	12.0
500	30	5,643	-18.0	-33.6	28	13.1
450	30	6,414	-23.7	-38.2	28	14.2
400	30	7,272	-30.1	-43.6	28	15.7
350	30	8,209	-37.1	-48.3	28	17.2
300	30	9,257	-45.0		28	18.8
250	30	10,453	-52.7		28	20.2
200	30	11,872	-58.5		27	22.4
175	30	12,711	-58.6		27	22.5
150	29	13,687	-57.0		28	21.2
125	29	14,843	-57.0		28	18.5
100	29	16,252	-58.6		28	17.5
80	29	17,651	-59.7		28	15.5
70	28	18,482	-60.0		29	13.0
60	27	19,448	-60.0		29	9.9
50	27	20,589	-58.9		30	7.1
40	26	21,995	-57.6		29	5.4
30	25	23,819	-56.0		30	4.0
25	24	24,980	-54.5		29	3.4
20	20	26,401	-52.2		27	3.8
15	15	28,305	-47.8		25	5.1
10	7	30,997	-42.7			

DEL RIO, TEXAS 976 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	314	17.4	13.4	10	3.2
1000	30	103				
950	30	539	16.9	11.9	13	6.3
900	30	1,003	15.6	10.6	15	8.5
850	30	1,487	13.7	6.6	17	6.1
800	30	1,997	12.7	-.9	20	5.4
750	30	2,532	10.3	-6.1	24	5.6
700	30	3,108	6.6	-10.3	26	6.8
650	30	3,706	2.2	-14.1	27	8.0
600	30	4,352	-2.9	-19.4	26	9.6
550	30	5,027	-8.2	-22.9	26	12.2
500	30	5,769	-13.1	-29.9	26	13.4
450	30	6,555	-18.7	-35.4	25	14.9
400	30	7,432	-25.0	-40.4	26	17.6
350	30	8,389	-32.0	-45.7	27	20.4
300	30	9,460	-40.1	-51.3	26	24.7
250	30	10,679	-49.5		26	28.7
200	30	12,111	-57.9		27	32.6
175	30	12,949	-59.9		27	32.6
150	30	13,913	-59.6		27	31.2
125	30	15,046	-62.5		26	25.8
100	30	16,412	-65.6		26	22.0
80	30	17,760	-67.5		26	13.7
70	30	18,565	-67.0		27	8.3
60	29	19,502	-65.0		27	4.1
50	29	20,622	-62.4		29	1.9
40	28	22,006	-59.2		28	1.8
30	28	23,826	-55.2		30	3.4
25	27	24,997	-53.3		28	3.5
20	26	26,454	-49.6		27	4.6
15	25	28,360	-44.2		26	9.8
10	22	31,108	-38.0		27	15.4
7	16	33,577	-33.7		26	22.5

DENVER, COLO. 834 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,611	5.9	-.2	23	2.0
1000	30	99				
950	30	529				
900	30	985				
850	30	1,457				
800	30	1,955	6.7	-4.4	27	3.6
750	30	2,481	4.3	-7.6	28	4.1
700	30	3,041	.4	-10.5	28	4.2
650	30	3,624	-4.0	-14.0	27	4.7
600	30	4,257	-8.4	-18.6	28	5.8
550	30	4,921	-13.0	-24.5	27	7.3
500	30	5,646	-18.4	-30.4	26	7.6
450	30	6,415	-24.2	-36.4	26	8.0
400	30	7,271	-30.7	-43.0	26	9.2
350	30	8,205	-38.2	-49.8	26	10.1
300	30	9,247	-46.2		26	11.1
250	30	10,438	-53.6		26	14.5
200	30	11,855	-58.3		26	16.2
175	30	12,695	-57.9		27	16.5
150	30	13,670	-57.0		27	14.4
125	30	14,824	-57.2		27	13.0
100	30	16,230	-58.4		27	11.5
80	30	17,632	-58.9		27	9.7
70	30	18,469	-59.8		28	6.7
60	29	19,431	-60.3		28	5.6
50	29	20,569	-60.2		31	3.5
40	29	21,962	-59.8		33	2.9
30	29	23,768	-57.7		31	2.1
25	28	24,924	-55.7		32	2.7
20	27	26,350	-54.0		31	2.9
15	25	28,219	-49.4		28	5.0
10	11	30,909	-43.3			

DODGE CITY, KANS. 922 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	791	7.5	4.4	14	1.0
1000	30	115				
950	30	544				
900	30	991	9.0	3.4	14	2.3
850	30	1,465	9.2	.3	22	2.6
800	30	1,967	8.2	-3.2	26	4.5
750	30	2,495	5.2	-5.5	26	5.7
700	30	3,057	1.3	-9.2	26	6.0
650	30	3,644	-2.6	-14.3	26	7.0
600	30	4,280	-7.1	-18.6	26	8.3
550	30	4,943	-12.1	-22.2	26	8.6
500	30	5,675	-17.3	-27.8	25	9.8
450	30	6,447	-23.1	-34.0	25	11.9
400	30	7,308	-29.8	-40.8	26	12.7
350	30	8,246	-37.3	-46.9	26	14.2
300	30	9,294	-45.0		26	16.7
250	30	10,492	-52.7		26	20.3
200	30	11,912	-58.5		26	20.1
175	30	12,749	-59.4		27	19.9
150	30	13,718	-57.9		27	18.4
125	30	14,868	-58.0		27	16.7
100	30	16,271	-59.6		27	14.1
80	30	17,664	-60.7		27	10.6
70	30	18,495	-60.8		27	8.0
60	30	19,454	-61.0		28	5.6
50	30	20,586	-61.4		30	4.2
40	30	21,973	-60.2		32	3.3
30	28	23,784	-57.1		31	2.3
25	28	24,943	-55.5		30	3.2
20	27	26,373	-53.0		30	3.9
15	23	28,245	-48.7		27	6.5
10	11	30,950	-40.2			

EL PASO, TEXAS 879 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,193	13.1	-5.8	25	.9
1000	30	89				
950	30	531				
900	30	995				
850	30	1,475	15.4	-4.0	29	2.6
800	30	1,986	12.4	-6.2	28	5.6
750	30	2,520	8.5	-8.8	27	8.4
700	30	3,090	4.3	-11.7	26	9.8
650	30	3,683	-.4	-15.5	25	10.4
600	30	4,323	-4.9	-19.5	25	9.8
550	30	4,994	-9.2	-25.0	25	12.2
500	30	5,732	-14.5	-30.4	25	14.9
450	30	6,515	-20.1	-36.5	26	16.0
400	30	7,386	-26.8	-41.1	26	17.6
350	30	8,335	-34.1	-46.3	26	19.3
300	30	9,396	-42.0	-49.0	26	20.5
250	30	10,607	-51.0		27	23.6
200	30	12,032	-58.4		27	26.3
175	30	12,869	-59.6		27	27.2
150	30	13,834	-59.1		27	26.5
125	30	14,975	-60.5		27	23.0
100	30	16,356	-63.1		26	18.3
80	30	17,721	-64.9		27	13.7
70	30	18,535	-64.8		28	8.9
60	30	19,478	-63.7		27	5.2
50	30	20,602	-61.9		28	3.2
40	30	21,988	-59.8		29	2.5
30	28	23,799	-56.3		30	3.1
25	27	24,965	-54.0		27	3.4
20	26	26,406	-50.6		27	3.3
15	24	28,301	-45.7		27	8.2
10	22	31,047	-38.6		27	12.3
7	14	33,529	-34.7			

ELY, NEV. 806 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,908	.4	-5.0	22	1.8
1000	30	143				
950	30	564				
900	30	1,009				
850	30	1,481				
800	30	1,972	2.1	-4.5	22	1.5
750	30	2,492	1.7	-6.8	30	.6
700	30	3,048	-1.9	-10.2	26	3.2
650	30	3,629	-5.4	-14.6	27	4.4
600	30	4,258	-9.0	-21.2	26	5.0
550	30	4,920	-13.3	-26.2	26	6.8
500	30	5,646	-18.2	-30.5	26	7.3
450	30	6,416	-23.9	-35.6	27	8.9
400	30	7,275	-30.5	-41.1	27	10.7
350	30	8,209	-37.9	-47.4	27	11.3
300	30	9,254	-45.9		28	13.0
250	30	10,447	-53.0		28	15.7
200	30	11,870	-57.3		28	15.9
175	30	12,714	-57.8		27	16.0
150	30	13,688	-56.7		27	14.9
125	30	14,843	-57.6		27	12.5
100	30	16,250	-58.5		26	10.9
80	30	17,651	-58.9		26	8.8
70	30	18,489	-58.7		26	6.5
60	30	19,456	-59.2		25	4.1
50	30	20,597	-59.9		26	2.5
40	30	21,988	-60.6		32	1.3
30	27	23,790	-58.7		32	1.4
25	26	24,933	-57.6		31	2.8
20	24	26,363	-54.7		30	5.0
15	22	28,231	-50.4		29	6.6
10	20	30,917	-43.9		28	9.1
7	10	33,361	-38.6			

EMPALME, MEXICO 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	12	16.7	6.0	32	.7
1000	30	112	20.5	7.2	34	2.1
950	30	555	22.0	4.1	34	3.9
900	30	1,023	19.6	1.3	32	2.7
850	30	1,512	16.6	-2.0	26	2.2
800	30	2,024	13.3	-5.3	24	3.9
750	30	2,565	10.2	-8.8	25	5.4
700	30	3,133	6.7	-12.3	25	6.5
650	30	3,735	2.9	-15.6	26	8.2
600	30	4,379	-1.5	-18.8	26	10.1
550	30	5,062	-6.2	-23.1	27	11.7
500	30	5,804	-11.5	-27.3	27	12.3
450	30	6,601	-17.2	-32.3	27	14.8
400	30	7,476	-24.0	-37.5	27	16.8
350	30	8,435	-31.5	-43.2	27	19.5
300	30	9,508	-39.7	-48.7	27	24.5
250	30	10,730	-48.9		27	29.0
200	30	12,163	-57.6		27	32.3
175	30	13,001	-59.9		27	31.6
150	30	13,962	-60.8		27	29.7
125	30	15,089	-63.5		27	26.2
100	30	16,448	-66.9		26	18.7
80	30	17,789	-68.6		26	13.4
70	30	18,590	-67.9		27	10.2
60	30	19,520	-66.0		29	4.2
50	30	20,634	-63.3		29	2.8
40	29	22,017	-60.1		29	2.5
30	25	23,826	-56.1		27	2.8
25	25	24,992	-53.8		28	4.6
20	24	26,443	-50.0		28	5.7
15	23	28,352	-44.0		27	9.4
10	16	31,133	-37.8			

* FAIRBANKS, ALASKA 989 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	135	-1.3	-11.0	36	2.4
1000	30	46				
950	30	460	.6	-9.3	07	3.6
900	30	889	-1.5	-10.0	11	3.2
850	30	1,343	-4.2	-11.1	15	2.4
800	30	1,818	-7.3	-12.5	15	3.5
750	30	2,319	-10.8	-14.9	16	3.7
700	29	2,847	-14.5	-18.4	17	4.3
650	29	3,404	-18.2	-23.0	16	4.5
600	29	3,999	-22.0	-27.5	16	4.6
550	28	4,631	-26.0	-32.6	16	5.2
500	28	5,316	-30.8	-37.8	17	6.1
450	28	6,056	-36.3	-42.4	18	6.8
400	28	6,865	-42.2	-45.1	18	7.3
350	27	7,757	-48.4		18	8.7
300	27	8,758	-53.9		19	10.4
250	27	9,924	-54.1		19	8.6
200	27	11,372	-49.4		18	6.7
175	27	12,250	-48.2		17	6.7
150	27	13,265	-48.1		17	6.8
125	27	14,467	-48.1		18	7.1
100	26	15,933	-48.7		17	6.4
80	26	17,396	-49.6		17	6.1
70	26	18,270	-50.1		17	5.5
60	24	19,275	-50.8		17	5.2
50	26	20,462	-51.3		16	4.5
40	26	21,909	-52.2		15	3.9
30	25	23,769	-53.0		13	3.3
25	25	24,944	-53.3		12	3.9
20	23	26,377	-53.2		11	5.2
15	17	28,241	-52.2		11	5.9
10	13	30,876	-49.5		11	7.8
7	5	33,131	-49.6			

FLINT, MICH. 987 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	29	236	4.3	.9	21	.5
1000	29	129				
950	29	549	6.2	-.7	26	3.0
900	29	991	4.9	-3.8	28	4.3
850	29	1,457	3.3	-6.8	28	4.8
800	29	1,947	1.6	-9.4	28	6.0
750	29	2,463	-.4	-13.4	28	8.0
700	29	3,015	-3.2	-16.7	28	8.8
650	29	3,593	-6.5	-21.3	28	9.8
600	29	4,220	-10.4	-26.4	29	11.4
550	29	4,878	-14.9	-29.5	28	13.0
500	29	5,600	-19.8	-35.2	28	14.0
450	29	6,367	-25.4	-38.6	28	15.6
400	29	7,218	-31.3	-43.9	28	16.0
350	29	8,151	-38.2	-47.5	28	17.6
300	29	9,194	-45.7		28	19.1
250	29	10,387	-53.2		28	20.2
200	29	11,806	-57.6		28	22.6
175	29	12,648	-57.7		28	21.0
150	29	13,626	-55.2		28	18.0
125	29	14,790	-55.5		28	17.7
100	29	16,210	-56.5		28	14.7
80	28	17,622	-57.6		29	13.8
70	28	18,465	-57.7		29	11.3
60	27	19,436	-57.7		29	8.8
50	26	20,589	-57.1		29	6.5
40	25	22,000	-56.6		30	5.7
30	22	23,842	-54.5		30	3.7
25	21	25,011	-53.4		32	2.6
20	20	26,456	-51.6		25	2.4
15	18	28,339	-48.3		24	5.2
10	17	31,032	-42.8		25	8.2
7	12	33,484	-38.0			

FORT WORTH, TEXAS 993 MB

Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	180	14.3	11.4	19	1.0
1000	30	117				
950	30	552	14.2	9.4	19	3.6
900	30	1,009	13.5	4.1	21	5.6
850	30	1,489	12.4	1.2	23	5.7
800	30	1,996	10.4	-3.7	25	5.1
750	30	2,528	7.8	-8.1	27	5.8
700	30	3,096	4.3	-12.2	28	7.1
650	30	3,693	.3	-15.4	27	8.3
600	30	4,332	-4.3	-18.4	27	8.8
550	30	5,004	-9.0	-22.9	27	10.1
500	30	5,743	-14.1	-27.6	27	11.0
450	30	6,524	-19.8	-32.9	26	13.3
400	30	7,397	-26.3	-39.4	26	14.7
350	30	8,347	-33.8	-45.5	26	17.0
300	30	9,409	-42.1		27	20.9
250	30	10,618	-51.3		26	25.2
200	30	12,040	-58.8		27	26.6
175	30	12,876	-59.6		27	25.1
150	30	13,841	-59.3		27	25.1
125	28	14,982	-60.6		27	22.8
100	27	16,366	-62.8		27	19.3
80	26	17,730	-64.8		27	13.1
70	26	18,543	-65.1		27	8.4
60	26	19,485	-63.6		28	5.0
50	25	20,604	-62.2		31	2.4
40	23	21,984	-60.0		29	3.0
30	23	23,794	-56.6		29	4.2
25	21	24,958	-54.3		28	5.5
20	18	26,411	-51.7		27	6.3
15	16	28,297	-46.1		27	9.9
10	11	31,018	-38.2			

* Reference note at end of table

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT. 931 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	696	3.1	-.4	05	2.1
1000	30	106				
950	30	527				
900	30	968	6.3	-1.1	29	1.0
850	30	1,438	6.4	-3.8	31	3.0
800	30	1,933	4.1	-6.7	30	2.9
750	30	2,452	1.5	-10.1	29	2.3
700	30	3,009	-2.0	-12.3	28	3.4
650	30	3,590	-5.7	-17.3	28	4.2
600	30	4,218	-9.8	-20.6	27	4.4
550	30	4,876	-14.2	-25.1	26	4.4
500	30	5,600	-19.3	-31.1	27	6.4
450	30	6,363	-25.2	-36.8	27	7.8
400	30	7,219	-31.8	-42.4	27	8.2
350	30	8,149	-39.3	-48.3	27	9.1
300	30	9,187	-47.4		27	10.2
250	30	10,368	-56.3		28	11.4
200	30	11,769	-58.9		27	12.6
175	30	12,612	-56.6		27	12.1
150	30	13,594	-55.2		27	9.9
125	30	14,757	-55.6		27	9.3
100	30	16,177	-56.2		28	7.2
80	30	17,593	-56.6		28	5.7
70	30	18,438	-57.0		29	4.9
60	30	19,412	-57.6		31	3.9
50	30	20,562	-57.8		32	3.4
40	30	21,969	-57.4		35	2.7
30	29	23,796	-56.6		03	2.5
25	27	24,951	-55.6		06	3.0
20	27	26,377	-54.3		08	2.8
15	25	28,222	-52.4		05	2.0
10	22	30,871	-45.9		33	1.0
7	13	33,296	-39.2			
5						

GRAND JUNCTION, COLO. 850 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,472	5.6	-3.7	13	2.7
1000	30	113				
950	30	543				
900	30	993				
850	30	1,467			13	3.1
800	30	1,968	7.6	-5.5	15	2.9
750	30	2,492	4.2	-7.9	21	2.1
700	30	3,034	-.2	-10.3	24	3.6
650	30	3,637	-4.9	-13.4	25	5.2
600	30	4,266	-9.1	-17.9	25	6.8
550	30	4,926	-13.6	-24.2	25	7.9
500	30	5,652	-18.8	-30.5	25	7.9
450	30	6,424	-24.4	-37.1	26	9.0
400	30	7,277	-30.7	-42.2	26	10.3
350	30	8,211	-37.8	-48.0	26	11.8
300	30	9,256	-45.5		27	14.0
250	30	10,452	-52.6		28	15.8
200	30	11,873	-57.7		27	15.7
175	30	12,714	-57.9		27	14.6
150	30	13,686	-57.3		26	13.7
125	30	14,837	-57.6		26	13.9
100	30	16,242	-59.0		26	11.6
80	30	17,641	-59.1		26	8.3
70	30	18,478	-59.5		26	5.9
60	30	19,439	-60.7		27	4.3
50	30	20,572	-61.0		29	3.0
40	29	21,937	-60.9		33	1.7
30	26	23,750	-58.7		33	2.0
25	25	24,901	-57.0		31	3.0
20	23	26,323	-54.6		30	3.2
15	21	28,190	-50.0		28	4.7
10	15	30,927	-42.3		26	11.0

* GREAT FALLS, MONT. 885 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,118	5.2	-3.2	23	3.7
1000	30	98				
950	30	526				
900	30	976				
850	30	1,444	6.9	-5.2	24	7.3
800	30	1,940	3.8	-7.4	26	6.5
750	30	2,460	.4	-9.5	27	6.4
700	30	3,012	-3.3	-12.0	27	5.8
650	30	3,591	-7.2	-14.9	26	6.6
600	30	4,214	-11.3	-19.1	26	6.8
550	30	4,871	-15.4	-24.9	25	6.8
500	30	5,590	-20.3	-29.4	25	7.0
450	30	6,353	-26.0	-34.2	24	7.4
400	30	7,205	-32.3	-40.1	24	9.3
350	30	8,132	-39.3	-45.4	24	10.8
300	30	9,169	-47.4		24	11.9
250	30	10,351	-55.4		24	13.0
200	30	11,757	-59.3		25	13.3
175	30	12,598	-56.5		25	13.1
150	30	13,577	-55.8		26	10.4
125	30	14,740	-55.3		25	8.8
100	29	16,163	-56.1		26	6.8
80	29	17,581	-56.3		26	5.4
70	29	18,428	-56.8		27	4.4
60	29	19,403	-57.5		28	3.6
50	29	20,554	-57.7		29	4.2
40	29	21,961	-58.0		32	2.8
30	29	23,777	-57.3		02	1.5
25	28	24,933	-56.8		03	1.8
20	27	26,351	-55.6		05	2.5
15	24	28,206	-52.7		05	2.3
10	19	30,878	-47.0		03	1.1
7	15	33,294	-40.6		30	2.0
5	5	35,491	-37.3			

GREEN BAY, WIS. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	210	2.4	[illegible]	36	1.2
1000	30	128				
950	30	546	5.1	[illegible]	31	1.3
900	30	985	3.7	-3.5	31	2.1
850	30	1,449	2.7	-7.0	31	3.3
800	30	1,939	1.2	-9.5	30	4.1
750	30	2,454	-.9	-12.5	30	5.5
700	30	3,005	-3.8	-15.4	29	6.6
650	30	3,581	-7.3	-18.9	29	8.1
600	30	4,206	-11.0	-24.2	29	9.0
550	30	4,862	-15.2	-29.6	29	9.9
500	30	5,583	-19.9	-35.7	29	10.7
450	30	6,347	-25.5	[illegible]	29	12.6
400	30	7,200	-31.9	-43.5	29	13.7
350	30	8,129	-39.0	-48.1	29	15.8
300	30	9,170	-46.5		28	17.5
250	30	10,360	-53.7		28	19.2
200	30	11,776	-57.8		28	20.3
175	30	12,619	-57.0		28	19.2
150	30	13,601	-54.7		29	17.6
125	30	14,768	-55.0		29	15.2
100	30	16,190	-56.4		29	13.2
80	30	17,603	-57.1		29	11.8
70	30	18,447	-57.6		30	10.2
60	30	19,420	-57.5		30	8.6
50	30	20,573	-56.9		31	6.7
40	28	21,987	-56.3		32	4.1
30	28	23,818	-55.4		33	2.5
25	28	24,985	-54.2		35	1.9
20	27	26,419	-52.5		36	1.4
15	23	28,287	-49.0		26	.6
10	15	30,994	-44.0		25	2.5
7	5	33,374	-38.6			

GREENSBORO, N. C. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	[illegible]	[illegible]	[illegible]	.8
1000	30	155				
950	30	584	11.9	[illegible]	[illegible]	3.7
900	30	[illegible]	[illegible]	2.8	[illegible]	[illegible]
850	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
800	30	[illegible]	5.6	[illegible]	[illegible]	6.8
750	30	2,530	[illegible]	[illegible]	[illegible]	[illegible]
700	30	3,088	[illegible]	-13.5	[illegible]	8.3
650	30	3,677	-3.0	[illegible]	26	9.2
600	30	4,308	-6.8	[illegible]	27	[illegible]
550	30	4,976	-11.0	[illegible]	27	[illegible]
500	30	5,707	-16.2	[illegible]	28	12.2
450	30	6,485	-21.9	[illegible]	28	[illegible]
400	30	7,348	[illegible]	[illegible]	28	[illegible]
350	30	8,292	-35.3	[illegible]	27	[illegible]
300	30	9,349	[illegible]		29	[illegible]
250	30	10,555	-51.4		28	22.9
200	30	11,981	-57.6		28	26.4
175	30	12,822	-57.9		28	25.4
150	30	13,795	-57.4		27	25.7
125	30	14,945	-58.2		27	[illegible]
100	30	16,341	-60.6		27	21.5
80	29	17,726	-62.3		28	16.4
70	29	18,551	-62.2		29	13.5
60	29	19,504	-61.7		29	9.8
50	29	20,638	-60.1		29	7.8
40	29	22,036	-58.1		30	5.3
30	29	23,863	-54.8		28	4.0
25	28	25,038	-52.8		27	4.5
20	26	26,479	-50.6		27	7.3
15	24	28,370	-46.6		27	9.0
10	17	31,066	-39.6		26	13.3

* GUAM, MARIANA IS. 1000 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	111	25.0	22.4	08	3.9
1000	30	113			08	4.2
950	30	564	22.2	20.3	08	9.8
900	30	1,033	19.5	15.7	09	9.5
850	30	1,525	17.0	11.8	09	7.8
800	30	2,041	14.9	5.3	09	6.3
750	30	2,587	13.4	-4.2	09	5.0
700	30	3,162	10.2	-8.4	09	4.1
650	30	3,777	7.1	-11.6	08	4.4
600	30	4,429	4.0	-14.6	07	2.8
550	30	5,129	.3	-18.9	07	2.2
500	30	5,888	-4.3	-23.9	08	2.1
450	30	6,706	-9.1	-28.8	05	1.2
400	30	7,613	-14.8	-34.2	33	1.7
350	30	8,610	-21.6	-38.9	29	3.5
300	30	9,727	-30.1	-45.8	27	5.3
250	29	10,996	-40.5	-52.2	24	7.2
200	29	12,476	-52.7		23	9.9
175	29	13,324	-59.7		23	10.6
150	29	14,270	-67.3		24	9.0
125	29	15,347	-75.3		24	6.6
100	28	16,619	-81.3		26	3.1
80	28	17,869	-81.7		09	4.3
70	28	18,622	-78.8		09	7.9
60	28	19,517	-71.2		09	9.4
50	28	20,615	-65.2		10	10.9
40	27	21,989	-61.2		09	9.6
30	26	23,805	-54.2		08	3.0
25	26	24,987	-49.7		24	1.1
20	26	26,457	-47.0		27	5.6
15	25	28,377	-43.9		28	8.8
10	24	31,120	-39.8		26	6.5
7	23	33,582	-35.5		24	4.2
5	18	35,935	-31.6		17	5.1
4	6	37,540	-28.5			

HILO, HAWAII 1019 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	11	20.4	18.6	24	1.2
1000	30	170	20.2	17.4	05	.7
950	30	606	17.0	14.9	06	4.6
900	30	1,071	13.7	12.3	06	5.3
850	30	1,552	10.9	9.8	06	3.9
800	30	2,057	8.7	4.7	06	3.3
750	30	2,592	7.4	-5.1	06	3.0
700	30	3,157	5.4	-9.9	10	1.4
650	30	3,757	2.3	-13.2	20	.4
600	30	4,402	-1.3	-16.2	25	2.5
550	30	5,087	-5.0	-20.3	27	4.3
500	30	5,834	-10.0	-24.8	26	6.7
450	30	6,632	-15.1	-30.1	26	10.4
400	30	7,520	-21.2	-35.0	26	16.0
350	30	8,493	-27.8	-41.2	26	19.3
300	30	9,583	-35.9	-47.9	26	25.6
250	30	10,826	-45.1		27	30.4
200	30	12,285	-54.7		27	34.2
175	30	13,129	-60.1		28	34.9
150	30	14,079	-65.3		28	31.3
125	30	15,177	-69.3		28	24.3
100	30	16,496	-73.2		28	14.1
80	29	17,802	-73.0		28	7.2
70	29	18,588	-70.8		29	2.8
60	29	19,511	-67.0		09	1.2
50	28	20,622	-63.7		10	4.2
40	27	22,007	-60.2		09	4.8
30	27	23,820	-55.7		08	3.6
25	26	24,994	-51.9		09	2.8
20	25	26,453	-48.2		28	.1
15	24	28,369	-44.1		30	2.8
10	23	31,117	-38.6		27	4.9
7	9	33,591	-34.3			

HUNTINGTON W. VA. 988 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	246	7.0	4.1	17	.6
1000	27	148				
950	27	574	9.6	2.6	23	2.1
900	27	1,021	7.7	.8	26	4.8
850	27	1,491	5.9	-3.6	27	6.2
800	27	1,986	3.9	-7.7	28	6.9
750	27	2,506	1.1	-11.5	28	7.8
700	27	3,060	-1.9	-15.5	28	8.5
650	27	3,646	-4.5	-20.5	28	9.5
600	27	4,273	-8.5	-24.9	28	10.6
550	27	4,936	-12.9	-28.8	28	11.9
500	27	5,662	-18.0	-32.9	28	13.7
450	27	6,433	-23.5	-38.2	28	14.8
400	27	7,292	-29.7	-42.9	28	16.6
350	27	8,230	-36.8	-47.6	28	18.7
300	27	9,280	-44.5		28	19.7
250	27	10,479	-52.2		28	21.6
200	27	11,903	-57.4		28	22.5
175	27	12,745	-57.5		28	23.0
150	27	13,722	-56.2		28	21.5
125	27	14,880	-56.8		28	20.0
100	27	16,287	-58.9		28	17.1
80	27	17,685	-59.7		28	15.1
70	27	18,519	-60.3		28	13.1
60	27	19,481	-59.7		29	10.1
50	27	20,623	-58.9		29	6.8
40	27	22,029	-57.2		29	5.4
30	27	23,860	-54.9		29	3.8
25	27	25,031	-52.9		28	3.8
20	25	26,477	-50.6		27	4.7
15	19	28,378	-46.5		27	6.1
10	8	31,147	-40.8			

* INTERNATIONAL FALLS, MINN. 972 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	360	.9	-3.3	07	.8
1000	30	131				
950	30	548	3.3	-3.5	17	.7
900	30	983	2.7	-4.9	23	.6
850	30	1,444	1.2	-7.5	31	2.0
800	30	1,931	-.3	-10.1	30	3.5
750	30	2,437	-2.8	-12.3	30	4.8
700	30	2,990	-5.6	-15.6	31	6.0
650	30	3,558	-8.7	-18.9	31	7.4
600	30	4,184	-12.3	-24.8	30	8.2
550	30	4,834	-16.5	-29.3	30	9.6
500	30	5,555	-21.4	-33.0	30	10.3
450	30	6,320	-26.8	-38.0	30	11.4
400	30	7,164	-33.1	-43.8	29	13.8
350	30	8,089	-40.2	-47.4	29	15.2
300	30	9,124	-47.9		29	17.0
250	30	10,306	-55.2		29	18.9
200	30	11,718	-57.7		29	18.8
175	30	12,564	-55.9		29	17.0
150	30	13,549	-54.3		29	14.6
125	30	14,718	-54.5		29	12.3
100	30	16,144	-55.2		30	11.5
80	30	17,565	-56.2		30	9.7
70	30	18,413	-56.3		31	9.0
60	28	19,391	-56.4		31	7.5
50	28	20,550	-56.1		32	5.7
40	28	21,971	-55.4		35	3.1
30	28	23,809	-54.7		02	2.5
25	28	24,978	-54.0		04	2.8
20	26	26,413	-53.0		07	[illegible]
15	28	28,280	-50.5		08	3.0
10	25	30,960	-45.0		07	1.4
7	24	33,374	-39.8		29	.8
5	13	35,757	-34.7		31	2.2
4	6	37,312	-33.0			

JACKSON, MISS. 1004 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	100	13.6	12.6	[illegible]	.7
1000	30	130			[illegible]	1.0
950	30	569	14.7	8.6	19	2.4
900	30	1,021	13.1	5.7	22	3.9
850	30	1,501	11.6	.4	24	5.1
800	30	2,006	9.3	-4.4	25	6.1
750	30	2,536	6.7	-9.7	26	6.8
700	30	3,104	3.8	-13.5	27	7.3
650	30	3,696	.1	-18.2	28	8.8
600	30	4,339	-4.0	-20.8	27	10.3
550	30	5,011	-8.3	-24.5	27	11.5
500	30	5,754	-13.3	-29.5	26	12.7
450	30	6,542	-19.1	-34.2	26	13.6
400	30	7,415	-25.6	-39.4	27	15.9
350	30	8,368	-32.8	-45.0	27	18.3
300	30	9,435	-41.0	-49.5	27	19.9
250	30	10,650	-50.4		27	23.8
200	30	12,075	-58.6		27	28.6
175	29	12,909	-59.7		27	30.0
150	29	13,875	-58.9		27	27.9
125	28	15,017	-60.6		27	25.2
100	28	16,396	-63.4		27	21.3
80	28	17,760	-64.9		27	16.2
70	28	18,574	-65.1		28	11.2
60	27	19,516	-63.3		28	7.3
50	27	20,641	-61.5		28	5.7
40	27	22,029	-59.2		27	5.9
30	25	23,855	-55.0		28	5.0
25	24	25,028	-53.0		28	5.3
20	24	26,476	-50.2		27	5.7
15	24	28,372	-46.5		26	8.1
10	19	31,095	-39.7		27	14.5
7	5	33,473	-36.9			

JACKSONVILLE, FLA. *

1021 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	14	5	15.2	14.1	09	.9
1000	14	178	17.3	14.4	11	3.0
950	14	609	16.0	10.4	14	4.8
900	14	1,075	13.5	6.5	15	3.2
850	14	1,555	11.6	1.3	15	1.5
800	14	2,060	8.6	-2.7	23	1.5
750	14	2,586	6.1	-9.5	24	1.6
700	14	3,154	3.6	-14.7	24	3.3
650	14	3,735	.4	-18.2	25	5.1
600	14	4,391	-3.3	-20.8	26	6.0
550	14	5,059	-7.5	-24.6	27	8.4
500	14	5,809	-12.3	-27.9	27	10.3
450	14	6,594	-17.7	-31.9	27	13.1
400	14	7,478	-24.1	-37.3	27	15.4
350	14	8,439	-31.0	-44.0	27	17.2
300	14	9,513	-39.6	-49.2	27	19.8
250	14	10,734	-49.0		27	25.7
200	14	12,166	-58.1		27	31.5
175	14	13,007	-57.6		27	34.3
150	14	13,979	-58.8		27	32.2
125	14	15,114	-62.6		27	26.4
100	14	16,476	-66.5		27	22.8
80	13	17,819	-68.7		28	17.2
70	13	18,619	-68.7		29	11.5
60	13	19,547	-66.6		30	6.7
50	13	20,658	-63.4		29	5.2
40	13	22,041	-60.2		30	4.9
30	13	23,855	-55.7		29	6.0
25	13	25,024	-52.7		28	4.8
20	13	26,475	-49.6		27	8.1
15	9	28,393	-44.5			
10	6	31,183	-37.8			
7						

JOHN F. KENNEDY INT. AP NY 1017 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	8.3	3.3	26	2.3
1000	30	145	8.5	1.6	27	3.6
950	30	569	8.1	.5	27	6.2
900	30	1,016	6.6	-2.5	26	7.8
850	30	1,483	4.8	-6.9	27	9.0
800	30	1,976	2.9	-9.5	27	9.9
750	30	2,494	.2	-13.3	27	11.2
700	30	3,046	-2.4	-16.7	27	13.2
650	30	3,628	-5.7	-18.7	27	15.1
600	30	4,255	-9.5	-22.4	27	16.2
550	30	4,918	-14.0	-26.7	28	17.5
500	30	5,638	-18.7	-32.4	28	18.6
450	30	6,411	-23.9	-36.6	27	20.7
400	30	7,266	-30.2	-42.3	28	21.4
350	30	8,203	-36.8	-47.5	27	23.8
300	30	9,253	-44.5		28	25.4
250	30	10,451	-52.6		28	27.2
200	30	11,869	-58.7		28	29.4
175	30	12,708	-58.5		28	27.7
150	30	13,682	-56.2		28	25.5
125	30	14,841	-56.4		28	22.8
100	30	16,252	-58.1		28	20.2
80	30	17,655	-58.6		28	15.6
70	30	18,494	-59.0		28	13.8
60	30	19,461	-58.6		28	11.9
50	29	20,610	-57.7		29	8.0
40	29	22,024	-55.9		30	3.6
30	28	23,865	-54.2		28	2.2
25	25	25,035	-52.8		29	[illegible]
20	24	26,488	-50.8		26	1.1
15	17	28,388	-47.3		27	3.0
10	5	31,096	-41.1			

JOHNSTON IS., PACIFIC AREA 1017 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	24.4	20.5	08	8.9
1000	30	146	23.2	20.0	08	10.4
950	30	591	19.4	17.7	08	11.9
900	30	1,057	16.3	14.0	09	11.6
850	30	1,543	13.6	10.3	09	10.0
800	30	2,053	11.6	4.5	09	7.8
750	30	2,588	9.5	-1.9	09	6.0
700	30	3,161	6.6	-7.2	10	3.3
650	30	3,761	4.2	-13.5	10	.9
600	30	4,415	.9	-17.1	28	1.0
550	30	5,103	-3.4	-20.8	27	2.6
500	30	5,857	-8.1	-24.5	27	5.7
450	30	6,662	-13.2	-29.2	26	8.5
400	30	7,556	-19.0	-33.9	26	13.9
350	30	8,537	-25.5	-38.3	27	18.8
300	30	9,638	-33.3	-44.5	27	23.9
250	30	10,894	-42.6		27	30.4
200	30	12,365	-53.6		27	32.7
175	30	13,211	-59.8		27	32.1
150	30	14,160	-66.2		28	28.5
125	30	15,248	-72.3		28	21.6
100	30	16,545	-76.3		28	12.5
80	30	17,829	-76.2		30	5.0
70	30	18,604	-73.1		02	1.3
60	30	19,517	-68.4		08	3.3
50	30	20,625	-63.4		09	5.6
40	30	22,006	-59.8		09	8.0
30	29	23,819	-54.9		09	3.9
25	28	24,999	-51.2		03	1.2
20	28	26,462	-46.9		33	1.9
15	28	28,388	-42.2		31	3.3
10	28	31,150	-38.7		31	1.4
7	8	33,580	-35.5			

KEY WEST, FLA. 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	25	3	23.7	20.6	09	2.0
1000	25	128	22.8	19.9	11	2.9
950	25	570	19.6	16.8	11	4.4
900	25	1,039	17.4	12.1	13	3.3
850	25	1,525	15.0	6.5	17	1.8
800	25	2,038	13.1	-.3	23	1.1
750	25	2,570	10.2	-5.4	27	2.6
700	25	3,148	7.0	-10.5	29	4.4
650	25	3,748	3.7	-13.9	29	5.9
600	25	4,398	-.6	-16.9	28	7.3
550	25	5,082	-4.8	-21.1	29	8.4
500	25	5,832	-9.4	-25.8	28	10.4
450	25	6,631	-14.6	-30.7	28	12.3
400	25	7,521	-20.6	-37.0	28	15.5
350	25	8,495	-27.6	-42.4	27	19.6
300	25	9,585	-36.0	-50.0	27	22.3
250	25	10,827	-45.2		27	29.0
200	25	12,283	-54.9		27	35.9
175	25	13,128	-59.5		26	35.0
150	25	14,082	-63.8		26	30.9
125	25	15,190	-67.7		27	26.1
100	25	16,518	-72.0		27	20.7
80	25	17,826	-72.9		27	11.8
70	25	18,613	-70.2		28	6.4
60	25	19,537	-66.2		29	3.3
50	25	20,653	-62.0		32	1.7
40	25	22,047	-58.2		31	1.6
30	25	23,876	-53.9		[illegible]	2.3
25	25	25,053	-50.8		[illegible]	.2
20	25	26,524	-46.2		28	1.6
15	22	28,448	-42.3		27	[illegible]
10	19	31,216	-36.3		27	[illegible]
7	9	33,699	[illegible]			

KING SALMON, ALASKA 999 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	15	-.7	-5.3	03	2.2
1000	30	4			02	2.9
950	30	414	-.6	-5.3	06	3.9
900	30	845	-3.2	[illegible]	08	3.7
850	30	1,295	-6.2	-8.7	09	3.8
800	30	1,767	-9.2	-11.5	10	3.8
750	30	2,265	-12.1	-15.5	11	4.4
700	30	2,789	-15.2	-19.7	11	4.9
650	30	3,343	-18.5	-24.4	11	4.8
600	30	3,940	-22.1	-28.0	12	4.5
550	30	4,570	-26.3	-32.6	12	3.8
500	30	5,257	-30.9	-38.1	13	3.5
450	30	5,993	-36.0	-43.2	12	3.1
400	30	6,808	-41.4	-42.9	13	2.2
350	30	[illegible]	[illegible]		15	1.4
300	30	8,711	-51.9		21	1.3
250	30	9,891	[illegible]		24	3.1
200	30	11,351	-48.4		22	2.2
175	30	12,231	-47.9		23	3.1
150	30	13,248	-47.6		21	3.1
125	30	14,452	-48.1		21	3.1
100	30	15,920	-49.0		21	3.3
80	30	17,385	-49.3		19	3.3
70	30	18,259	-49.9		18	3.2
60	30	19,266	-50.5		17	3.0
50	30	20,453	-51.4		16	3.2
40	30	21,900	-52.1		15	2.8
30	29	23,758	-53.1		12	3.7
25	27	24,935	-53.3		12	3.8
20	25	26,374	-53.1		11	4.2
15	21	28,215	-52.8		10	4.5
10	9	[illegible]	-51.9			

See reference note at end of table

* Station moved [illegible]

RAWINSONDE DATA

Average monthly values

+ KOROR, CAROLINE IS. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	30	28.5	24.4	07	2.5
1000	30	101	27.5	22.9	06	3.6
950	30	552	23.5	19.2	06	6.6
900	30	1,025	20.4	15.1	07	6.5
850	30	1,517	18.0	10.8	07	5.1
800	30	2,035	15.9	5.8	08	3.8
750	30	2,578	13.6	2.0	08	3.4
700	30	3,159	10.5	-1.7	08	2.9
650	30	3,773	7.6	-7.3	09	1.9
600	30	4,428	4.2	-12.1	11	2.6
550	30	5,127	.2	-17.1	09	1.9
500	30	5,888	-4.0	-21.5	11	2.7
450	30	6,706	-8.8	-25.9	10	3.5
400	30	7,617	-14.1	-31.0	09	4.5
350	30	8,617	-20.8	-37.1	10	4.0
300	30	9,737	-29.5	-44.8	13	4.2
250	29	11,008	-40.0	-53.2	14	6.2
200	29	12,491	-52.4		13	8.2
175	29	13,341	-59.0		13	5.9
150	29	14,290	-66.4		11	1.9
125	29	15,372	-73.8		31	1.7
100	29	16,651	-80.4		34	1.1
80	29	17,900	-81.9		09	5.9
70	29	18,658	-76.3		09	8.9
60	29	19,564	-69.5		09	11.5
50	29	20,668	-63.3		09	13.1
40	27	22,060	-57.0		10	4.2
30	26	23,905	-51.3		28	3.6
25	26	25,097	-48.8		27	7.9
20	25	26,578	-45.1		26	12.0
15	23	28,511	-42.3		26	14.0
10	22	31,285	-36.8		26	12.7
7	13	33,768	-32.0			

KOTZEBUE, ALASKA 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	-10.7	-16.1	34	1.0
1000	30	71	-8.0	-14.1	01	1.2
950	30	474	-5.5	-12.0	09	2.0
900	30	896	-6.7	-13.4	11	2.1
850	30	1,340	-8.5	-15.5	13	2.4
800	30	1,808	-11.1	-18.0	14	2.9
750	30	2,300	-14.0	-21.6	15	3.3
700	30	2,822	-17.3	-25.9	16	3.8
650	30	3,371	-20.6	-29.5	15	3.9
600	30	3,962	-24.1	-32.9	16	4.1
550	30	4,586	-27.8	-36.2	16	4.2
500	30	5,271	-32.2	-40.0	16	4.4
450	30	6,006	-37.2	-43.1	17	6.5
400	30	6,813	-43.0	-45.9	18	8.0
350	30	7,701	-49.1		18	8.3
300	30	8,700	-53.9		18	7.4
250	30	9,869	-53.1		18	6.9
200	30	11,322	-49.5		19	5.9
175	30	12,199	-48.8		18	5.8
150	30	13,211	-48.7		18	6.8
125	30	14,411	-48.5		18	6.5
100	30	15,880	-48.2		18	6.3
80	30	17,348	-49.1		18	6.7
70	30	18,223	-49.7		17	6.3
60	30	19,231	-50.2		18	5.7
50	30	20,421	-50.6		17	5.0
40	29	21,875	-51.0		16	4.2
30	29	23,744	-51.7		14	4.6
25	29	24,926	-52.2		13	4.3
20	27	26,371	-52.2		13	4.0
15	23	28,248	-50.9		11	5.2
10	7	30,891	-49.0			

KWAJALEIN, MARSHALL IS. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	26.9	23.9	08	7.9
1000	30	107	26.1	22.7	07	8.7
950	30	558	22.6	20.2	07	10.9
900	30	1,028	19.8	16.5	08	11.4
850	30	1,520	17.5	12.8	09	9.8
800	30	2,038	15.6	9.0	09	8.7
750	30	2,584	13.1	5.1	09	6.9
700	30	3,162	10.1	.3	09	4.5
650	30	3,776	6.7	-4.4	08	2.7
600	30	4,429	2.9	-8.1	09	1.2
550	30	5,130	-.3	-16.2	09	1.4
500	30	5,887	-4.2	-18.9	03	1.4
450	30	6,710	-9.3	-23.6	30	1.3
400	30	7,610	-14.9	-28.9	28	1.4
350	29	8,610	-20.9	-37.7	29	2.4
300	29	9,730	-29.2	-44.7	27	3.4
250	29	11,006	-39.5	-52.9	25	5.5
200	29	12,491	-52.2	-62.8	25	7.5
175	29	13,341	-59.1	-68.9	24	7.5
150	29	14,291	-66.8		25	7.1
125	27	15,369	-75.7		28	6.8
100	22	16,637	-81.8		31	4.4
80	16	17,864	-81.5		07	4.9
70	16	18,622	-77.0		08	7.1
60	13	19,522	-69.6		09	9.6
50	13	20,625	-64.5		09	11.9
40	12	22,000	-59.7		09	7.0
30	12	23,834	-53.0		27	3.8
25	11	25,011	-49.8		28	6.2
20	10	26,481	-46.3		27	7.2
15	10	28,406	-42.9		27	6.6
10	7	31,183	-39.4			

LAKE CHARLES, LA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	15.9	14.4	10	.8
1000	30	122	16.9	14.2	12	2.0
950	30	558	16.0	12.1	16	4.0
900	30	1,019	14.2	7.8	19	4.0
850	30	1,500	12.7	.8	23	4.7
800	30	2,008	10.8	-2.8	25	6.3
750	30	2,541	8.0	-6.6	26	7.0
700	30	3,110	5.0	-11.9	26	7.8
650	30	3,707	1.4	-14.9	27	8.7
600	30	4,350	-3.0	-17.4	27	10.2
550	30	5,026	-7.8	-22.2	27	11.4
500	30	5,768	-12.9	-27.9	26	12.8
450	30	6,559	-18.8	-32.0	26	14.5
400	30	7,431	-24.9	-38.5	27	16.1
350	30	8,389	-31.8	-45.0	27	19.0
300	29	9,457	-40.0	-49.5	27	23.3
250	29	10,677	-49.3		27	27.4
200	29	12,109	-58.0		27	29.9
175	29	12,946	-59.7		27	31.7
150	29	13,910	-59.4		27	29.5
125	29	15,045	-61.5		27	25.4
100	29	16,418	-64.9		27	19.4
80	29	17,771	-67.2		27	13.3
70	29	18,577	-66.8		27	10.0
60	29	19,516	-63.5		28	5.6
50	28	20,639	-62.1		27	3.0
40	27	22,026	-59.6		27	3.6
30	26	23,846	-55.3		29	3.3
25	25	25,021	-52.3		29	3.0
20	23	26,475	-49.3		26	4.6
15	20	28,391	-44.5		26	7.9
10	17	31,137	-38.6		27	13.9

LANDER, WYO. 826 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,696	4.1	-3.0	24	1.0
1000	30	106				
950	30	530				
900	30	981				
850	30	1,458				
800	30	1,954	5.1	-6.1	27	1.5
750	30	2,473	2.2	-8.9	28	2.7
700	30	3,033	-1.5	-12.0	27	3.2
650	30	3,612	-5.6	-15.1	27	4.5
600	30	4,243	-9.6	-19.9	27	4.5
550	30	4,902	-13.8	-25.6	26	5.0
500	29	5,627	-18.8	-31.3	27	6.0
450	29	6,397	-24.5	-37.0	27	5.5
400	29	7,253	-31.2	-42.7	27	4.9
350	29	8,183	-38.8	-49.0	27	5.1
300	29	9,222	-47.2		27	5.8
250	29	10,407	-54.6		27	8.7
200	29	11,821	-58.3		27	12.4
175	29	12,659	-58.5		27	11.4
150	29	13,633	-56.5		26	10.7
125	29	14,789	-56.6		26	10.6
100	29	16,201	-57.7		26	9.9
80	29	17,609	-58.1		27	7.2
70	29	18,450	-58.1		27	6.1
60	29	19,420	-58.8		28	5.1
50	29	20,563	-59.7		29	4.2
40	29	21,958	-59.7		31	2.7
30	29	23,762	-58.4		35	2.0
25	28	24,921	-57.0		02	2.1
20	28	26,340	-54.9		02	1.8
15	27	28,190	-51.0		31	1.5
10	21	30,912	-43.1		28	4.2
7	8	33,317	-37.1			

* LIHUE KAUAI, HAWAII 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	36	20.5	17.3	05	5.9
1000	30	180	20.7	16.5	05	7.9
950	30	616	17.1	14.9	06	9.7
900	30	1,082	13.8	11.5	06	9.3
850	30	1,562	10.6	8.1	07	8.7
800	30	2,066	8.9	-3.7	08	8.0
750	30	2,601	8.2	-13.1	09	5.9
700	30	3,166	5.9	-17.5	09	4.1
650	30	3,766	2.8	-20.1	08	3.5
600	30	4,412	-1.2	-23.4	07	1.8
550	30	5,094	-5.4	-26.6	32	1.3
500	30	5,842	-10.4	-31.0	29	3.0
450	30	6,641	-15.8	-35.5	28	4.5
400	30	7,523	-22.2	-40.3	27	7.1
350	30	8,491	-29.4	-46.0	27	11.4
300	30	9,573	-37.5	-52.0	27	17.6
250	30	10,808	-46.0		27	23.2
200	30	12,261	-55.1		27	32.1
175	30	13,105	-59.4		27	33.8
150	30	14,060	-63.5		27	31.6
125	30	15,169	-67.1		28	23.5
100	27	16,503	-71.2		28	16.1
80	27	17,817	-72.4		28	9.0
70	27	18,604	-70.9		28	6.0
60	27	19,527	-66.4		29	2.6
50	27	20,640	-63.0		10	.7
40	27	22,024	-59.9		08	1.8
30	25	23,829	-56.6		07	2.6
25	25	24,994	-53.4		07	3.3
20	25	26,442	-49.6		12	1.2
15	25	28,343	-45.6		28	5.0
10	24	31,074	-40.8		29	8.2
7	22	33,532	-35.2		28	7.8
5	11	35,719	-31.8			

LITTLE ROCK, ARK. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	79	11.9	9.9	22	.3
1000	30	125	12.6	9.3	17	.3
950	30	558	12.8	7.4	19	2.7
900	30	1,010	10.8	5.2	22	4.0
850	30	1,486	9.6	.1	24	5.4
800	30	1,988	8.0	-5.2	25	6.2
750	30	2,516	5.6	-8.3	26	6.9
700	30	3,080	2.5	-12.6	26	8.2
650	30	3,671	-1.3	-15.9	27	9.3
600	30	4,309	-5.6	-20.4	27	10.2
550	30	4,979	-10.0	-25.2	27	11.2
500	30	5,715	-15.0	-30.4	27	12.1
450	30	6,494	-20.8	-35.6	27	13.5
400	30	7,364	-27.4	-40.2	27	15.6
350	30	8,311	-34.5	-46.3	27	17.8
300	30	9,371	-42.5		27	21.1
250	30	10,579	-51.4		27	23.8
200	30	12,002	-58.9		27	25.3
175	30	12,836	-59.9		27	26.4
150	30	13,805	-58.0		27	24.8
125	30	14,952	-59.2		27	22.4
100	30	16,344	-61.1		27	18.2
80	30	17,724	-62.6		28	12.0
70	30	18,547	-62.6		28	9.7
60	30	19,499	-62.1		29	7.9
50	30	20,628	-61.2		30	5.4
40	30	22,018	-59.6		30	4.3
30	30	23,831	-56.2		30	3.3
25	29	24,994	-54.1		29	4.1
20	27	26,430	-51.4		28	5.7
15	27	28,317	-47.0		27	8.1
10	26	31,046	-40.1		27	12.8
7	7	33,514	-34.1			

MCGRATH, ALASKA 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	103	-2.7	-8.0	34	.8
1000	30	34				
950	30	443	-.9	-7.7	05	3.1
900	30	873	-2.7	-9.3	08	3.2
850	30	1,323	-5.5	-11.1	10	2.8
800	30	1,797	-8.3	-13.4	11	2.8
750	30	2,290	-11.8	-16.1	13	2.7
700	30	2,819	-15.4	-19.5	14	4.0
650	30	3,369	-19.0	-23.9	15	5.0
600	30	3,965	-22.8	-29.2	15	6.1
550	30	4,592	-27.1	-33.4	15	6.8
500	30	5,278	-31.6	-38.4	15	6.9
450	30	6,009	-36.5	-42.7	16	6.9
400	30	6,823	-42.2	-44.4	16	6.1
350	30	7,713	-48.5		16	6.1
300	30	8,714	-53.9		17	5.2
250	30	9,883	-53.3		17	5.1
200	30	11,336	-48.9		17	4.6
175	30	12,214	-48.6		17	4.5
150	30	13,227	-48.4		17	4.9
125	30	14,428	-48.2		18	4.6
100	30	15,895	-48.9		17	5.3
80	30	17,359	-49.3		17	5.0
70	29	18,233	-49.9		17	5.6
60	29	19,239	-50.8		16	5.2
50	29	20,425	-51.3		16	4.8
40	29	21,873	-52.0		16	4.1
30	27	23,733	-53.0		13	3.8
25	27	24,908	-53.2		12	3.6
20	26	26,346	-53.3		11	4.0
15	23	28,205	-52.0		11	6.3
10	11	30,869	-49.4			

+ MAJURO, MARSHALL IS. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	28.0	25.1	08	7.0
1000	30	107	26.4	22.3	08	7.9
950	30	559	22.9	19.0	08	11.8
900	30	1,029	20.4	15.7	08	11.5
850	30	1,522	18.0	12.9	08	10.6
800	30	2,040	15.4	9.5	09	8.1
750	30	2,589	12.9	5.8	09	7.8
700	30	3,164	10.1	2.1	09	5.8
650	30	3,778	7.0	-1.8	09	4.4
600	30	4,432	3.3	-5.7	10	2.8
550	30	5,123	-.6	-9.8	10	1.8
500	30	5,890	-4.7	-15.6	12	1.1
450	30	6,704	-9.0	-20.2	17	1.0
400	30	7,618	-14.2	-26.0	21	1.8
350	30	8,618	-20.6	-34.2	23	2.5
300	30	9,741	-28.5	-42.5	24	3.8
250	30	11,021	-38.7	-52.3	23	5.8
200	30	12,513	-51.1		23	6.8
175	30	13,367	-58.2		24	7.6
150	30	14,320	-65.8		25	6.5
125	30	15,406	-73.5		28	6.0
100	30	16,686	-80.8		30	4.2
80	30	17,940	-80.0		05	2.1
70	30	18,702	-76.0		09	6.1
60	29	19,603	-70.5		09	11.8
50	29	20,705	-63.0		09	13.3
40	29	22,103	-56.0		11	4.4
30	29	23,954	-50.6		26	4.1
25	27	25,145	-47.8		25	7.9
20	25	26,630	-43.7		27	10.4
15	20	28,570	-40.9		27	8.9
10	16	31,344	-37.2		26	6.9

* MEDFORD, OREG. 971 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	401	5.0	2.3	31	.4
1000	30	155				
950	30	577	6.0	1.2	30	1.1
900	30	1,018	4.4	.1	27	1.2
850	30	1,482	2.0	-2.6	22	2.1
800	30	1,969	-.3	-8.4	23	4.4
750	30	2,483	-2.7	-13.0	25	5.4
700	30	3,028	-4.8	-16.3	25	7.4
650	30	3,608	-7.4	-18.8	25	9.4
600	30	4,229	-10.7	-22.2	25	10.2
550	30	4,889	-14.8	-26.5	25	11.2
500	30	5,607	-19.9	-30.4	26	12.1
450	30	6,374	-25.5	-35.5	26	12.3
400	30	7,224	-31.8	-39.9	25	13.7
350	30	8,154	-39.0	-45.1	26	14.9
300	30	9,194	-46.2		27	17.7
250	30	10,386	-53.5		27	19.4
200	30	11,799	-58.9		27	20.8
175	30	12,637	-58.8		27	19.3
150	30	13,609	-57.1		26	16.5
125	30	14,764	-57.0		26	14.3
100	30	16,175	-57.6		26	11.6
80	30	17,584	-57.6		25	8.8
70	30	18,427	-57.5		25	7.2
60	30	19,402	-57.3		24	5.9
50	30	20,554	-58.0		23	3.8
40	29	21,959	-59.0		25	2.2
30	28	23,767	-58.5		31	.9
25	27	24,914	-57.6		32	1.5
20	26	26,333	-56.0		31	2.2
15	26	28,175	-52.9		30	3.9
10	21	30,810	-47.5		29	6.1
7	17	33,202	-40.2		28	10.2
5	7	35,519	-33.8			

MERIDA, MEXICO 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	11	22.7	21.6	11	3.8
1000	30	116	23.0	22.0	11	6.0
950	30	568	21.7	18.8	13	9.5
900	30	1,034	21.1	11.0	13	7.4
850	30	1,528	18.9	7.0	13	4.5
800	30	2,046	15.7	4.7	15	1.9
750	30	2,594	12.4	.5	20	2.0
700	30	3,167	8.9	-5.1	24	2.6
650	30	3,775	5.1	-11.5	27	3.6
600	30	4,426	1.0	-15.6	28	5.4
550	30	5,113	-3.5	-20.0	30	7.6
500	30	5,867	-7.9	-26.8	29	9.2
450	30	6,675	-12.6	-31.8	28	11.3
400	30	7,571	-18.7	-35.9	27	14.4
350	30	8,552	-25.9	-41.4	27	18.8
300	30	9,651	-33.7	-47.7	26	22.5
250	30	10,906	-42.6		27	26.7
200	28	12,383	-52.7		26	28.5
175	25	13,230	-58.5		25	28.5
150	25	14,187	-63.8		26	23.2
125	25	15,294	-68.1		26	18.9
100	25	16,618	-73.0		26	15.4
80	25	17,917	-74.9		27	8.9
70	25	18,694	-72.9		31	2.9
60	25	19,612	-66.8		09	1.8
50	24	20,731	-61.4		04	3.0
40	22	22,125	-58.3		06	5.4
30	22	23,956	-53.3		05	4.7
25	22	25,138	-50.6		08	6.3
20	22	26,606	-46.2		08	4.5
15	20	28,541	-41.8		08	1.7
10	15	31,332	-36.9			
7						

MIAMI, FLA. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	22.4	19.1	09	2.1
1000	30	134	22.0	18.8	10	3.3
950	30	580	19.3	16.4	11	5.0
900	30	1,044	16.6	13.3	13	3.2
850	30	1,529	14.1	9.1	16	1.5
800	30	2,040	12.2	3.2	25	2.4
750	30	2,578	9.4	-2.0	28	3.6
700	30	3,149	6.6	-6.0	29	4.6
650	30	3,752	3.0	-8.8	29	5.6
600	30	4,398	-.8	-12.8	29	7.3
550	30	5,081	-5.0	-19.0	29	8.7
500	30	5,831	-9.9	-23.1	28	10.9
450	30	6,632	-14.8	-27.8	28	13.4
400	30	7,520	-20.6	-34.2	27	16.3
350	30	8,495	-27.7	-39.6	27	20.5
300	30	9,586	-35.8	-47.2	27	24.0
250	30	10,829	-45.0		27	29.7
200	30	12,291	-53.8		27	37.9
175	30	13,141	-57.6		27	38.8
150	30	14,107	-61.2		27	34.3
125	30	15,230	-65.0		27	28.5
100	30	16,577	-69.6		27	21.0
80	30	17,901	-70.6		28	12.0
70	30	18,694	-69.3		28	6.8
60	30	19,620	-66.1		31	4.1
50	29	20,736	-62.2		34	2.1
40	29	22,127	-58.3		01	1.6
30	27	23,953	-53.9		07	3.0
25	26	25,131	-51.5		08	2.9
20	23	26,591	-47.2		12	.3
15	23	28,511	-43.7		26	3.1
10	20	31,271	-36.8		27	9.6
7	10	33,733	-31.7			

MIDLAND, TEXAS 913 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	874	12.2	8.1	15	1.9
1000	30	105				
950	30	539				
900	30	998	13.5	8.9	17	3.8
850	30	1,480	14.0	2.5	21	6.4
800	30	1,991	12.9	-3.5	25	6.0
750	30	2,529	9.6	-7.4	27	6.6
700	30	3,099	5.5	-11.7	27	6.6
650	30	3,700	.9	-14.8	27	8.5
600	30	4,337	-4.2	-18.2	26	9.5
550	30	5,012	-9.1	-22.6	26	13.0
500	30	5,747	-14.0	-29.6	26	13.7
450	30	6,534	-19.6	-35.7	26	15.0
400	30	7,402	-26.3	-40.5	27	15.5
350	30	8,352	-33.8	-45.4	27	18.0
300	30	9,415	-42.1		27	20.5
250	30	10,624	-51.2		26	24.4
200	30	12,048	-58.7		26	27.5
175	30	12,884	-59.8		27	29.0
150	30	13,850	-59.0		27	28.1
125	30	14,990	-60.6		26	23.8
100	30	16,369	-63.3		26	19.6
80	30	17,733	-64.9		27	12.3
70	30	18,547	-65.3		27	6.7
60	29	19,488	-63.8		28	4.0
50	29	20,613	-62.1		29	1.3
40	29	22,001	-59.5		29	2.4
30	29	23,817	-56.0		28	3.0
25	29	24,983	-53.6		28	4.3
20	28	26,430	-50.5		26	6.1
15	28	28,328	-45.4		27	10.7
10	19	31,076	-38.6		27	16.1
7	12	33,546	-34.4			

MONTERREY, MEXICO 966 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	423	18.8	16.5	14	.7
1000	30	123				
950	30	569	18.4	15.4	12	1.6
900	30	1,028	16.6	13.3	13	2.8
850	30	1,515	15.6	7.7	16	3.8
800	30	2,029	14.8	-1.1	18	3.4
750	30	2,575	12.2	-7.1	24	3.2
700	30	3,147	8.8	-11.5	27	4.9
650	30	3,754	4.4	-14.7	27	6.3
600	30	4,402	-.8	-18.0	26	8.8
550	30	5,085	-6.3	-21.4	26	11.1
500	30	5,829	-11.6	-27.5	26	14.2
450	30	6,626	-16.8	-32.4	26	16.3
400	30	7,504	-22.8	-37.9	26	18.8
350	30	8,469	-30.3	-44.1	26	21.1
300	30	9,546	-38.7	-50.4	26	24.9
250	30	10,772	-48.2		26	29.3
200	30	12,210	-57.1		27	34.9
175	30	13,048	-60.5		26	35.9
150	30	14,003	-62.5		26	32.5
125	30	15,120	-65.2		26	25.5
100	30	16,464	-69.5		26	20.4
80	30	17,787	-71.2		26	10.5
70	29	18,575	-70.4		25	6.4
60	29	19,499	-65.9		25	3.2
50	29	20,616	-63.1		12	.4
40	29	22,000	-59.6		08	.4
30	27	23,819	-55.3		05	1.0
25	27	24,992	-52.0		06	.3
20	26	26,452	-47.7		27	1.4
15	26	28,377	-41.9		25	5.4

MONTGOMERY, ALA. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	61	13.3	11.9	12	.4
1000	30	140	14.4	11.2	12	1.6
950	30	576	15.4	7.4	18	3.2
900	30	1,033	13.1	4.5	20	5.1
850	30	1,512	11.0	1.5	22	5.2
800	30	2,016	8.3	-1.7	23	5.8
750	30	2,546	5.8	-6.9	25	6.8
700	30	3,109	3.2	-12.1	26	8.0
650	30	3,703	-.2	-16.7	27	9.4
600	30	4,343	-4.0	-20.4	27	11.9
550	30	5,019	-8.1	-24.7	27	13.3
500	30	5,758	-13.0	-29.2	27	15.0
450	30	6,549	-18.6	-33.8	27	16.4
400	30	7,421	-25.1	-39.0	27	17.6
350	30	8,377	-32.4	-45.8	27	20.1
300	30	9,446	-40.4	-50.0	27	23.0
250	30	10,665	-49.6		27	26.4
200	30	12,095	-58.1		27	30.3
175	30	12,934	-59.0		27	31.0
150	30	13,902	-58.7		27	29.7
125	30	15,042	-60.8		27	27.1
100	30	16,420	-63.5		27	22.7
80	30	17,783	-65.2		27	16.2
70	30	18,597	-64.6		28	11.3
60	30	19,543	-62.8		29	6.9
50	30	20,671	-61.1		28	4.7
40	30	22,064	-59.0		29	4.7
30	29	23,883	-55.1		28	3.7
25	28	25,058	-52.4		28	4.0
20	26	26,505	-49.8		27	6.4
15	22	28,412	-45.6		26	9.6
10	19	31,159	-38.4		27	13.7
7	13	33,647	-32.9			

See reference notes at end of table.

• NANTUCKET, MASS. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	29	14	6.8	4.3	23	2.1
1000	29	148	7.1	1.0	23	3.6
950	29	567	7.1	-1.0	25	8.2
900	29	1,015	5.2	-5.0	26	9.6
850	29	1,481	3.6	-9.4	27	10.5
800	29	1,971	1.5	-10.8	27	11.8
750	29	2,489	-1.2	-12.7	27	12.8
700	29	3,036	-3.9	-15.7	27	14.8
650	29	3,614	-7.0	-18.8	27	16.5
600	28	4,238	-10.1	-24.2	27	18.7
550	28	4,895	-14.3	-28.9	27	18.0
500	28	5,619	-19.1	-33.3	27	19.0
450	28	6,388	-24.8	-39.6	27	20.7
400	28	7,240	-31.1	-45.7	27	22.0
350	28	8,174	-37.9	-50.2	27	24.3
300	28	9,219	-45.6		27	26.9
250	28	10,413	-53.1		27	29.2
200	28	11,831	-58.5		27	27.4
175	28	12,671	-58.0		27	26.7
150	28	13,646	-56.4		27	24.2
125	27	14,805	-56.6		27	20.4
100	27	16,216	-58.0		27	18.3
80	26	17,616	-58.6		27	15.0
70	26	18,455	-58.5		28	13.3
60	26	19,425	-58.0		28	10.7
50	26	20,576	-57.4		28	7.4
40	26	21,990	-55.9		28	5.1
30	25	23,834	-53.9		26	4.1
25	24	25,007	-53.0		26	4.0
20	23	26,448	-51.3		25	4.6
15	23	28,330	-48.2		26	5.4
10	22	31,029	-43.6		27	6.3
7	13	33,454	-38.0		27	7.9

NASHVILLE, TENN. 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	180	11.0	8.2	12	.6
1000	30	140				
950	30	573	12.0	5.3	20	3.2
900	30	1,020	9.5	3.7	23	4.9
850	30	1,494	8.2	-1.0	25	5.8
800	30	1,993	6.0	-4.3	26	6.7
750	30	2,519	3.1	-7.2	26	7.0
700	30	3,075	.3	-12.4	27	7.3
650	30	3,663	-2.7	-16.2	27	8.9
600	30	4,296	-6.8	-20.0	27	9.5
550	30	4,967	-11.0	-24.6	27	9.8
500	30	5,696	-15.8	-29.7	27	11.6
450	30	6,476	-21.5	-35.3	27	12.9
400	30	7,339	-28.1	-41.5	27	15.3
350	30	8,284	-35.3	-46.4	27	17.6
300	30	9,339	-43.4		27	19.8
250	30	10,542	-52.0		28	23.5
200	30	11,962	-59.0		27	25.9
175	30	12,799	-58.5		27	25.1
150	29	13,770	-57.4		27	23.6
125	29	14,919	-58.6		27	21.1
100	29	16,315	-60.6		27	18.1
80	29	17,699	-61.8		28	14.8
70	29	18,524	-61.9		28	11.9
60	28	19,478	-62.0		29	8.7
50	28	20,607	-60.9		29	6.6
40	28	22,001	-58.7		29	5.5
30	27	23,821	-55.7		28	4.8
25	26	24,985	-53.4		27	5.7
20	25	26,425	-51.0		27	7.3
15	23	28,309	-47.3		26	9.3
10	14	31,034	-40.8		26	14.2
7	8	33,520	-34.5			

• NOME, ALASKA 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	5	-6.9	-11.2	03	2.1
1000	30	54			05	2.8
950	30	460	-4.5	-11.5	10	3.8
900	30	884	-5.9	-12.9	11	4.1
850	30	1,330	-8.2	-15.2	11	4.1
800	30	1,799	-10.8	-18.5	11	3.4
750	30	2,288	-13.9	-21.1	13	3.6
700	30	2,814	-17.1	-24.1	13	3.7
650	30	3,361	-20.0	-27.5	14	3.4
600	30	3,957	-23.5	-31.0	14	3.2
550	30	4,583	-27.6	-35.4	15	4.5
500	30	5,269	-31.9	-38.1	15	4.3
450	30	6,000	-37.0	-42.2	16	4.8
400	30	6,813	-42.6	-44.0	16	5.0
350	30	7,704	-48.3		17	4.9
300	30	8,707	-53.1		18	4.5
250	30	9,882	-52.2		21	2.4
200	30	11,337	-49.0		20	1.8
175	30	12,214	-48.6		18	3.1
150	30	13,229	-48.4		20	3.2
125	30	14,428	-48.4		18	4.1
100	30	15,897	-48.2		18	4.7
80	30	17,365	-49.1		17	4.5
70	29	18,240	-49.4		17	4.8
60	28	19,249	-49.9		16	5.5
50	28	20,440	-50.4		17	4.9
40	28	21,895	-51.0		16	4.0
30	28	23,764	-51.6		13	4.1
25	28	24,945	-52.2		13	4.1
20	26	26,396	-51.9		11	4.2
15	25	28,260	-51.5		09	5.7
10	19	30,900	-49.2		10	6.0
7	9	33,331	-44.1			

NORTH PLATTE, NEBR. 915 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	847	4.4	1.3	13	.7
1000	30	115				
950	30	541				
900	30	982	6.4	.6	18	1.5
850	30	1,452	6.8	-1.4	23	3.7
800	30	1,949	5.3	-3.9	26	4.8
750	30	2,476	3.0	-7.5	28	5.3
700	30	3,031	-.3	-11.3	28	5.1
650	30	3,616	-4.2	-14.7	27	5.6
600	30	4,246	-8.4	-18.5	27	6.6
550	30	4,911	-13.1	-23.3	27	7.2
500	30	5,636	-18.0	-29.9	27	8.2
450	30	6,410	-23.8	-36.0	26	8.4
400	30	7,264	-30.5	-41.6	27	9.3
350	30	8,199	-38.0	-48.7	26	10.4
300	30	9,243	-46.1		26	12.2
250	30	10,433	-54.1		26	13.3
200	30	11,847	-58.6		26	15.2
175	30	12,686	-58.3		27	15.3
150	30	13,660	-56.5		27	14.3
125	30	14,816	-57.2		27	13.0
100	30	16,222	-58.0		28	11.3
80	30	17,626	-58.9		28	9.8
70	30	18,463	-59.4		28	7.9
60	30	19,427	-59.7		29	6.8
50	30	20,567	-60.0		31	5.2
40	29	21,960	-59.3		31	3.8
30	28	23,773	-57.5		33	2.0
25	28	24,929	-56.0		34	2.3
20	26	26,352	-53.9		32	2.5
15	26	28,215	-50.2		27	3.8
10	24	30,898	-43.4		27	9.5
7	14	33,316	-38.2			

OAKLAND, CALIF. 101[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	6	9.3	[illegible]	25	1.0
1000	30	147	9.2	[illegible]	26	1.6
950	30	573	8.8	[illegible]	29	3.1
900	30	1,019	8.1	[illegible]	30	4.4
850	30	1,489	6.1	[illegible]	29	4.7
800	30	1,985	4.3	[illegible]	29	4.4
750	30	2,505	1.9	[illegible]	29	4.9
700	30	3,062	-.8	[illegible]	28	6.[illegible]
650	30	3,646	-4.2	-19.4	28	7.1
600	30	4,277	-8.1	-23.5	28	8.8
550	30	4,942	-12.6	[illegible]	28	10.6
500	30	5,670	-17.5	[illegible]	28	12.2
450	30	6,447	-23.0	-36.4	29	14.8
400	30	7,305	-29.2	-42.4	28	16.3
350	30	8,245	-36.7	[illegible]	29	16.7
300	30	9,295	-44.7		29	18.5
250	30	10,493	-52.8		29	21.0
200	30	11,911	-59.2		29	21.9
175	30	12,746	-59.5		28	21.3
150	30	13,713	-58.5		28	19.5
125	30	14,860	-58.6		27	17.0
100	30	16,260	-59.5		27	13.7
80	30	17,655	-59.6		26	11.6
70	30	18,491	-59.3		26	9.1
60	30	19,455	-59.4		26	5.8
50	29	20,596	-60.0		25	3.0
40	29	21,989	-60.1		25	1.0
30	26	23,789	-58.2		33	1.1
25	26	24,941	-56.5		32	1.9
20	24	26,365	-53.5		29	4.1
15	23	28,233	-49.5		30	6.4
10	18	30,959	-42.3		28	11.8

OMAHA, NEBR. 967 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	403	6.4	2.8	15	.9
1000	30	121				
950	30	541	7.2	1.8	18	1.1
900	30	989	7.1	-1.7	23	1.8
850	30	1,459	6.3	-4.8	28	2.9
800	30	1,954	4.4	-8.6	29	3.7
750	30	2,477	1.8	-11.1	29	4.7
700	30	3,032	-1.0	-14.1	29	5.6
650	30	3,615	-4.3	-19.1	28	6.7
600	30	4,247	-8.5	-22.5	27	7.6
550	30	4,913	-12.8	-26.8	27	8.9
500	30	5,638	-18.1	-31.5	27	9.5
450	30	6,414	-23.6	-36.5	27	9.7
400	30	7,270	-30.1	-41.6	26	10.6
350	30	8,206	-37.6	-47.6	26	11.7
300	30	9,251	-45.7		26	13.2
250	30	10,441	-54.4		26	14.0
200	30	11,849	-59.6		27	17.6
175	30	12,686	-58.2		27	18.4
150	30	13,660	-56.8		27	15.6
125	30	14,815	-56.7		27	13.6
100	30	16,224	-58.1		28	12.0
80	30	17,628	-58.7		28	11.0
70	30	18,465	-59.4		29	9.0
60	30	19,429	-59.9		29	7.9
50	30	20,569	-59.6		30	6.4
40	29	21,965	-58.7		32	3.8
30	26	23,774	-56.9		33	3.2
25	25	24,928	-56.2		33	2.8
20	23	26,367	-53.5		30	2.4
15	20	28,238	-50.1		27	3.1
10	18	30,935	-42.7		26	8.1
7	6	33,398	-36.8			
5						

PAGO PAGO, AMERICAN SAMOA • 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	29	5	29.0	25.1	07	2.1
1000	29	98	27.6	22.9	06	2.3
950	29	548	23.9	19.4	04	3.1
900	29	1,024	20.9	16.2	02	3.4
850	29	1,518	18.0	12.6	36	3.4
800	29	2,036	15.6	9.3	35	3.4
750	29	2,578	12.9	5.5	34	3.1
700	29	3,159	9.7	1.5	33	2.3
650	29	3,770	6.5	-2.2	32	1.9
600	29	4,426	3.1	-6.7	31	1.6
550	29	5,118	-.4	-11.3	31	1.5
500	29	5,884	-4.3	-16.6	30	1.8
450	29	6,701	-9.0	-22.2	27	1.7
400	29	7,612	-14.4	-28.2	26	2.9
350	29	8,611	-21.0	-35.5	26	2.6
300	29	9,732	-29.3	-43.0	24	3.9
250	29	11,007	-39.7	-52.3	23	5.4
200	28	12,491	-52.1		23	7.0
175	28	13,341	-59.4		22	8.7
150	28	14,290	-66.6		22	9.6
125	28	15,375	-73.3		23	8.0
100	28	16,659	-79.4		24	4.8
80	28	17,929	-77.1		18	1.0
70	28	18,703	-72.9		10	4.3
60	27	19,619	-67.7		10	10.1
50	27	20,728	-63.3		09	13.6
40	27	22,117	-58.0		08	14.2
30	27	23,955	-52.6		09	10.7
25	27	25,142	-48.9		09	7.6
20	26	26,620	-45.5		08	3.5
15	25	28,561	-40.7		08	1.4
10	18	31,341	-36.6		22	1.1
7	8	33,838	-32.8			

• PEORIA, ILL. 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	200	7.0	4.2	13	.5
1000	30	129				
950	30	552	8.3	2.7	23	2.5
900	30	998	7.2	-.4	25	3.0
850	30	1,468	5.7	-3.8	27	4.3
800	30	1,963	4.2	-8.2	27	5.3
750	30	2,487	1.6	-12.2	27	4.9
700	30	3,040	-1.5	-15.3	27	5.9
650	30	3,623	-4.9	-20.0	28	7.2
600	30	4,251	-8.7	-23.7	28	8.9
550	30	4,913	-12.9	-28.0	27	10.2
500	30	5,640	-17.9	-33.6	27	11.3
450	30	6,413	-23.6	-38.3	28	12.2
400	30	7,269	-30.1	-42.7	27	14.1
350	30	8,205	-37.3	-48.3	28	15.2
300	30	9,252	-45.2		27	17.1
250	30	10,448	-53.1		28	19.7
200	29	11,864	-58.2		27	21.1
175	29	12,704	-57.9		28	20.3
150	29	13,680	-56.1		28	19.5
125	29	14,839	-56.5		28	17.2
100	29	16,250	-58.1		28	14.9
80	29	17,651	-59.3		29	12.8
70	29	18,486	-59.7		29	10.6
60	29	19,449	-59.8		30	9.0
50	29	20,589	-59.1		30	6.1
40	29	21,991	-57.8		30	4.6
30	29	23,812	-56.1		31	2.9
25	28	24,978	-54.6		30	2.0
20	27	26,408	-52.9		30	2.9
15	26	28,280	-48.8		27	4.9
10	25	30,981	-42.2		26	9.1
7	16	33,421	-36.7		26	13.2
5	5	35,813	-32.2			

• PITTSBURGH, PA. 973 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	359	7.2	2.2	24	1.7
1000	30	134				
950	30	556	9.0	.9	24	3.7
900	30	1,004	6.6	-1.5	26	6.3
850	30	1,471	4.7	-4.6	27	7.7
800	30	1,964	2.9	-7.3	27	9.1
750	30	2,484	.2	-11.0	27	10.2
700	30	3,035	-2.6	-15.2	27	10.2
650	30	3,618	-6.0	-18.5	27	11.2
600	30	4,243	-9.5	-22.7	28	12.5
550	30	4,907	-13.6	-26.7	28	13.4
500	30	5,629	-18.5	-30.5	28	14.2
450	30	6,402	-23.9	-35.3	28	15.1
400	30	7,257	-30.2	-41.2	28	16.4
350	30	8,194	-37.3	-46.8	28	18.5
300	30	9,242	-44.8		27	21.0
250	30	10,441	-52.6		27	23.4
200	30	11,862	-58.3		28	24.9
175	30	12,702	-58.1		28	23.6
150	30	13,677	-56.2		28	21.3
125	30	14,836	-56.4		28	19.8
100	29	16,248	-57.8		28	16.4
80	28	17,656	-59.0		28	13.5
70	28	18,492	-59.3		29	11.6
60	28	19,458	-59.1		29	8.8
50	28	20,603	-58.2		29	7.8
40	28	22,012	-56.8		30	5.8
30	27	23,844	-54.7		28	4.1
25	27	25,014	-53.3		28	4.3
20	27	26,458	-51.2		27	3.7
15	25	28,342	-47.8		27	5.5
10	22	31,045	-42.4		26	6.4
7	15	33,475	-36.6		26	7.8

PONAPE, CAROLINE IS. • 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	39	28.0	24.5	07	3.4
1000	30	90	27.3	23.3	07	4.5
950	30	538	23.6	19.3	08	8.5
900	30	1,015	20.9	16.1	09	10.2
850	30	1,508	18.4	12.3	09	9.8
800	30	2,027	16.6	7.5	09	7.8
750	30	2,576	13.8	4.1	10	6.4
700	30	3,154	10.4	1.2	10	5.6
650	30	3,765	7.3	-3.3	10	5.9
600	30	4,424	3.8	-7.8	09	4.9
550	30	5,120	.2	-11.9	09	4.0
500	30	5,886	-3.6	-16.7	08	4.4
450	30	6,707	-8.1	-23.2	08	4.7
400	30	7,620	-13.5	-30.0	08	4.3
350	30	8,623	-19.9	-36.2	07	4.5
300	30	9,749	-28.1	-44.2	08	3.9
250	29	11,029	-38.6	-53.3	13	4.3
200	28	12,520	-51.1		14	4.8
175	28	13,374	-58.3		13	4.7
150	28	14,326	-65.9		15	3.1
125	28	15,411	-73.9		13	1.0
100	28	16,691	-80.1		01	1.1
80	27	17,942	-81.2		08	6.0
70	27	18,702	-75.9		08	9.3
60	26	19,608	-69.3		09	13.5
50	24	20,715	-62.2		09	14.1
40	23	22,116	-55.7		10	2.7
30	23	23,970	-50.7		27	6.4
25	22	25,165	-48.1		27	7.3
20	22	26,648	-44.4		26	9.5
15	21	28,589	-41.5		27	9.4
10	20	31,361	-36.5		26	6.8
7	11	33,851	-32.0			

PORTLAND, MAINE 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	20	3.0	-1.4	35	.8
1000	30	136	4.1	-2.7	32	1.3
950	30	551	3.6	-4.6	28	3.6
900	30	991	1.9	-7.2	27	5.2
850	30	1,450	.1	-9.1	27	8.0
800	30	1,935	-1.6	-12.0	27	10.1
750	30	2,443	-3.8	-14.4	27	12.7
700	30	2,989	-6.4	-17.1	28	14.6
650	30	3,561	-9.4	-20.4	28	16.4
600	30	4,181	-12.6	-24.6	28	19.2
550	30	4,831	-16.1	-29.1	28	21.8
500	30	5,552	-20.8	-33.8	28	22.4
450	30	6,310	-26.3	-39.1	27	24.4
400	30	7,163	-32.6	-43.9	27	25.8
350	30	8,091	-39.5	-48.3	27	27.7
300	30	9,129	-47.0		27	30.8
250	30	10,317	-54.2		28	29.9
200	30	11,736	-56.8		27	28.7
175	30	12,583	-55.9		27	26.3
150	30	13,568	-54.7		28	23.2
125	30	14,733	-55.6		28	20.0
100	30	16,151	-56.5		28	17.4
80	29	17,565	-57.3		28	13.3
70	29	18,410	-57.2		28	10.2
60	29	19,385	-57.1		28	7.7
50	28	20,546	-56.8		29	4.3
40	27	21,965	-55.4		28	3.7
30	24	23,822	-54.1		27	1.5
25	23	24,995	-53.1		26	.9
20	20	26,456	-51.5		25	.8
15	18	28,340	-48.4		23	1.3
10	10	31,062	-43.0			
7						
5						
4						

• QUILLAYUTE, WASH. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	58	5.4	4.8	11	.9
1000	30	129	5.5	4.0	14	1.4
950	30	543	4.4	1.7	19	5.9
900	30	987	1.7	-1.3	20	7.7
850	30	1,446	-.9	-4.4	20	8.5
800	30	1,928	-3.4	-8.1	21	9.0
750	30	2,439	-5.9	-13.[illegible]	21	9.6
700	30	2,974	-8.3	-16.3	22	9.3
650	30	3,546	-11.3	-20.5	22	10.4
600	30	4,157	-14.6	-23.7	23	12.4
550	30	4,806	-18.3	-27.2	23	13.7
500	30	5,517	-22.9	-30.9	23	15.1
450	30	6,281	-27.8	-36.3	23	17.3
400	30	7,119	-33.8	-40.5	23	19.1
350	30	8,042	-40.6	-45.0	23	19.0
300	30	9,075	-47.9		24	19.5
250	30	10,258	-54.7		25	19.7
200	30	11,675	-56.3		24	17.1
175	30	12,526	-54.9		24	14.9
150	30	13,515	-53.6		24	13.7
125	30	14,687	-53.9		24	10.9
100	30	16,117	-54.9		23	8.4
80	30	17,543	-55.0		23	6.3
70	30	18,396	-55.4		22	4.1
60	29	19,376	-55.8		22	4.2
50	29	20,536	-56.4		21	2.4
40	28	21,955	-57.3		21	1.9
30	26	23,782	-57.6		21	1.3
25	26	24,935	-57.1		19	.9
20	24	26,343	-56.7		11	.5
15	18	28,170	-55.5		03	1.8
10	11	30,788	-50.8			
7	7	33,151	-45.8			

RAPID CITY, S. DAK. 901 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	966	4.5	-.9	33	2.3
1000	28	101				
950	28	525				
900	28	971			35	.6
850	28	1,440	6.5	-1.6	28	4.1
800	28	1,936	5.4	-3.8	28	4.8
750	28	2,458	3.1	-5.7	28	5.4
700	28	3,018	-.6	-9.9	28	5.9
650	28	3,601	-4.5	-13.5	27	5.7
600	28	4,232	-8.9	-18.0	27	5.5
550	28	4,893	-13.4	-23.0	27	6.7
500	28	5,619	-18.7	-28.7	27	6.7
450	28	6,391	-24.4	-35.4	27	7.8
400	28	7,243	-30.9	-41.6	27	10.1
350	28	8,176	-38.2	-47.9	27	11.5
300	28	9,219	-46.2		26	11.8
250	28	10,409	-54.8		27	12.0
200	28	11,820	-58.6		27	13.0
175	28	12,659	-58.2		27	12.9
150	28	13,635	-56.4		27	12.1
125	28	14,793	-56.2		28	10.9
100	28	16,207	-57.3		28	9.9
80	27	17,614	-58.1		28	8.4
70	27	18,455	-58.1		28	7.2
60	27	19,425	-58.5		29	6.5
50	27	20,568	-59.2		30	5.1
40	27	21,967	-58.4		31	3.9
30	27	23,782	-57.4		34	2.2
25	26	24,934	-56.5		36	2.0
20	26	26,357	-54.0		01	1.6
15	25	28,212	-51.0		01	.9
10	18	30,912	-43.5		28	5.0
7	7	33,272	-38.4			

ST CLOUD, MINN. 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	316	3.4	.5	17	.6
1000	30	125				
950	30	545	5.4	.0	16	1.1
900	30	985	5.4	-2.8	24	1.7
850	30	1,452	4.3	-6.6	28	2.4
800	30	1,944	2.4	-9.6	30	3.1
750	30	2,460	-.2	-12.[illegible]	29	4.3
700	30	3,013	-3.3	-14.5	28	5.0
650	30	3,589	-6.7	-18.3	28	5.9
600	30	4,217	-10.6	-22.5	29	7.2
550	30	4,876	-14.9	-27.3	29	8.5
500	30	5,596	-19.7	-32.3	29	9.4
450	30	6,364	-25.1	-37.5	29	10.5
400	30	7,216	-31.4	-43.2	29	11.3
350	30	8,147	-38.7	-48.1	29	13.2
300	30	9,188	-46.5		29	15.6
250	30	10,375	-54.7		28	17.4
200	30	11,786	-58.3		28	17.1
175	30	12,629	-56.9		29	15.5
150	30	13,610	-55.1		29	14.1
125	30	14,775	-55.1		29	12.1
100	30	16,197	-56.4		30	10.0
80	29	17,610	-57.0		30	9.3
70	29	18,434	-57.5		30	8.8
60	29	19,425	-57.9		31	8.1
50	29	20,575	-57.4		32	6.0
40	29	21,987	-56.5		34	4.0
30	29	23,815	-55.7		01	2.5
25	29	24,978	-54.7		03	2.2
20	25	26,403	-53.1		04	1.7
15	17	28,283	-49.9		07	1.2
10	7	31,009	-44.4			

• ST PAUL IS., ALASKA 100[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	10	-1.7	-3.2	03	2.6
1000	30	21			35	3.2
950	30	428	-3.8	-5.5	04	1.7
900	30	854	-5.5	-9.3	07	1.0
850	30	1,301	-7.6	-13.6	10	.3
800	30	1,771	-10.4	-16.6	32	.7
750	30	2,265	-12.8	-20.6	32	.4
700	30	2,789	-16.0	-23.8	27	.5
650	30	3,341	-18.9	-28.0	29	1.2
600	30	3,937	-22.1	-31.5	28	1.5
550	30	4,568	-25.6	-34.9	29	2.1
500	30	5,259	-29.3	-37.7	28	3.3
450	30	6,000	-33.8	[illegible]	29	3.8
400	30	6,821	-39.5	-44.3	28	3.6
350	30	7,722	-45.6	-47.4	27	4.9
300	30	8,737	-50.4		27	7.0
250	30	9,923	-51.6		28	9.2
200	30	11,373	-50.4		28	7.2
175	30	12,246	-49.5		28	7.0
150	30	13,256	-49.3		27	5.9
125	30	14,449	-49.6		26	6.1
100	29	15,907	-50.4		26	5.4
80	29	17,362	-50.9		23	4.1
70	29	18,230	-51.0		22	4.1
60	29	19,232	-51.4		21	3.6
50	29	20,415	-51.5		18	3.4
40	29	21,863	-51.9		17	3.1
30	29	23,724	-52.7		16	3.1
25	29	24,90[illegible]	-53.2		14	2.8
20	29	26,335	-53.4		13	3.[illegible]
15	29	28,190	-52.5		09	3.8
10	26	30,824	-49.7		09	5.3
7	19	33,175	-45.9		07	4.2
5	12	35,423	-43.[illegible]		06	4.6
4	5	3[illegible],874	-42.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALEM, OREG. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	61	5.9	3.5	19	2.1
1000	30	146	6.3	3.2	19	2.3
950	30	565	5.3	.2	21	3.8
900	30	1,007	2.8	-1.5	21	4.6
850	30	1,467	.4	-4.1	23	6.0
800	30	1,952	-2.1	-7.1	23	7.6
750	30	2,461	-4.7	-12.1	23	9.1
700	30	3,003	-7.0	-16.6	24	8.9
650	30	3,577	-9.6	-19.9	24	10.5
600	30	4,193	-12.8	-23.8	24	11.1
550	30	4,849	-16.8	-27.2	25	12.4
500	30	5,561	-21.3	-29.9	24	14.9
450	30	6,323	-26.5	-36.2	25	15.4
400	30	7,172	-32.7	-40.6	25	16.1
350	30	8,099	-39.6	-45.2	25	16.7
300	30	9,136	-47.3		25	17.7
250	30	10,320	-54.5		26	18.2
200	30	11,731	-58.6		25	19.0
175	30	12,573	-57.0		25	17.9
150	30	13,553	-55.2		25	14.6
125	30	14,716	-55.6		25	11.9
100	30	16,134	-56.4		25	9.2
80	30	17,550	-56.5		24	7.2
70	30	18,397	-56.3		24	5.6
60	30	19,376	-56.6		23	4.7
50	30	20,530	-57.6		23	3.4
40	30	21,936	-58.3		24	1.0
30	28	23,747	-58.3		27	.5
25	28	24,896	-57.6		35	1.3
20	26	26,317	-56.4		01	2.2
15	23	28,150	-53.5		36	2.0
10	14	30,815	-46.5		30	5.7
7						
5						

SALT LAKE CITY, UTAH 869 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	1,288	5.9	-1.0	16	1.6
1000	30	124				
950	30	551				
900	30	1,001				
850	30	1,473	7.8	-2.7	17	1.9
800	30	1,971	5.5	-5.5	20	2.6
750	30	2,491	1.8	-8.1	23	3.0
700	30	3,048	-2.1	-11.1	25	4.1
650	30	3,632	-6.1	-15.3	26	4.9
600	30	4,255	-10.2	-19.6	27	5.2
550	30	4,920	-14.5	-24.7	26	5.8
500	30	5,637	-19.2	-31.0	26	6.6
450	30	6,411	-24.6	-36.5	27	8.0
400	30	7,259	-31.2	-42.3	27	8.4
350	30	8,191	-38.5	-48.9	27	8.6
300	30	9,232	-46.7		27	9.4
250	30	10,420	-53.9		27	12.7
200	30	11,838	-57.7		27	14.9
175	30	12,681	-57.5		27	13.5
150	30	13,655	-56.9		26	13.1
125	30	14,808	-57.5		27	12.9
100	30	16,217	-58.3		26	11.1
80	30	17,621	-58.1		26	8.3
70	30	18,461	-58.8		26	7.3
60	30	19,427	-59.5		26	4.2
50	30	20,566	-60.1		28	2.6
40	29	21,953	-60.4		32	1.9
30	29	23,749	-59.1		33	1.7
25	27	24,899	-57.4		33	2.3
20	25	26,329	-54.8		32	2.4
15	24	28,185	-50.6		29	4.2
10	23	30,879	-43.2		27	7.7
7	10	33,307	-39.6			
5						

SAN DIEGO, CALIF. 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	124	11.9	8.8	08	.1
1000	30	126			04	.1
950	30	556	12.0	5.1	29	1.1
900	30	1,009	10.9	-.7	31	2.6
850	30	1,485	9.9	-6.6	29	3.9
800	30	1,987	8.1	-10.0	29	5.3
750	30	2,516	5.8	-13.4	28	7.1
700	30	3,080	3.5	-16.6	28	8.4
650	30	3,676	.4	-19.3	28	10.0
600	30	4,315	-3.7	-21.9	28	10.3
550	30	4,993	-8.5	-26.3	28	11.4
500	30	5,729	-13.9	-31.0	28	12.7
450	30	6,516	-19.9	-36.1	28	13.8
400	30	7,384	-26.7	-41.8	28	15.4
350	30	8,334	-34.1	-47.1	28	16.8
300	30	9,395	-42.3	-50.5	28	18.7
250	30	10,604	-51.1		28	20.3
200	30	12,029	-58.9		28	23.5
175	30	12,862	-60.8		27	24.8
150	30	13,824	-59.5		27	25.2
125	30	14,965	-59.8		27	22.8
100	30	16,353	-61.5		26	16.5
80	29	17,730	-62.9		26	12.5
70	29	18,553	-62.5		27	8.1
60	29	19,502	-62.5		28	4.8
50	29	20,629	-61.6		31	2.0
40	29	22,014	-60.3		33	1.9
30	29	23,820	-57.2		31	1.6
25	29	24,978	-55.0		29	3.0
20	27	26,413	-51.5		28	5.3
15	26	28,293	-47.4		27	9.2
10	22	30,999	-39.8		27	16.5
7	11	33,478	-35.6			
5						

SAN JUAN, P. R. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	6	24.6	21.9	15	1.4
1000	30	130	24.0	20.2	11	3.6
950	30	575	21.4	16.3	10	5.1
900	30	1,046	18.7	12.8	11	4.9
850	30	1,535	16.0	9.0	10	3.9
800	30	2,048	13.8	3.4	10	2.2
750	29	2,587	10.9	-1.2	10	1.6
700	29	3,162	7.8	-5.9	07	1.2
650	29	3,766	5.2	-10.7	01	.4
600	29	4,419	2.3	-16.7	29	1.8
550	29	5,109	-1.4	-22.0	28	3.7
500	29	5,869	-5.8	-25.5	28	6.0
450	29	6,679	-10.9	-29.7	28	8.8
400	29	7,582	-16.9	-35.6	28	11.1
350	29	8,570	-23.9	-41.0	28	14.6
300	29	9,677	-32.2	-48.1	28	19.0
250	29	10,938	-41.5		27	24.0
200	29	12,414	-52.9		27	25.3
175	29	13,262	-59.4		27	25.1
150	29	14,211	-66.2		27	24.7
125	29	15,299	-71.9		28	19.6
100	29	16,598	-76.3		29	11.7
80	28	17,878	-77.0		32	4.3
70	28	18,651	-73.7		03	2.6
60	28	19,564	-67.9		06	4.2
50	28	20,676	-62.6		07	6.6
40	28	22,064	-59.1		09	7.5
30	27	23,884	-54.0		09	6.5
25	26	25,064	-50.3		11	4.1
20	20	26,553	-45.8		21	2.0
15	19	28,494	-41.0		24	2.4
10	14	31,294	-36.3		26	2.9
7	5	33,761	-33.1			
5						

SAN NICOLAS, CALIF. 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	29	174	11.4	7.3	31	4.8
1000	29	127				
950	29	559	13.4	.2	32	5.3
900	29	1,012	11.7	-6.1	31	4.5
850	29	1,488	10.3	-12.1	30	4.7
800	29	1,991	8.5	-13.2	29	5.4
750	29	2,521	5.9	-16.2	29	7.3
700	29	3,083	3.4	-19.0	29	8.8
650	29	3,679	-.4	-21.1	28	10.1
600	29	4,314	-4.5	-24.6	28	10.5
550	29	4,993	-9.5	-28.5	28	11.0
500	29	5,722	-14.5	-32.2	28	12.4
450	29	6,511	-20.6	-36.8	28	14.1
400	29	7,371	-27.3	-42.8	28	15.7
350	29	8,318	-34.9	-49.0	27	17.1
300	29	9,375	-43.3	-56.2	28	18.7
250	29	10,577	-52.5	-63.7	28	21.1
200	29	11,991	-59.8	-67.7	28	21.9
175	29	12,822	-61.5	-69.1	27	23.0
150	29	13,781	-60.0		27	21.8
125	29	14,918	-60.9		27	20.5
100	29	16,300	-62.5		26	16.5
80	29	17,673	-63.3		26	11.1
70	29	18,494	-62.8		26	6.9
60	29	19,444	-62.4		27	4.6
50	29	20,572	-62.0		31	1.2
40	29	21,956	-60.5		34	1.3
30	29	23,762	-57.4		31	1.8
25	29	24,921	-54.8		31	3.6
20	29	26,359	-51.3		27	6.4
15	28	28,243	-46.9		27	9.1
10	22	30,967	-40.6		27	16.4
7	14	33,438	-33.6		27	21.1
5	5	35,807	-30.0			

* SAULT STE MARIE, MICH. 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	221	-.2	-3.4	07	1.6
1000	30	136				
950	30	550	2.1	-4.4	08	.6
900	30	985	1.8	-5.0	28	1.8
850	30	1,445	.3	-7.5	29	4.0
800	30	1,930	-1.4	-9.7	30	5.3
750	30	2,439	-3.2	-11.6	29	6.9
700	30	2,987	-5.6	-14.1	29	8.6
650	30	3,561	-8.7	-17.4	30	10.3
600	30	4,182	-12.5	-20.9	30	11.2
550	30	4,838	-16.8	-24.4	30	12.5
500	30	5,552	-21.4	-30.9	30	13.3
450	30	6,318	-26.9	-36.2	30	15.3
400	30	7,162	-32.8	-43.1	29	17.5
350	30	8,088	-39.7	-47.4	29	19.8
300	30	9,125	-47.3		29	22.4
250	30	10,312	-54.2		29	24.1
200	30	11,731	-56.7		29	24.9
175	30	12,580	-55.1		29	21.4
150	30	13,569	-53.4		29	18.3
125	30	14,742	-53.8		29	16.3
100	30	16,172	-55.1		29	12.9
80	30	17,596	-55.7		29	10.5
70	30	18,445	-56.1		30	8.8
60	29	19,426	-56.2		30	8.1
50	29	20,586	-55.8		30	5.1
40	29	22,009	-55.1		33	3.1
30	29	23,851	-54.1		34	2.0
25	29	25,022	-53.3		02	1.8
20	28	26,461	-51.8		06	1.4
15	26	28,327	-49.1		12	1.5
10	24	31,023	-44.0		22	2.2
7	18	33,422	-38.5		24	6.2
5						

* SHEMYA, ALASKA 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	29	38	.9	-1.6	25	3.5
1000	29	12			25	1.7
950	29	421	-1.9	-3.8	26	4.5
900	29	850	-4.6	-6.8	26	5.4
850	29	1,299	-7.1	-10.2	27	5.3
800	29	1,770	-9.6	-14.3	27	4.9
750	29	2,265	-12.3	-18.7	27	4.9
700	29	2,791	-14.7	-21.6	27	5.2
650	29	3,347	-17.6	-24.0	27	6.5
600	29	3,945	-20.8	-27.8	27	7.0
550	29	4,581	-24.4	-32.1	27	8.1
500	29	5,274	-28.5	-36.9	27	8.7
450	29	6,019	-33.1	-42.1	27	10.1
400	29	6,842	-38.4	-44.0	27	12.0
350	29	7,748	-44.2	-46.8	27	14.8
300	29	8,770	-48.9		26	12.3
250	29	9,963	-49.9		26	18.2
200	29	11,420	-50.3		26	18.1
175	29	12,290	-50.6		26	17.0
150	29	13,294	-50.5		26	16.4
125	29	14,480	-51.3		26	14.4
100	29	15,926	-52.3		26	13.1
80	29	17,368	-53.1		26	10.9
70	29	18,227	-53.7		26	9.9
60	28	19,215	-53.9		25	9.0
50	28	20,386	-53.6		25	7.8
40	28	21,823	-53.1		25	6.4
30	28	23,678	-52.9		22	3.0
25	28	24,853	-53.1		18	1.5
20	26	26,293	-52.9		04	.3
15	23	28,157	-51.5		02	2.5
10	18	30,808	-48.4		03	4.4
7	13	33,165	-45.3		02	7.8
5	12	35,413	-42.5			

* SHREVEPORT, LA. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	79	14.3	11.9	13	.9
1000	30	122			13	1.7
950	30	562	14.8	10.1	18	4.6
900	30	1,016	13.7	5.5	21	5.6
850	30	1,496	11.6	1.0	23	5.3
800	30	2,003	10.3	-3.2	24	6.1
750	30	2,537	7.7	-7.4	26	6.7
700	30	3,104	4.4	-11.6	27	6.5
650	30	3,702	.6	-14.7	27	7.4
600	30	4,342	-3.7	-19.0	27	8.7
550	30	5,016	-8.7	-23.5	27	10.8
500	30	5,755	-13.8	-28.8	27	11.8
450	30	6,543	-19.5	-33.7	26	13.0
400	30	7,414	-25.8	-39.0	26	14.6
350	30	8,368	-32.9	-45.5	26	17.8
300	30	9,435	-40.9	-50.8	26	20.6
250	30	10,650	-49.9		26	24.6
200	30	12,080	-58.2		27	27.8
175	30	12,917	-59.5		27	29.2
150	30	13,886	-58.2		27	27.8
125	30	15,031	-59.7		26	25.3
100	30	16,418	-62.7		27	20.3
80	30	17,785	-64.4		27	15.3
70	30	18,602	-64.6		27	10.6
60	30	19,546	-62.8		28	6.3
50	29	20,676	-60.9		28	4.6
40	28	22,066	-58.8		28	4.2
30	28	23,889	-54.8		29	4.1
25	28	25,062	-52.5		29	5.2
20	27	26,510	-49.8		27	7.2
15	25	28,405	-45.4		26	9.6
10	24	31,144	-38.6		27	16.4
7	19	33,634	-32.4		26	20.1
5	9	36,060	-26.4			

SPOKANE, WASH. 930 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	720	4.4	1.6	19	2.6
1000	30	123				
950	30	542				
900	30	987	5.1	-.5	21	4.5
850	30	1,453	3.1	-3.5	22	6.0
800	30	1,942	.0	-5.9	23	6.5
750	30	2,454	-3.0	-8.4	23	6.4
700	30	3,000	-6.3	-12.4	22	7.1
650	30	3,572	-9.8	-16.1	23	7.9
600	30	4,190	-13.4	-20.4	23	9.4
550	30	4,842	-17.4	-25.5	24	10.0
500	30	5,556	-21.9	-31.1	24	12.2
450	30	6,314	-27.1	-36.5	23	14.4
400	30	7,162	-33.2	-41.1	24	14.9
350	30	8,087	-40.2	-45.1	24	14.7
300	30	9,121	-47.9		25	15.6
250	30	10,304	-54.5		25	17.2
200	30	11,723	-56.9		25	15.0
175	30	12,572	-55.4		25	13.5
150	30	13,558	-54.3		25	11.5
125	30	14,727	-54.7		25	9.2
100	29	16,152	-55.4		24	7.0
80	29	17,572	-56.1		24	5.9
70	29	18,422	-55.5		24	5.0
60	29	19,403	-56.4		25	3.5
50	29	20,557	-57.7		26	3.1
40	29	21,963	-58.3		28	1.6
30	29	23,776	-57.8		01	1.1
25	28	24,925	-57.3		05	1.4
20	28	26,339	-56.0		06	1.8
15	27	28,187	-53.4		03	1.7
10	16	30,818	-47.3		30	2.3
7	5	33,311	-40.3			
5						

* SWAN ISLAND, W. I. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	10	26.4	22.9	11	3.8
1000	30	107	25.7	22.5	10	4.5
950	30	558	22.4	19.9	11	5.8
900	30	1,029	19.8	15.2	12	5.9
850	30	1,520	17.1	10.2	12	5.2
800	30	2,036	14.8	3.7	11	3.9
750	30	2,580	12.4	-3.1	09	3.5
700	30	3,156	9.5	-7.6	08	2.5
650	30	3,766	6.5	-12.1	02	1.0
600	30	4,420	2.8	-16.4	30	1.8
550	30	5,111	-1.2	-19.2	28	3.9
500	30	5,873	-5.4	-22.5	28	6.2
450	30	6,686	-10.5	-29.0	28	8.1
400	30	7,589	-16.8	-33.5	28	9.9
350	30	8,578	-23.8	-38.1	28	13.1
300	30	9,685	-31.9	-44.6	27	16.2
250	30	10,948	-41.3		26	20.9
200	30	12,425	-52.9		26	23.6
175	30	13,272	-59.8		26	23.4
150	30	14,219	-66.9		26	22.1
125	30	15,306	-71.6		26	18.2
100	30	16,607	-76.2		27	9.5
80	30	17,889	-77.3		30	2.2
70	30	18,657	-75.8		09	2.0
60	30	19,559	-70.4		09	4.0
50	29	20,662	-64.0		09	4.7
40	29	22,042	-60.3		08	6.9
30	29	23,859	-54.7		09	6.7
25	27	25,036	-51.0		08	4.8
20	29	26,501	-47.1		05	2.5
15	29	28,427	-42.7		13	.4
10	24	31,187	-38.2		24	3.1
7	18	33,653	-34.0		25	2.5
5	7	35,995	-30.1			

TAMPA, FLA. 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	8	18.7	16.7	09	1.2
1000	30	142	19.2	16.1	10	3.2
950	30	585	17.6	12.5	12	3.6
900	30	1,044	15.1	8.5	16	1.8
850	30	1,527	12.9	2.9	23	2.1
800	30	2,035	11.0	-3.2	25	3.4
750	30	2,572	8.4	-7.7	27	4.8
700	30	3,138	5.0	-10.9	27	6.7
650	30	3,740	1.8	-14.9	28	7.5
600	30	4,380	-2.0	-20.5	28	9.4
550	30	5,065	-6.2	-26.2	28	10.5
500	30	5,806	-11.1	-29.7	28	12.1
450	30	6,606	-16.7	-33.0	28	14.5
400	30	7,484	-22.8	-38.0	27	16.8
350	30	8,448	-29.8	-44.5	27	20.5
300	30	9,528	-38.1	-51.8	27	24.2
250	30	10,759	-47.0		27	27.9
200	30	12,206	-55.8		27	36.1
175	30	13,051	-57.9		27	37.1
150	30	14,017	-60.3		27	35.7
125	30	15,144	-63.9		27	29.0
100	30	16,498	-67.7		26	22.0
80	30	17,833	-69.5		27	14.0
70	30	18,632	-67.9		29	10.2
60	30	19,564	-65.4		30	5.7
50	30	20,682	-62.4		30	3.3
40	30	22,074	-58.2		33	2.5
30	29	23,905	-54.0		36	1.2
25	28	25,083	-50.9		03	.4
20	26	26,546	-47.8		27	1.1
15	21	28,470	-44.1		28	5.2
10	[illegible]	31,226	-38.0			
7	6	33,676	-33.8			
5						

TOPEKA, KANS. 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	268	8.4	5.6	08	.3
1000	30	123				
950	30	551	9.7	3.3	16	1.4
900	30	998	8.6	1.1	23	2.4
850	30	1,470	7.2	-2.1	26	4.1
800	30	1,968	6.0	-6.3	27	4.9
750	30	2,495	3.4	-9.4	28	4.9
700	30	3,052	.2	-12.4	27	5.4
650	30	3,638	-3.7	-16.2	27	6.8
600	30	4,270	-7.7	-20.8	27	8.6
550	30	4,940	-12.2	-26.1	27	10.0
500	30	5,665	-17.0	-31.0	27	10.3
450	30	6,445	-22.6	-35.3	26	11.2
400	30	7,302	-29.2	-40.8	26	12.6
350	30	8,242	-36.5	-46.2	27	13.2
300	30	9,292	-44.8		27	14.5
250	30	10,487	-53.4		27	17.0
200	30	11,901	-59.2		27	19.0
175	29	12,738	-59.6		27	18.4
150	29	13,709	-57.7		27	17.7
125	28	14,859	-57.5		27	14.7
100	28	16,264	-59.0		27	13.9
80	28	17,661	-60.0		28	11.1
70	28	18,493	-60.6		29	9.2
60	28	19,452	-61.1		30	7.1
50	28	20,585	-60.8		31	5.3
40	28	21,977	-59.7		32	4.0
30	27	23,785	-57.1		30	2.6
25	27	24,943	-55.6		31	3.0
20	25	26,368	-53.3		28	3.0
15	24	28,233	-49.2		26	5.7
10	13	30,879	-43.1			
7						
5						

+ TRUK, CAROLINE IS. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	2	28.1	24.4	05	4.3
1000	30	99	27.0	22.6	06	6.1
950	30	551	23.3	18.8	07	9.8
900	30	1,024	20.8	14.9	08	9.1
850	30	1,518	18.3	11.3	09	7.6
800	30	2,037	16.3	6.8	09	6.6
750	30	2,583	13.8	3.2	09	5.8
700	30	3,164	10.7	-.4	10	4.5
650	30	3,776	7.4	-4.7	10	4.2
600	30	4,434	3.5	-8.3	10	3.4
550	30	5,127	.0	-12.4	10	3.1
500	30	5,895	-3.9	-17.6	09	3.5
450	30	6,711	-8.5	-22.1	09	5.0
400	30	7,626	-14.1	-28.3	10	5.4
350	30	8,627	-20.5	-35.8	10	5.0
300	30	9,750	-28.8	-43.7	10	5.2
250	30	11,027	-39.2	-53.2	13	6.3
200	30	12,516	-51.5		14	6.8
175	30	13,369	-58.7		15	6.3
150	30	14,320	-66.2		13	4.2
125	30	15,404	-74.1		14	3.1
100	30	16,681	-80.7		08	1.5
80	30	17,933	-81.2		09	5.3
70	30	18,691	-76.6		09	8.2
60	30	19,592	-69.5		09	12.7
50	30	20,700	-62.0		09	14.0
40	28	22,100	-56.1		12	3.5
30	27	23,951	-51.6		28	4.2
25	27	25,142	-48.6		27	7.8
20	25	26,620	-45.2		27	10.2
15	25	28,553	-42.1		26	10.1
10	21	31,319	-37.1		25	9.3
7	9	33,773	-34.5			
5						

* TUCSON, ARIZ. 923 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	30	789	12.1	-4.3	16	2.5
1000	30	104				
950	30	540				
900	30	997	16.4	-3.9	21	2.2
850	30	1,481	13.7	-5.9	28	2.2
800	30	1,989	10.1	-8.0	25	3.0
750	30	2,517	6.6	-11.8	24	5.4
700	30	3,085	3.1	-14.6	24	8.1
650	30	3,680	-.5	-18.6	25	8.5
600	30	4,317	-4.4	-21.6	26	9.8
550	30	4,993	-8.8	-26.9	27	11.7
500	30	5,730	-14.0	-31.4	27	13.8
450	30	6,513	-20.0	-36.2	27	15.1
400	30	7,385	-26.5	-41.3	27	17.5
350	30	8,335	-33.7	-47.0	27	19.8
300	30	9,397	-42.0		27	20.9
250	30	10,608	-50.9		27	23.9
200	30	12,034	-57.7		27	26.7
175	30	12,873	-59.0		27	25.7
150	30	13,840	-59.0		27	25.4
125	30	14,980	-60.6		27	23.0
100	30	16,362	-62.7		26	18.2
80	29	17,733	-63.5		26	12.9
70	29	18,551	-64.0		27	8.0
60	29	19,497	-63.6		27	3.4
50	29	20,619	-62.3		30	.9
40	29	22,005	-59.7		34	1.4
30	29	23,817	-56.6		30	2.1
25	26	24,980	-54.4		28	4.4
20	26	26,420	-51.3		28	6.8
15	25	28,303	-46.3		27	9.9
10	24	31,043	-39.9		27	15.7
7	18	33,512	-34.5		27	18.1
5	7	35,932	-29.4			

* VANDENBERG AFB, CALIF. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	29	100	8.6	7.5	35	1.0
1000	29	142	9.8	7.7	35	1.6
950	29	573	11.1	3.4	36	5.3
900	29	1,021	9.9	-2.2	01	5.0
850	29	1,495	8.4	-6.8	35	4.1
800	29	1,993	6.5	-11.8	32	5.2
750	29	2,518	4.6	-15.7	31	6.0
700	29	3,081	2.5	-18.7	30	7.7
650	29	3,672	-.7	-21.6	29	9.7
600	29	4,311	-4.5	-24.8	28	10.8
550	29	4,983	-9.4	-28.9	28	12.1
500	29	5,719	-15.0	-32.7	28	12.5
450	29	6,501	-21.0	-36.6	28	14.1
400	29	7,367	-27.6	-43.3	28	15.5
350	29	8,313	-35.3	-49.2	28	17.2
300	29	9,369	-43.3		28	17.5
250	29	10,573	-52.1		28	20.2
200	29	11,991	-59.3		28	22.5
175	29	12,826	-60.5		28	20.9
150	29	13,787	-59.5		27	19.7
125	29	14,928	-59.7		27	18.6
100	29	16,320	-61.3		26	15.5
80	29	17,701	-61.9		26	12.8
70	29	18,528	-61.3		26	10.7
60	29	19,486	-60.9		26	6.4
50	29	20,619	-61.2		28	4.1
40	28	22,006	-60.8		30	2.0
30	28	23,803	-58.7		31	2.0
25	28	24,953	-56.7		30	3.2
20	28	26,375	-54.2		29	4.4
15	28	28,239	-49.8		28	7.1
10	27	30,934	-43.0		27	13.3
7	23	33,370	-37.8		27	19.1
5	12	35,661	-32.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

VICTORIA, TEXAS — 1009 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	33	17.8	16.3	12	1.8
1000	30	111	18.3	16.0	13	2.7
950	30	553	17.1	12.1	14	5.6
900	30	1,012	15.3	7.1	17	5.3
850	30	1,496	13.6	.6	19	5.2
800	30	2,005	12.0	-4.0	22	5.3
750	30	2,543	9.8	-7.5	24	5.4
700	30	3,114	6.3	-11.1	26	6.5
650	30	3,713	2.3	-14.2	26	7.6
600	30	4,359	-2.1	-18.7	26	9.4
550	30	5,039	-7.2	-23.4	26	12.0
500	30	5,781	-12.4	-27.5	26	13.3
450	30	6,574	-18.3	-32.5	26	15.5
400	30	7,448	-24.3	-38.1	27	17.9
350	30	8,408	-31.3	-44.0	26	22.4
300	30	9,482	-39.6	-49.0	26	25.5
250	30	10,706	-48.8		27	28.3
200	30	12,140	-57.6		27	31.5
175	30	12,979	-59.8		27	32.2
150	30	13,942	-60.3		27	29.9
125	30	15,073	-63.0		26	25.9
100	30	16,437	-66.5		26	19.8
80	29	17,780	-67.9		26	13.4
70	29	18,581	-68.2		27	9.8
60	28	19,514	-65.4		27	4.9
50	28	20,632	-62.3		27	2.8
40	28	22,020	-59.3		26	2.9
30	28	23,839	-55.4		29	2.7
25	28	25,009	-53.0		29	3.7
20	25	26,453	-49.8		28	5.3
15	21	28,350	-45.2		26	6.5
10	11	31,075	-38.1			
7						
5						

• WAKE IS., PACIFIC AREA — 1017 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	5	25.4	22.3	09	6.8
1000	30	153	24.1	20.5	09	8.3
950	30	598	20.4	18.1	09	9.9
900	30	1,068	17.6	13.8	09	9.4
850	30	1,555	14.8	10.8	09	8.5
800	30	2,067	12.4	5.7	09	8.1
750	30	2,605	11.3	-5.7	09	7.6
700	30	3,182	8.8	-12.6	08	7.1
650	30	3,787	5.4	-16.0	08	6.2
600	30	4,440	1.6	-18.7	08	4.7
550	30	5,131	-2.5	-22.6	07	3.6
500	30	5,886	-6.7	-28.1	03	1.9
450	30	6,694	-11.9	-31.7	34	3.2
400	30	7,593	-17.6	-36.7	32	6.1
350	30	8,579	-24.4	-42.5	30	9.5
300	30	9,686	-31.7	-49.0	29	14.4
250	30	10,949	-41.2	-55.8	29	19.5
200	29	12,428	-52.1		28	23.1
175	29	13,28[illegible]	-58.5		28	22.9
150	29	14,233	-65.2		28	21.1
125	29	15,325	-71.8		28	16.4
100	29	16,623	-76.5		29	8.1
80	29	17,902	-77.4		01	1.5
70	29	18,670	-75.4		08	3.2
60	29	19,574	-70.2		09	4.8
50	29	20,677	-63.0		09	3.9
40	28	22,063	-59.6		09	4.7
30	28	23,881	-55.4		08	3.6
25	27	25,055	-52.0		09	1.2
20	27	26,517	-47.4		31	2.5
15	25	28,444	-43.3		28	4.6
10	23	31,200	-38.6		26	7.1
7	20	33,653	-35.2		24	6.1
5	13	36,009	-32.0			

• WALLOPS IS., VA. NASA — 1017 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	28	3	10.1	7.7	22	.7
1000	28	142	11.4	6.2	23	2.0
950	28	571	10.9	1.8	26	3.7
900	28	1,022	8.7	-1.7	27	4.5
850	28	1,493	6.7	-5.2	27	5.6
800	28	1,990	4.5	-8.7	27	7.3
750	28	2,510	1.8	-11.3	27	8.4
700	28	3,068	-1.0	-14.2	27	9.1
650	28	3,653	-4.1	-18.6	27	10.1
600	28	4,284	-7.9	-22.4	27	12.4
550	28	4,948	-12.2	-27.1	27	13.6
500	28	5,678	-17.0	-32.3	27	14.5
450	28	6,453	-22.6	-36.9	27	15.1
400	28	7,315	-28.7	-42.8	27	16.3
350	28	8,258	-35.7	-48.8	27	17.7
300	28	9,313	-43.5		27	18.3
250	28	10,518	-51.6		28	21.1
200	28	11,941	-57.5		28	23.6
175	28	12,783	-58.2		27	22.7
150	28	13,756	-57.0		27	23.9
125	28	14,911	-57.5		27	22.1
100	28	16,316	-59.1		28	19.2
80	28	17,710	-60.3		28	14.8
70	27	18,540	-60.8		28	12.4
60	27	19,500	-60.1		28	10.5
50	26	20,636	-58.9		28	7.5
40	26	22,041	-57.1		29	5.4
30	25	23,879	-54.0		28	4.2
25	24	25,055	-52.8		27	5.1
20	23	26,495	-50.8		27	5.7
15	16	28,379	-47.1		26	7.9
10	7	31,108	-41.1			

WASHINGTON DULLES INT. AP — 1007 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	85	7.3	4.0	24	1.4
1000	30	145			23	2.3
950	30	572	9.7	2.0	25	4.2
900	30	1,019	8.0	-1.5	27	5.4
850	30	1,489	5.7	-4.1	27	6.8
800	30	1,984	3.9	-8.9	27	7.7
750	30	2,504	1.3	-12.7	27	8.6
700	30	3,059	-1.6	-15.7	27	10.0
650	30	3,644	-5.1	-19.5	27	10.7
600	30	4,270	-8.9	-25.0	27	11.9
550	30	4,935	-13.3	-28.8	27	13.1
500	30	5,658	-18.2	-32.1	27	14.8
450	30	6,430	-23.6	-37.7	27	16.1
400	30	7,289	-29.7	-42.9	27	17.3
350	30	8,227	-36.7	-48.3	27	18.0
300	30	9,278	-44.3		27	19.9
250	30	10,478	-52.6		27	21.4
200	29	11,894	-58.4		27	23.3
175	29	12,733	-58.2		27	23.9
150	29	13,708	-56.5		27	22.1
125	29	14,863	-57.8		27	21.0
100	29	16,265	-59.1		28	19.2
80	29	17,661	-60.2		28	14.9
70	29	18,493	-60.4		28	12.2
60	29	19,454	-60.4		29	9.4
50	29	20,594	-58.8		29	7.5
40	27	22,008	-57.2		29	5.5
30	25	23,836	-54.8		28	5.3
25	24	25,002	-53.2		28	4.7
20	21	26,438	-50.8		27	5.3
15	18	28,320	-47.3		27	5.9
10	15	31,028	-41.1		25	11.1
7	5	33,438	-35.5			

WAYCROSS, GA. — 1009 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	16	44	13.6	11.7	07	.3
1000	16	120	15.0	11.8	18	.9
950	16	553	14.9	8.8	22	2.5
900	16	1,012	12.9	3.8	25	3.4
850	16	1,490	10.6	.0	29	4.8
800	16	1,994	8.7	-6.5	25	6.2
750	16	2,524	6.5	-10.2	26	7.3
700	16	3,089	3.5	[illegible]	27	8.9
650	16	3,677	.1	-17.3	27	11.1
600	16	4,324	-3.9	-22.2	28	13.2
550	16	4,992	-8.2	-25.6	27	15.6
500	16	5,740	-13.2	-30.3	27	17.1
450	16	6,523	-18.7	-34.7	28	17.1
400	16	7,403	-25.3	-40.0	28	20.0
350	16	8,358	-32.1	-45.9	27	23.1
300	16	9,429	-39.6	-50.9	27	26.8
250	16	10,653	-48.7		27	30.9
200	16	12,093	-56.7		27	35.3
175	16	12,934	-58.3		27	37.4
150	16	13,904	-58.1		27	33.2
125	16	15,046	-60.6		26	30.2
100	16	16,424	-63.3		27	26.1
80	16	17,787	-64.5		27	16.5
70	16	18,605	-63.8		28	10.2
60	16	19,553	-62.3		28	6.4
50	16	20,684	-60.3		28	4.9
40	16	22,086	-57.3		29	3.5
30	16	23,923	-53.2		28	1.2
25	16	25,100	-52.0		26	1.9
20	15	26,558	-49.3		27	3.6
15	14	28,451	-45.8		27	6.9
10	14	31,187	-39.4		27	14.4
7	7	33,618	-35.9			

WINNEMUCCA, NEV. — 868 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	1,312	3.1	-5.9	19	.7
1000	30	143				
950	30	567				
900	30	1,013				
850	30	1,481	5.8	-5.1	21	1.0
800	30	1,976	3.6	-7.7	26	2.7
750	30	2,496	-.1	-10.0	28	5.2
700	30	3,046	-3.8	-13.4	26	5.0
650	29	3,626	-7.2	-17.9	26	6.3
600	29	4,248	-10.8	-22.2	26	7.7
550	29	4,909	-14.8	-26.0	27	8.6
500	29	5,628	-19.7	-31.8	26	8.3
450	29	6,398	-25.4	-37.4	26	8.8
400	29	7,245	-31.8	-43.2	26	9.8
350	29	8,175	-38.9	-47.5	26	11.2
300	29	9,215	-46.0		28	12.6
250	29	10,407	-53.4		28	15.2
200	29	11,825	-58.0		27	17.4
175	29	12,666	-58.6		27	15.8
150	29	13,639	-57.4		27	15.4
125	29	14,793	-57.4		26	13.6
100	29	16,201	-58.4		26	11.5
80	28	17,606	-58.1		26	9.0
70	28	18,446	-58.1		25	7.2
60	28	19,416	-58.5		25	5.0
50	28	20,559	-59.4		24	3.7
40	27	21,950	-60.2		31	1.7
30	26	23,769	-59.0		36	1.0
25	26	24,896	-57.7		35	1.1
20	26	26,308	-55.7		30	2.7
15	26	28,156	-51.6		30	4.8
10	17	30,829	-45.2		28	9.3
7						

WINSLOW, ARIZ. — 849 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	1,487	5.2	-7.1	21	1.7
1000	30	125				
950	30	549				
900	30	1,004				
850	30	1,479			18	.9
800	30	1,980	8.5	-5.6	26	3.1
750	30	2,505	4.8	-9.0	25	4.4
700	30	3,069	.8	-12.3	24	5.8
650	30	3,658	-3.1	-16.8	24	7.1
600	30	4,289	-6.7	-21.6	25	9.2
550	30	4,957	-11.1	-27.2	26	11.4
500	30	5,689	-16.1	-31.8	27	12.4
450	30	6,464	-22.2	-36.5	27	13.2
400	30	7,329	-28.8	-42.7	27	16.0
350	30	8,271	-35.9	-48.0	27	18.4
300	30	9,326	-43.6		27	18.6
250	30	10,530	-51.8		28	21.3
200	30	11,953	-58.5		28	24.1
175	30	12,791	-59.3		27	22.4
150	30	13,759	-58.3		27	20.8
125	30	14,904	-59.8		27	19.2
100	30	16,295	-60.7		26	15.9
80	29	17,677	-62.1		26	11.2
70	29	18,502	-62.6		26	7.4
60	29	19,453	-62.4		28	3.5
50	29	20,579	-62.1		31	.9
40	28	21,964	-60.9		02	1.4
30	26	23,760	-58.4		32	3.3
25	25	24,915	-56.2		30	5.1
20	23	26,345	-53.2		29	4.8
15	19	28,230	-49.0		27	8.8
10	12	30,963	-42.6			

YAKUTAT, ALASKA — 1005 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	12	.3	-1.4	10	1.8
1000	30	48			11	2.8
950	30	461	1.9	-2.7	11	4.6
900	30	897	-.9	-5.2	12	6.0
850	30	1,351	-3.8	-8.1	12	7.1
800	30	1,827	-7.0	-11.4	13	7.3
750	30	2,327	-10.2	-15.5	14	8.4
700	30	2,856	-13.7	-18.7	14	8.4
650	30	3,416	-17.2	-21.9	14	8.2
600	30	4,012	-21.0	-26.0	15	8.3
550	30	4,645	-25.1	-31.1	15	8.7
500	30	5,336	-29.7	-36.3	16	10.4
450	30	6,076	-35.0	-40.2	16	10.7
400	30	6,891	-41.0	-43.1	16	10.7
350	30	7,787	-47.0		17	11.8
300	30	8,795	-52.1		17	12.2
250	30	9,970	-52.5		18	11.5
200	30	11,425	-48.6		18	9.1
175	30	12,305	-47.7		18	7.9
150	30	13,323	-47.7		18	7.0
125	30	14,524	-48.6		18	7.2
100	30	15,988	-49.4		18	6.5
80	30	17,447	-50.2		18	5.7
70	30	18,319	-50.6		17	5.3
60	30	19,322	-51.3		16	4.9
50	30	20,505	-52.1		16	4.0
40	30	21,946	-53.1		13	3.2
30	29	23,796	-54.0		11	2.8
25	29	24,966	-54.2		11	3.7
20	24	26,407	-54.1		10	3.5
15	21	28,262	-53.2		09	6.3
10	7	30,846	-51.9			

+ YAP, CAROLINE IS. — 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	14	28.6	23.8	08	4.8
1000	30	101	27.3	21.5	07	6.3
950	30	547	23.2	17.9	07	9.1
900	30	1,023	20.2	14.0	08	8.4
850	30	1,516	17.7	9.8	08	7.3
800	30	2,032	15.6	4.6	08	6.2
750	30	2,569	13.4	-1.5	08	5.4
700	30	3,156	10.8	-5.7	08	6.7
650	30	3,764	8.2	-9.7	08	4.5
600	30	4,427	4.4	-12.6	08	4.6
550	30	5,127	.6	-17.4	08	3.3
500	30	5,889	-3.9	-21.0	09	3.3
450	30	6,707	-8.5	-25.9	09	4.3
400	30	7,620	-13.9	-31.7	08	4.0
350	30	8,621	-20.7	-37.9	07	3.1
300	30	9,741	-29.3	-45.1	13	2.7
250	30	11,016	-39.6	-53.8	15	5.1
200	29	12,500	-52.1		15	7.3
175	29	13,351	-59.0		14	5.5
150	29	14,301	-66.4		17	1.8
125	29	15,384	-74.0		23	.7
100	29	16,663	-80.3		25	1.5
80	29	17,915	-81.5		08	4.9
70	29	18,673	-76.2		08	8.7
60	29	19,579	-69.1		08	11.5
50	29	20,686	-62.6		09	13.7
40	29	22,079	-57.6		09	8.7
30	29	23,922	-52.1		17	.2
25	26	25,115	-49.2		26	3.9
20	26	26,593	-45.1		25	7.6
15	24	28,526	-41.7		25	10.7
10	21	31,304	-37.0		26	11.9
7	10	33,762	-33.4			

YUCCA FLAT, NEV. — 879 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	1,198	4.9	-2.5	27	.7
1000	30	126				
950	30	551				
900	30	1,000				
850	30	1,476	10.1	-6.4	32	1.7
800	30	1,977	7.1	-8.8	28	1.2
750	30	2,501	3.3	-11.5	26	.7
700	30	3,060	-.5	-14.8	28	1.9
650	30	3,643	-4.0	-18.8	26	3.6
600	30	4,277	-7.4	-23.1	27	5.5
550	30	4,941	-11.9	-27.4	27	8.0
500	30	5,672	-17.0	-32.2	27	10.0
450	30	6,448	-22.8	-36.7	27	10.5
400	30	7,308	-29.3	-42.3	28	12.9
350	30	8,247	-36.8	-48.1	28	14.6
300	30	9,297	-44.5		28	17.7
250	30	10,497	-52.3		28	20.7
200	30	11,919	-57.6		28	21.2
175	30	12,760	-58.4		27	19.8
150	30	13,730	-58.0		27	18.1
125	30	14,878	-58.5		27	16.9
100	30	16,278	-59.3		27	13.9
80	30	17,672	-59.5		26	10.5
70	30	18,507	-60.0		26	7.5
60	29	19,471	-60.0		27	4.4
50	28	20,611	-60.3		27	2.5
40	26	21,998	-60.4		34	1.4
30	22	23,807	-57.9		33	1.2
25	20	24,969	-56.1		31	1.9
20	17	26,405	-53.7		29	4.4
15	10	28,258	-49.8			

YUMA, ARIZ. — 995 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	21	131	15.8	-.5	35	.5
1000	21	91				
950	21	527	18.8	-1.4	30	4.5
900	21	990	16.3	-4.1	30	4.3
850	21	1,473	13.0	-6.8	28	3.9
800	21	1,979	9.6	-9.5	27	4.4
750	21	2,506	6.2	-12.4	28	5.9
700	21	3,073	3.0	-17.4	27	7.2
650	21	3,663	-.3	-20.5	27	8.2
600	21	4,305	-4.5	-23.9	27	9.2
550	21	4,976	-9.5	-28.2	27	10.1
500	21	5,714	-15.0	-32.0	27	11.0
450	21	6,488	-21.2	-37.0	27	12.1
400	21	7,361	-27.9	-42.0	27	14.3
350	21	8,305	-35.4	-48.0	27	17.3
300	21	9,358	-44.0		27	19.4
250	21	10,559	-52.1		27	23.2
200	20	11,982	-57.6		27	26.8
175	18	12,832	-59.2		27	24.2
150	12	13,795	-58.7			
125	5	14,949	-59.2			

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

' [illegible] Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun. APRIL 1969

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Apr.									
1-----	0.75	0.90	1.04	1.22	1.45	1.22	0.99	0.80	0.65
5-----	.76	.89	1.03	1.22	1.44	1.24	.97	.84	.60
6-----	----	(.68)	(.82)	----	(1.37)	----	----	----	.61
7-----	.72	.90	1.01	1.24	1.48	1.31	----	----	.89
8-----	.92	1.00	1.14	1.29	1.47	1.24	1.06	----	----
9-----	.80	.90	1.02	1.21	(1.36)	----	----	(.63)	----
10----	----	----	----	----	----	----	----	----	(.62)
12----	.86	.92	1.07	1.24	1.38	1.21	1.02	----	----
13----	.79	.89	1.03	1.20	1.39	----	----	----	----
14----	----	----	----	----	1.44	1.21	1.05	----	----
15----	.84	.85	----	1.24	----	----	----	----	----
18----	.77	.88	1.02	1.17	1.44	----	----	----	----
20----	.79	.82	.96	1.16	1.41	1.22	1.03	.87	.74
21----	.86	.98	1.08	1.20	1.40	----	----	----	----
22----	.71	.84	.98	1.17	1.34	1.14	.85	----	.55
23----	.74	.87	1.00	1.18	1.41	1.18	.90	.74	.63
24----	----	----	----	1.24	1.45	1.18	----	.79	.67
25----	.83	.93	1.03	1.31	1.49	1.20	.99	----	----
26----	----	.98	----	----	----	----	----	----	----
27----	.87	.96	1.10	1.27	1.48	1.25	1.08	.92	.81
28----	.83	.91	1.03	1.22	1.44	1.15	.89	.66	.54
29----	.87	.97	1.12	----	1.45	----	----	----	----
30----	----	----	----	1.25	1.45	1.20	.98	.78	.67
Averages	0.80	0.91	1.04	1.22	1.43	1.21	0.98	0.80	0.67
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Apr.									
6-----	HM0.57	HM0.66	HM0.81	----	----	----	----	----	----
10----	.73	.82	.99	1.17	1.33	1.16	0.98	----	0.72
11----	----	.73	.88	1.04	1.24	.96	.78	.58	.48
19----	HS .73	HS .83	HS .97	HS1.14	HS1.33	HS1.12	HS .90	HS .74	HS .60
21----	----	----	----	----	HS1.32	----	----	----	----
22----	.82	.91	1.05	1.22	HS1.40	HS1.18	HS1.02	HS .88	HS .64
23----	KM .64	KS .78	HS .92	HS1.12	HS1.31	HS1.12	HS .94	HS .78	----
24----	HM .59	HM .76	HM .92	HM1.08	----	----	----	----	----
27----	----	----	----	----	1.36	----	----	----	----
28----	----	----	----	----	----	----	HS .80	HS .67	HM .54
29----	KM .59	HS .73	HS .85	HS1.01	HS1.26	----	----	----	----
30----	----	----	----	HI .82	----	----	----	----	----
Averages	0.67	0.78	0.92	1.07	1.32	1.11	0.90	0.73	0.60
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
	No record; defective pyrheliometer								

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Apr.									
1-----	----	----	----	----	1.38	----	----	0.95	----
2-----	----	----	----	----	1.31	----	----	----	----
3-----	----	----	----	1.10	1.39	1.21	1.01	.89	0.79
4-----	0.74	0.85	0.99	1.18	1.38	1.18	1.05	.89	.81
5-----	.78	.89	1.01	1.18	1.39	1.19	1.02	.93	.82
6-----	.78	.87	1.00	1.18	1.39	1.20	.94	----	----
7-----	----	----	----	1.12	----	----	----	----	----
8-----	----	----	----	----	1.32	----	----	----	----
9-----	.70	----	----	1.15	1.33	1.15	.97	.85	.74
10----	----	----	----	----	----	1.15	----	----	----
12----	.63	.75	.89	1.06	----	----	----	----	----
13----	.74	.84	.97	1.27	1.38	1.27	1.04	----	----
14----	----	.89	----	1.29	1.44	1.19	1.02	.90	.79
15----	.72	.83	.92	1.09	----	----	----	----	----
16----	.71	.82	.94	1.14	1.34	1.14	.96	.84	.76
17----	.73	.83	.96	1.13	1.34	1.12	.92	.79	.69
18----	.69	.81	.93	1.14	1.34	----	----	----	----
19----	.77	.89	1.02	1.18	1.36	1.17	.98	.85	.75
20----	.72	.83	.96	1.16	1.35	----	----	----	----
21----	.76	.86	.98	----	1.32	1.14	.97	.86	.76
22----	.76	.86	.97	----	----	1.22	1.02	.93	.83
23----	.79	.91	1.03	1.18	1.37	1.16	.97	.84	.73
24----	.75	.86	1.00	1.16	1.34	1.15	.95	.85	.75
25----	.68	.80	.95	1.13	1.38	1.19	.92	.83	.71
26----	.88	.98	1.11	1.24	1.43	1.13	.96	.85	.77
27----	.84	.94	1.06	1.24	1.42	1.20	1.04	.90	.81
28----	.82	.94	1.05	1.18	1.40	1.20	1.01	.89	.78
29----	.79	.91	1.02	1.18	1.34	1.17	.94	.88	.73
30----	.80	.92	1.06	1.18	1.39	1.15	.99	.87	.77
Averages	0.75	0.86	0.99	1.17	1.37	1.18	0.98	0.87	0.77
	BLUE HILL OBS., MASS.								
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Apr.									
1-----	----	0.67	0.89	1.10	----	----	----	----	----
3-----	----	----	----	----	1.33	1.13	0.94	0.81	0.67
7-----	----	----	.96	1.15	1.33	1.10	.91	.75	.62
11----	----	----	----	----	1.30	1.15	.95	.82	.71
12----	.84	.93	1.08	1.21	1.32	.96	.75	.65	.53
13----	.70	.82	.95	1.08	1.28	.99	.78	.65	.53
14----	.54	.65	.79	.99	----	.95	.82	.55	.43
15----	.55	.66	.79	.99	----	----	----	----	----
20----	----	----	----	----	1.35	1.06	.83	.71	.60
21----	.66	.79	.91	1.12	----	----	----	----	----
26----	----	----	----	1.12	1.34	1.13	.91	.75	.58
27----	.41	.50	.65	.84	1.10	----	----	----	----
28----	.43	.53	.72	----	1.24	----	----	----	----
29----	.53	.67	.82	1.06	1.29	----	----	----	----
Averages	0.58	0.69	0.86	1.07	1.29	1.06	0.86	0.71	0.58

HS Slight haze
HM Moderate haze
HI Intense haze
KS Slight smoke
KM Moderate smoke
( ) Clouds present
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1967 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	413	404	431	627	627	611	665	650	630	426	291	636	594	612	477	369	474	644	488	675	658	672	693	681	710	554	714	704	685	713		584
AMES IOWA	84	223	331	193	346	519	500	176	123	544	526	505	338	46	417	160	50	543	582	427	585	585	604	590	477	95	409	611	589	356		384
ANNETTE ALASKA	94	146	67	233	434	307	147	454	202	119	159	168	481	91	39	87	290	97	99	273	157	332	256	325	272	48	467	558	612	433		248
APALACHICOLA FLORIDA	598	625	624	554	494	460	597	620	463	452	498	457	378	248	193	232	157	143	674	670	553	665	661	601	693	687	682	591	681	643		520
ARGONNE NAT. LAB.	313	370	336	49	347	587	572	375	207	295	594	597	462	131	101	431	215	176	657	611	495	193	192	683	638	550	182	77	667	661		392
ASTORIA OREGON	131	287	222	132	473	441	488	459	142	255	536	162	468	459	382	209	187	238	480	406	569	238	487	555	534	602	463	366	529	328		374
ATLANTA GEORGIA	543	484	450	478	69	454	597	572	490	152	481	502	229	39	109	296	301	439	203	618	560	613	634	632	626	635	628	305	651	610		447
BARROW ALASKA	182	167	250	353	311	275	243	234	275	222	257	311	252	285	298	400	438	458	426	477	418	435	493	448	452	470	297	492	344	404		346
BETHEL ALASKA	336	372	415	291	368	374	383	415	445	419	437	398	315	348	447	513	469	518	510	495	546	546	548	564	517	483	478	217	357	319		428
BISMARCK N.DAK.	198	369	570	244	602	571	543	115	410	613	604	595	565	538	366	219	662	642	552	425	691	683	686	643	212	120	274*	724	697	138		476*
BLUE HILL MASS.	509	65	527	478	65	292	558	381	514	239	548	579	572	549	543	178	434	383	66	599	554	249	372	57	544	628	549	577	487	544		421
BOISE IDAHO	496	502	---	535	215	99	378	627	536	600	597	520	592	549	622	618	493	507	549	645	581	486	173	501	---	---	675	490	605	629		512
BROWNSVILLE TEXAS	637	571	461	485	340	549	363	245	313	302	340	509	638	567	237	467	245	667	653	262	651	684	667	573	293	375	409	182	439	215		445
BURLINGTON VERMONT	348	100	478	468	74	531	414	545	425	105	541	565	546	517	536	163	52	36	133	617	429	136	170	83	434	565	362	151	274	599		347
CAPE HATTERAS N.C.	583	545	516	352	551	84	649	650	623	486	309	664	653	459	468	295	316	302	560	265	659	410	628	640	676	669	685	682	249	254		496
CARIBOU MAINE	535	321	611	558	104	593	414	632	616	203	583	667	559	598	646	441	327	141	309	688	635	290	128	355	339	389	409	103	371	713		443
CHARLESTON S.C.	601	578	481	555	570	311	656	640	557	430	569	548	586	129	167	311	575	145	674	637	677	594	713	703	697	702	713	664	478	494		539
CLEVELAND OHIO	146	114	529	387	58	622	564	489	312	206	439	607	540	362	281	498	506	46	214	649	298	227	55	663	657	616	575	204	115	708		390
COLUMBIA MISSOURI	424	327	193	198	85	617	600	281	523	474	625	598	298	94	557	507	247	89	682	640	678	691	483	673	680	451	176	582	697	474		455
DODGE CITY KANSAS	464	599	359	403	627	612	460	640	636	616	493	466	439	331	399	97	177	683	670	665	670	648	382	608	582	476	699	713	680	671		532
EL CENTRO CALIF. NPF	548	548	548	619	586	623	584	565	561	580	580	580	640	640	649	649	648	582	675	667	667	667	680	694	694	694	694	686	686	690		631
EL PASO TEXAS	550	537	504	684	667	654	637	585	563	479	689	675	695	671	709	718	704	721	721	719	646	722	755	755	759	762	776	750	725	691		674
ELY NEVADA	656	635	393	662	495	371	338	669	668	638	705	633	645	246	146	705	700	310	742	742	680	640	736	298	558	789	768	769	762	769		596
EPPLEY NEWPORT R.I.	528	95	548	514	93	297	562	454	551	396	578	596	591	535	587	267	455	216	96	528	600	251	599	195	578	621	577	597	391	558		448
FAIRBANKS ALASKA	373	---	---	356	294	329	266	416	240	339	446	470	488	494	463	486	487	352	489	294	487	379	535	444	537	400	490	549	550	400		423
FLAMING GORGE UTAH	417	551	279	566	547	182	360	399	550	394	307	303	376	480	164	186	626	272	608	613	618	567	468*	505	525	305	639	629	612	665		457*
FORT WORTH TEXAS	591	311	---	---	640	594	557	207	472	656*	293	50	139	589	502	383	604	692	556	350	670	637	576	523	378	79	333	743	711	538		478*
FRESNO CALIFORNIA	505	378	397	551	84	478	572	552	476	415	535	534	570	568	567	562	565	595	585	565	552	566	391	631	618	609	607	604	619	638		530
GAINESVILLE FLORIDA	492	580	515	484	532	536	602	604	457	483	474	612	584	310	228	400	473	476	692	660	535	668	664	574	660	692	666	573	663	240		538
GENEVA NEW YORK	109	54	526	426	50	544	541	500	482	208	576	571	564	489	265	315	432	32	98	596	519	356	67	234	439	534	503	109	153	564		362
GLASGOW MONTANA	431	550	487	402	540	550	467	112	341	575	574	593	595	444	402	624	598	418	453	622	644	633	505	599	32	58	426	696	629	582		486
GRAND JUNCTION COLO.	345	585	311	604	618	---	399	635	619	619	664	660	615	555	381	505	657	503	671	679	677	487	693	646	663	554	690	700	684	689		590
GREAT FALLS MONTANA	---	531	343	422	460	199	30	257	600	421	591	602	426	595	615	628	546	385	513	598	561	559	371	566	211	70	699	642	176	533		453
GREENSBORO N.C.	521	427	463	72	214	317	582	585	553	140	516	470	511	176	115	314	537	125*	458	385	519	504	504	428	640	638	638	533	546	546		433*
INDIANAPOLIS INDIANA	314	166	345	260	97	528	604	475	156	158	606	615	398	83	289	566	417	102	586	665	357	373	210	621	672	604	493	348	198	522		394
ITHACA NEW YORK	106	33	566	516	26	479	587	509	514	122	600	556	663	545	212	195	373	50	45	636	581	317	137	106	499	560	568	118	188	681		370
LAKELAND FLORIDA	---	---	484	549	488	413	397	552	329	402	409	498	558	308	433	381	483	502	571	632	374	621	612	492	622	648	622	552	493	614		501
LANDER WYOMING	494	653	514	591	585	526	142	271	603	606	470	425	495	310	167	480	652	330	616	620	662	558	662	650	323	174	691	689	659	706		511
LARAMIE WYOMING	238	558	386	436	563	468	442	123	521	448	421	225	406	444	146	304	620	547	605	573	626	578	567	588	201	301	367	543	631	551		448
LAS VEGAS NEVADA	607	612	624	625	472	608	668	648	589	628	---	612	652	629	625	618	665	560	667	632	635	678	701	706	710	726	723	709	707	707		646
LITTLE ROCK ARKANSAS	538	149	438	121	385	431	504	430	---	---	---	---	---	---	---	---	---	256	497	672	544	660	610	685	687	581	119	672	653	686		491
LOS ANGELES CALIF.	441	606	609	617	271	659	637	615	387	586	414	328	650	616	673	669	658	585	663	669	542	289	654	712	712	718	717*	691*	677	494		585*
LOS ANGELES CALIF. U	269	553	575	422	367	601	629	593	333	382	318	187	636	588	665	---	638	600	665	665	---	---	194	589	740	690	823	---	---	618		534
MADISON WISCONSIN	138	348	514	58	353	598	553	254	463	544	598	582	512	205	120	164	29	618	643	544	460	159	580	659	620	96	288	154	678	560		403
MANHATTAN KANSAS	287	495	195	304	303	275	454	518	556	577	542	466	255	561	504	296	65	403	601	560	614	---	602	606	243	49	470	411	599	481		424
MATANUSKA ALASKA	372	418	369	271	120	169	389	153	319	334	456	485	307	476	327	455	286	482	414	397	499	406	455	396	430	444	398	487	144	194		362
MEDFORD OREGON	549	134	373	446	327	478	571	522	246	591	560	375	581	447	580	540	252	632	469	669	468	318	223	464	605	702	549	358	738	403		472
MIAMI FLORIDA	343	321	395	504	567	611	321*	389	278	248	481	616	---	387	442	520	628	621	554	652	434	453	596	587	492	512	530	124	542	664		476*
MIDLAND TEXAS	453	321	226	---	624	608	606	591	339	531	---	---	639	524	656	650	606	658	320	652	658	664	647	680	682	679	---	705	704	674		581
NASHVILLE TENNESSEE	439	---	226	444	280	501	594	458	140	289	600	578	114	68	336	528	418	369	58	655	560	597	277	629	655	650	633	506	571	658		442
NEW YORK N.Y. U	553	111	564	537	121	417	618	541	497	247	651	632	624	494	407	149	460	249	149	700	562	35	443	96	639	672	615	614	497	190		436
NORTH OMAHA NEBRASKA	165	366	418	153	334	428	517	404	226	606	534	566	298	275	463	213	73	616	640	549	640	653	657	641	360	159	529	595	648	467		440
OAK RIDGE TENNESSEE	396	264	514	454	165	612	626	617	548	95	624	599	260	125	202	478	519	392	119	611	614	621	280	633	677	670	665	209	524	---		452
OKLAHOMA CITY OKLA.	416	270	414	528	484	463	541	445	569	622	376	231	97	601	542	436	389	390	618	653	635	596	62	552	274	34	619	691	678	655		463
PAGE ARIZONA	638	599	390	673	642	560	697	697	674	650	659	626	607	635	449	437*	641*	287	717	710	669	724	751	749	749	734	752	754	759	752		646*

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. APRIL 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PALMER AAES ALASKA	362	390	298	243	125	196	331	154	283	348	399	397	301	420	334	396	313	393	426	377	472	437	453	363	387	313	434	465	140	229		339
PHOENIX ARIZONA	479	567	605	631	622	620	603	647	623	642	278	612	649	655	589	667	659	671	675	671	670	703	692	692	709	724	725	713	697	712		640
PORTLAND MAINE	521	109	564	533	156	474	543	561	554	146	614	621	602	581	591	238	316	289	103	652	542	294	64	145	478	674	439	531	496	342		425
RAPID CITY S. DAK.	474	564	427	571	569	534	477	293	461	596	515	362	548	330	351	212	630	615	615	504	650	652	534	629	129	270	449	656	649	517		493
RENO NEVADA	555	515	560	543	198	460	607	607	455	579	590	537	552	219	472	599	432	590	617	621	612	593	503	567	617	659	651	627	645	590		546
RICHLAND 26 NW WASH.	311	283	505	310	364	304	594	554	554	398	569	402	429	402	614	493	181	538	554	610	483	548	353	497	685	631	614	148	263	577		459
RIVERSIDE CALIFORNIA	347	457	663	644	361	553	691	649	353	281	354	360	581	465	691	720	680	611	723	715	678	426	617	747	741	762	763	740	726	684		593
RUSTON LOUISIANA	529	372	485	172	426	232	563	346	227	390	433	54	323	255	559	243	132	202	571	598	600	566	552	623	620	557	119	644	632	615		421
SAINT CLOUD MINN.	406	592	513	157	616	599	434	160	120	630	612	260	275	290	162	195	632	678	653	233	659	614	710	702	390	547	124	744	682	366		458
SALT LAKE CITY	593	597	260	627	504	107	175	515	621	635	676	621	246	369	149	---	667	235	689	698	671	592	682	250	645	548	730	701	655	740		524
SAN ANTONIO TEXAS	576	381	270	160	670	678	563	173	318	344	156	507	634	554	593	419	614	691	672	576	671	668	676	638	284	114	571	718	582	174		488
SANTA MARIA CALIF.	579	518	622	546	168	579	618	484	280	613	610	480	661	654	647	605	618	637	655	656	661	248	544	646	687	697	695	687	586	559		575
SAULT STE MARIE MICH	76	527	279	121	387	503	451	463	48	387	441	540	422	487	154	67	73	567	591	437	43	151	574	545	575	69	42	199	625	608		348
SEATTLE TACOMA WASH.	112	216	330	111	241	339	329	300	214	431	538	272	538	445	450	198	111	218	392	346	498	308	312	556	660	596	401	193	297	204		339
SEATTLE WASH. UNIV.	103	197	313	122	237	231	277	453	215	432	490	248	531	478	423	146	99	343	482	317	451	307	303	485	446	530	366	109	182	141		315
SPOKANE WASHINGTON	374	330	451	313	332	61	442	458	476	79	393	425	269	385	521	532	165	380	340	447	453	551	62	466	531	624	598	165	302	187		370
STATE COLLEGE PENN.	234	178	579	548	67	460	601	575	521	201	608	654	619	386	76	251	589	158	104	687	530	162	174	246	677	632	657	225	162	622		406
STERLING VIRGINIA	485	97	316	178	119	518	568	552	511	136	578	588	566	340	110	147	427	147*	393	486	539	263	304	315	623	601	606	529	345	450		395*
SWAN ISLAND W.I.	565	373	---	549	645	641	643	659	624	654	657	664	666	646	659	666	685	665	555	676	638	547	621	542	521	565	658	631	594	557		613
TALLAHASSEE FLORIDA	427	553	493	540	432	371	579	579	489	318	443	287	327	291	169	300	291	160	622	634	581	608	497	654	640	607	653	459	---	651		471
TAMPA FLORIDA	564	432	507	512	629	510	516	574	337	616	595	398	597	373	443	578	586	593	653	683	385	680	650	588	679	694	635	507	644	684		561
TUCSON ARIZONA	558	540	632	643	640	644	593	511	637	588	496	620	658	673	645	666	676	675	691	677	676	700	699	700	710	724	724	712	708	711		651
WAKE ISLAND PACIFIC	654	616	644	643	640	623	571	653	465	608	---	640	647	629	665	637	647	663	600	659	635	572	671	660	599	670	572	238	675	677		616

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

APRIL 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	84	93	80	33	-16	20	51	-10	76	68	71	61	45	91	80	102	15	116	144	141	122	110	131	97	145	138	131	162	3	37		81

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	9.34	10.65	13.97	9.47	16.10	19.41	18.70	8.05	5.92	20.72	15.98	18.35	13.49	3.19	15.39	7.34	2.96	20.95	21.19	10.30	15.51	17.64	11.48	17.40	14.44	3.07	10.18	22.96	20.72	13.61		13.61

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

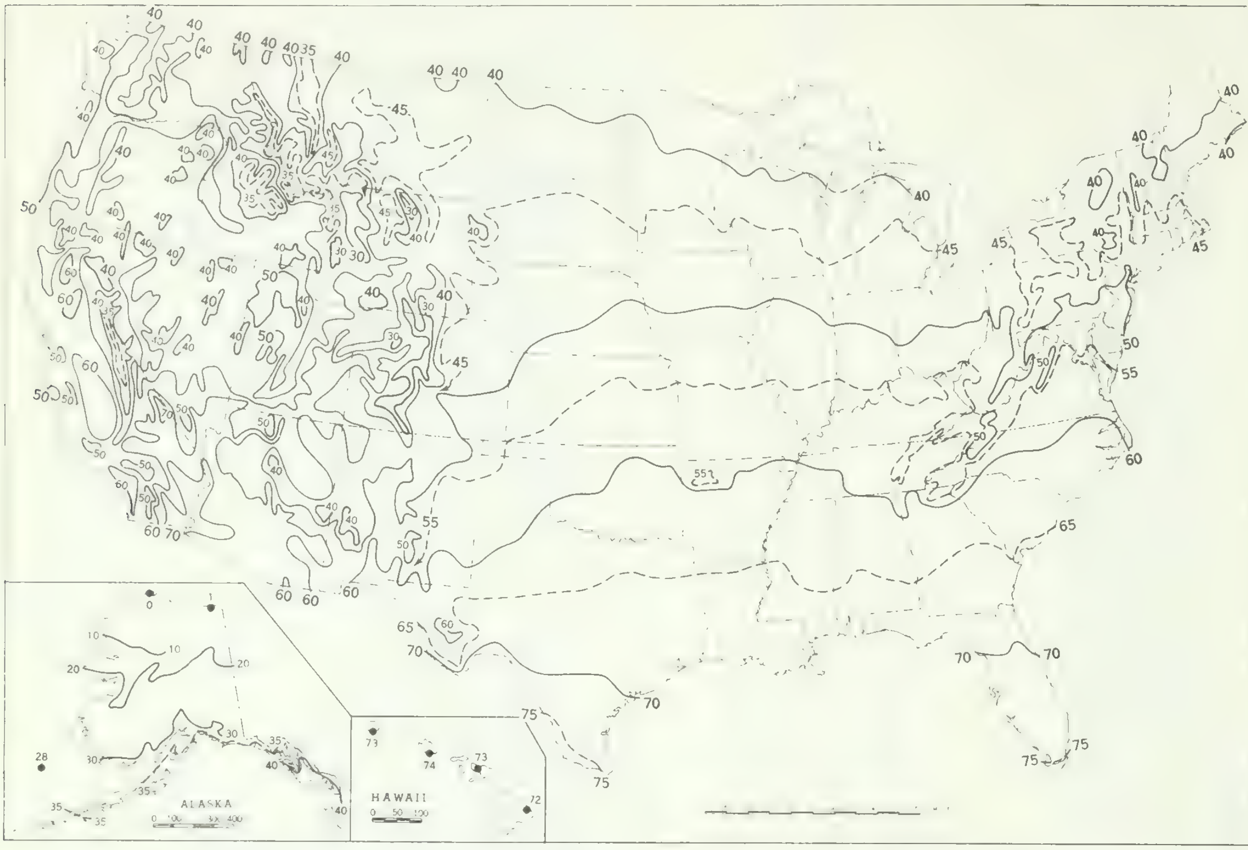
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code $O_3O_3O_3$ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
	Data will be delayed																															

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e. the amount contained in a vertical column [illegible] extending from ground level to the top of the atmosphere at the location of the station. The amount of ozone in this column (coded $O_3O_3O_3$) is expressed in terms of a thickness of a layer of [illegible] at standard temperature and pressure. [illegible] The code [illegible] designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), April.



B. Temperature Departure from 30 - Year Mean (°F 1931-60), April 1969.

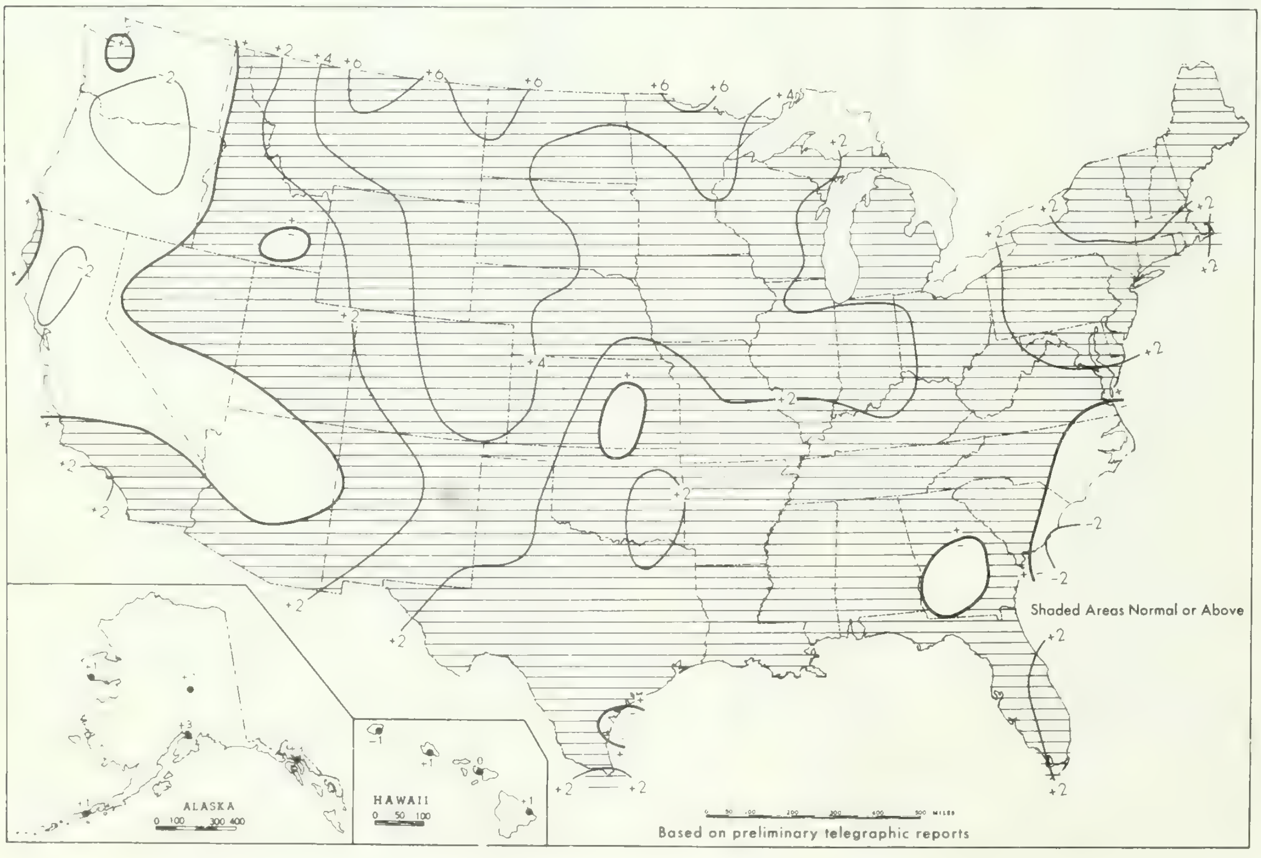


Chart II. Total Precipitation (Inches), April 1969.

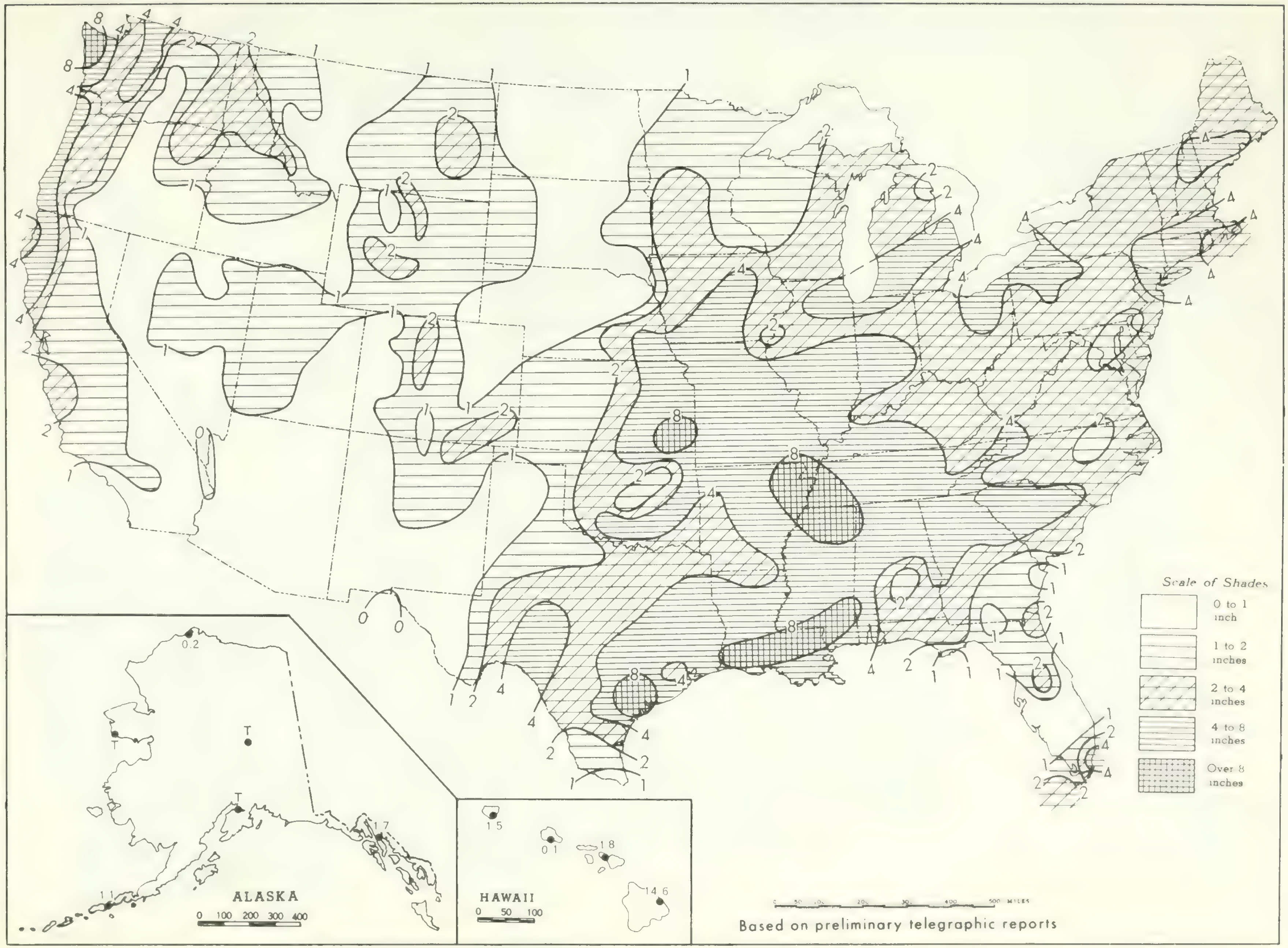
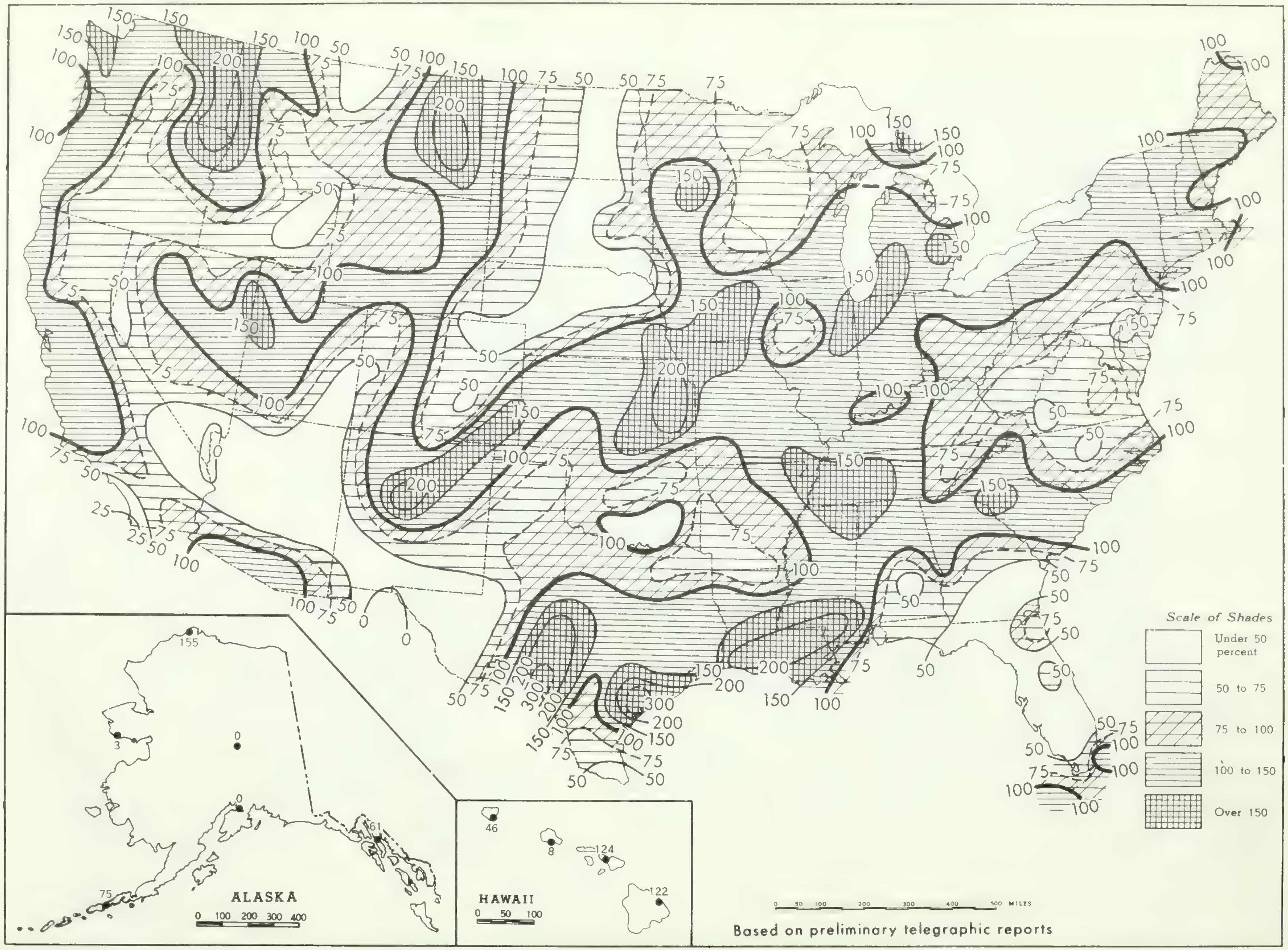
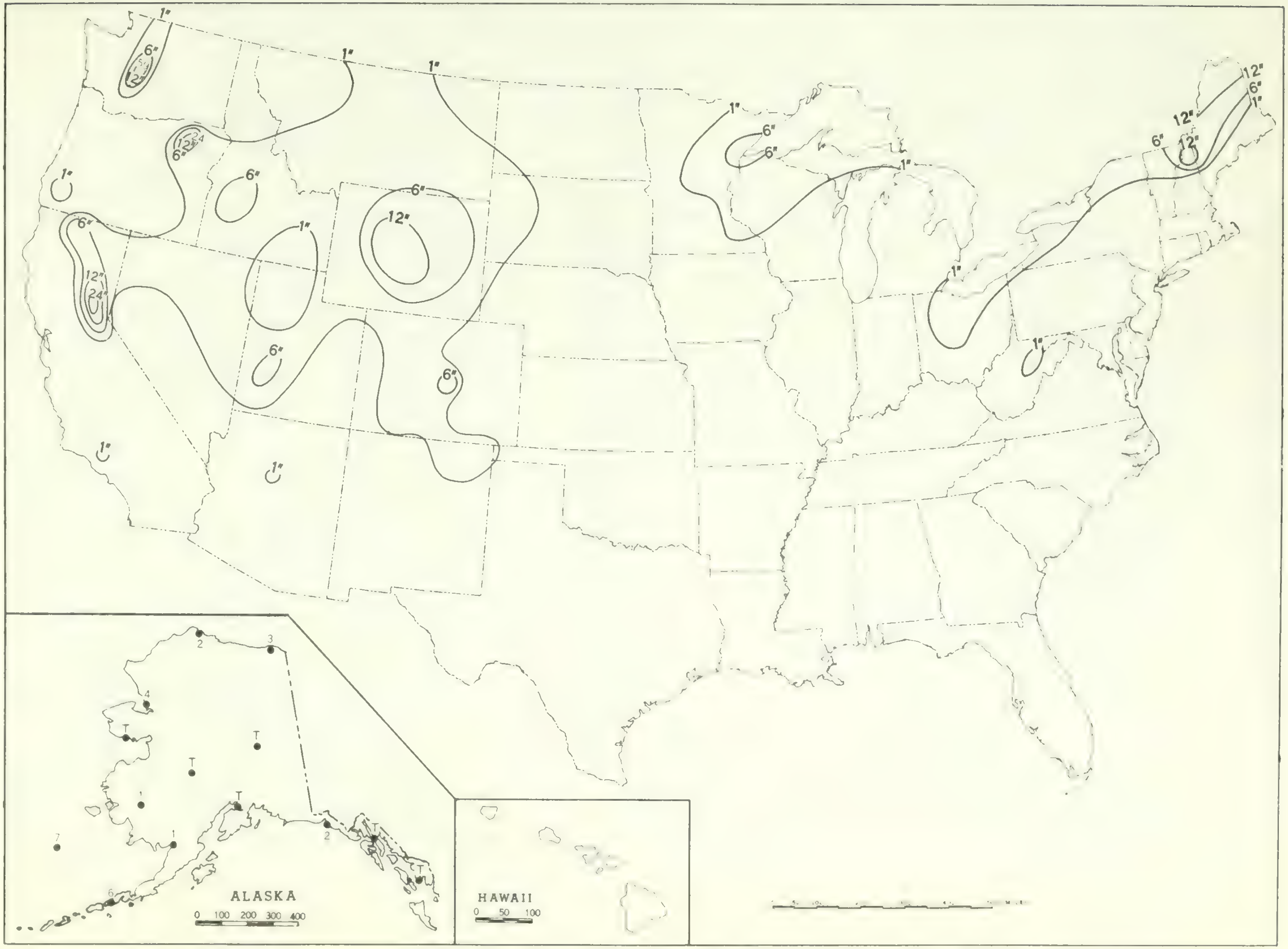


Chart III. Percentage of Normal Precipitation, April 1969.



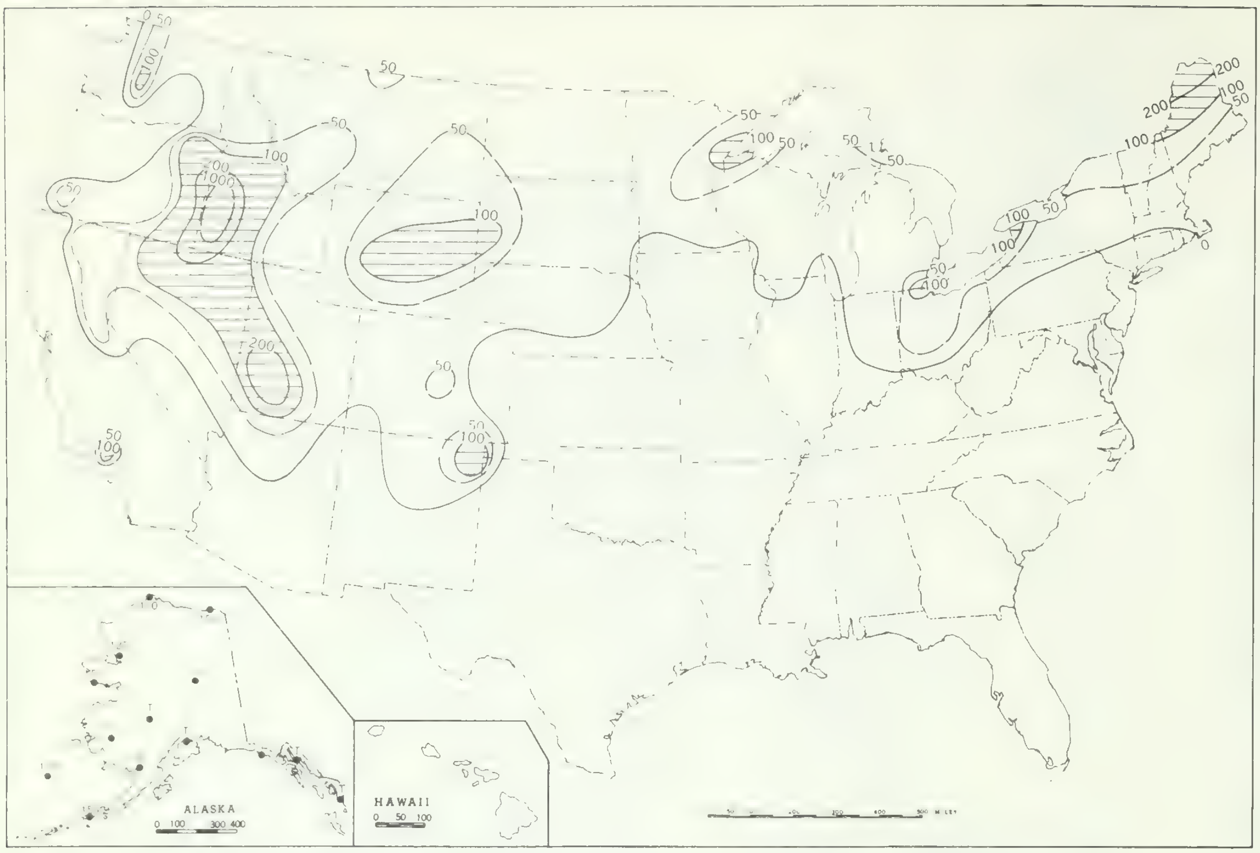
Based on preliminary telegraphic reports

Chart IV. Total Snowfall (Inches), April 1969.

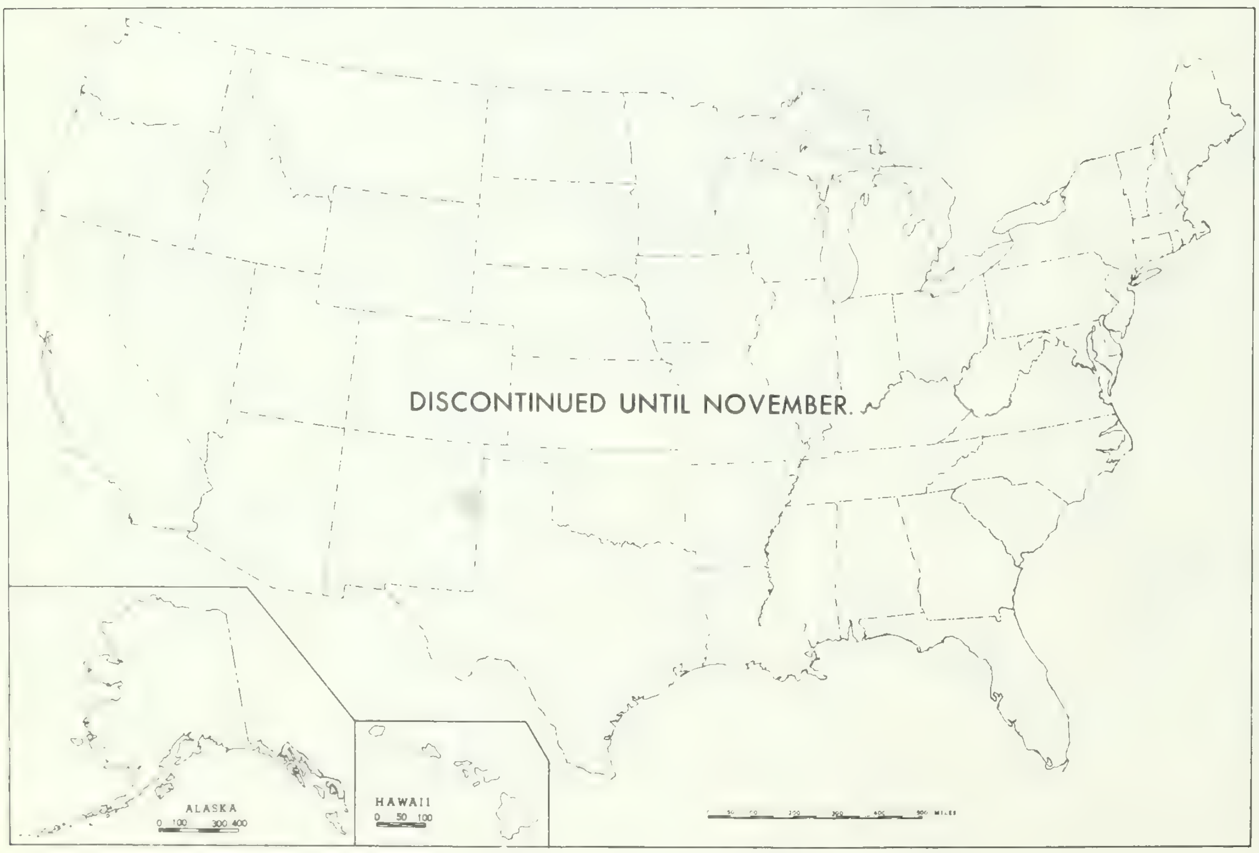


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year

Chart V. A. Percentage of Mean Monthly Snowfall, April 1969.

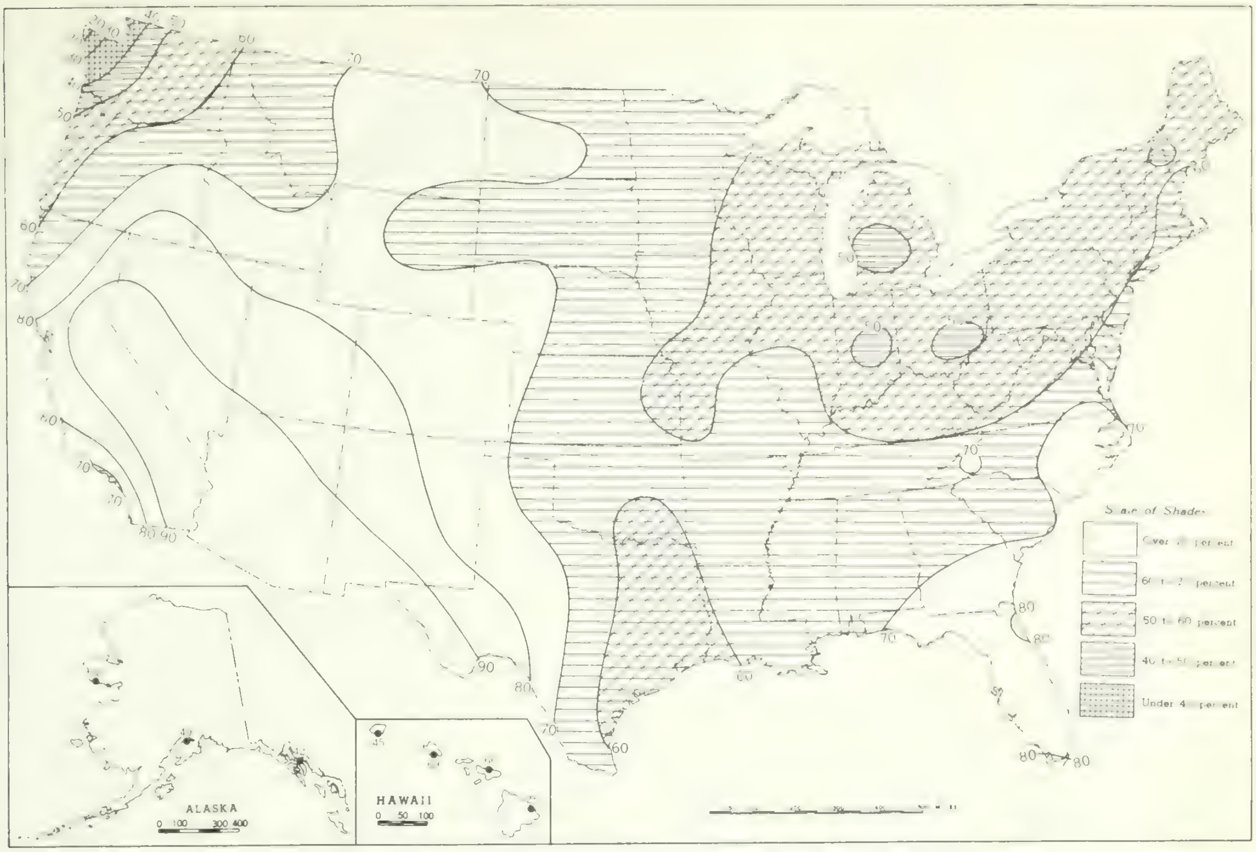


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., April 1969.

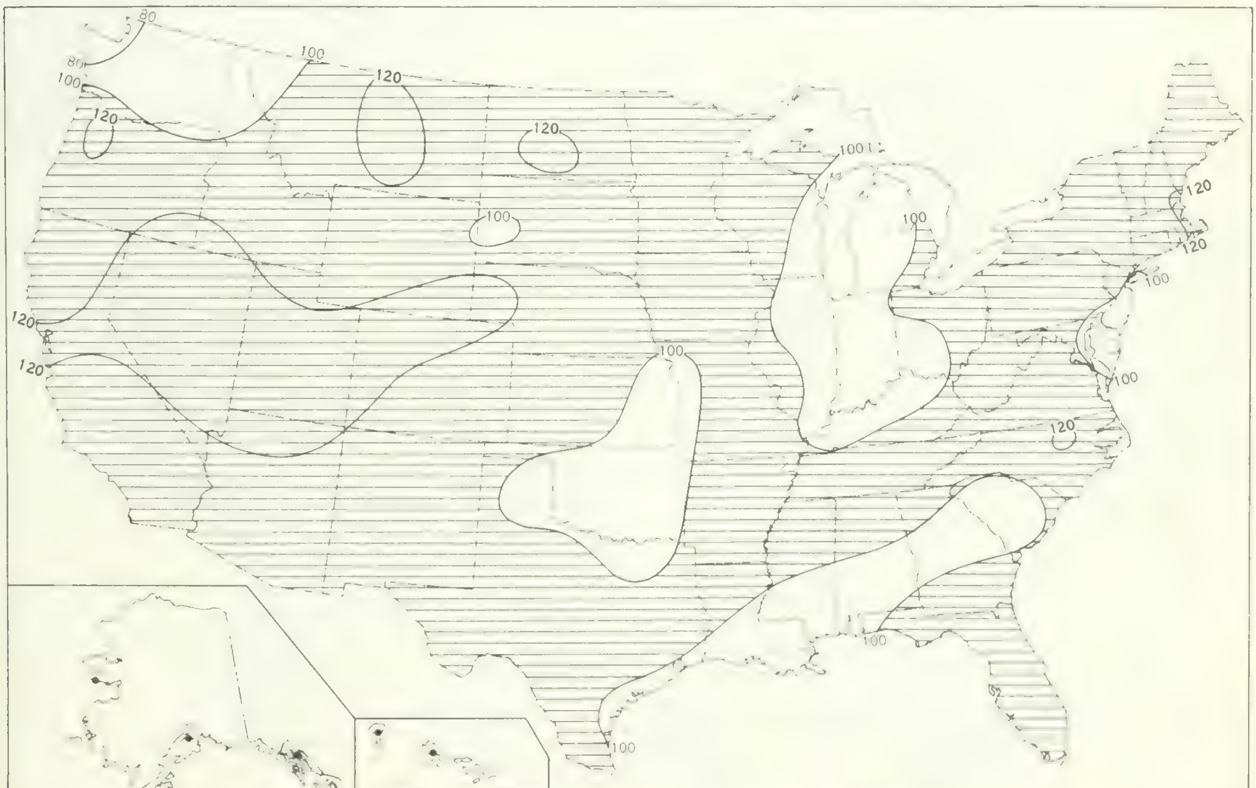


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, April 1969.

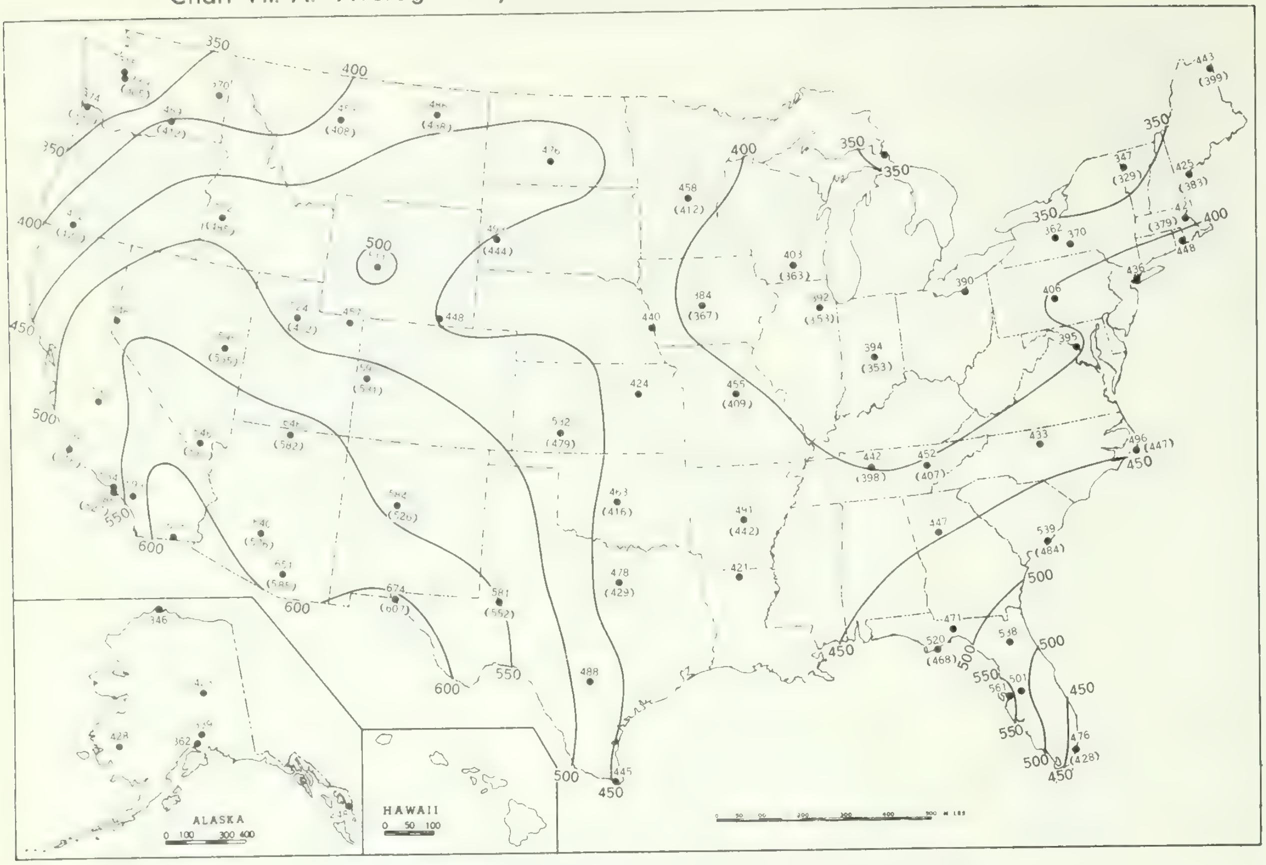


B. Percentage of Mean Monthly Sunshine, April 1969.

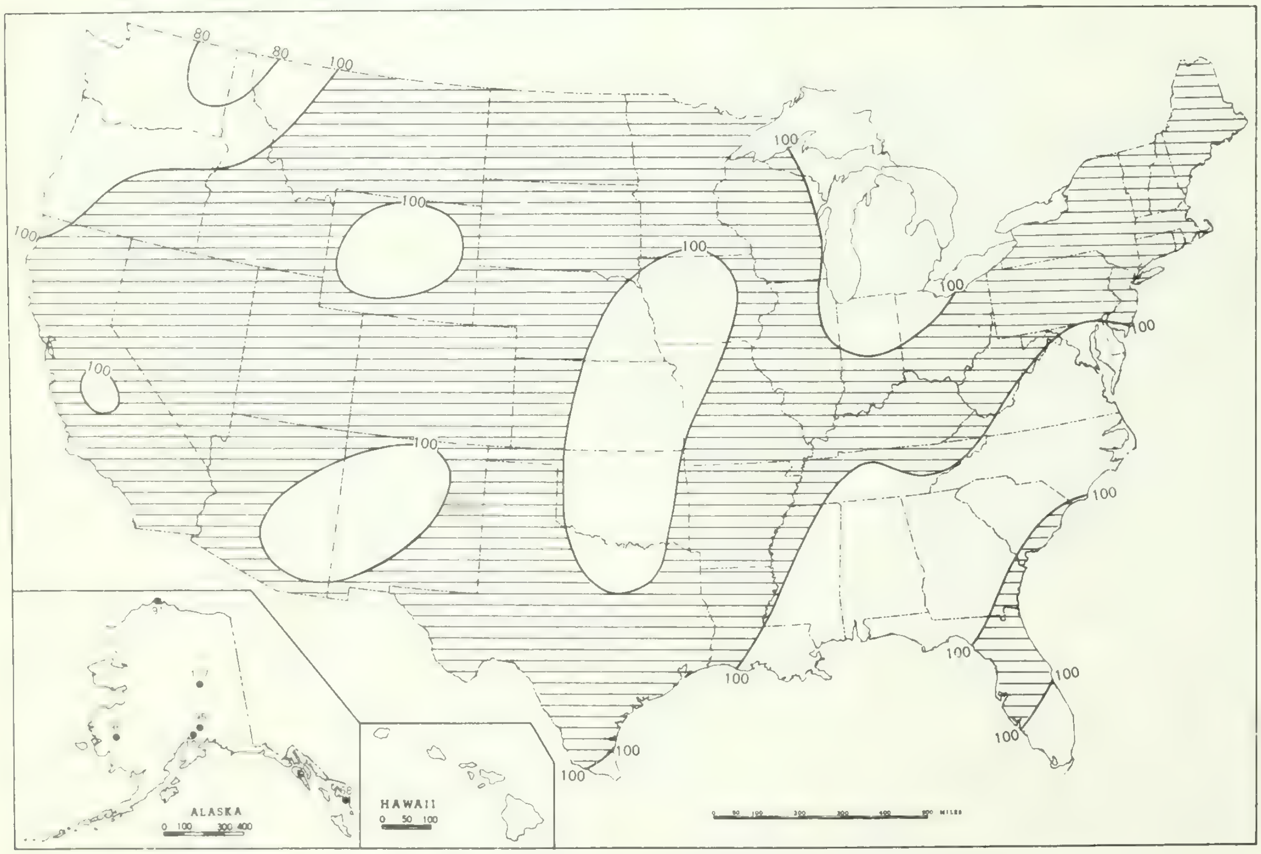


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, April 1969.



B. Percentage of Mean Daily Solar Radiation, April 1969.

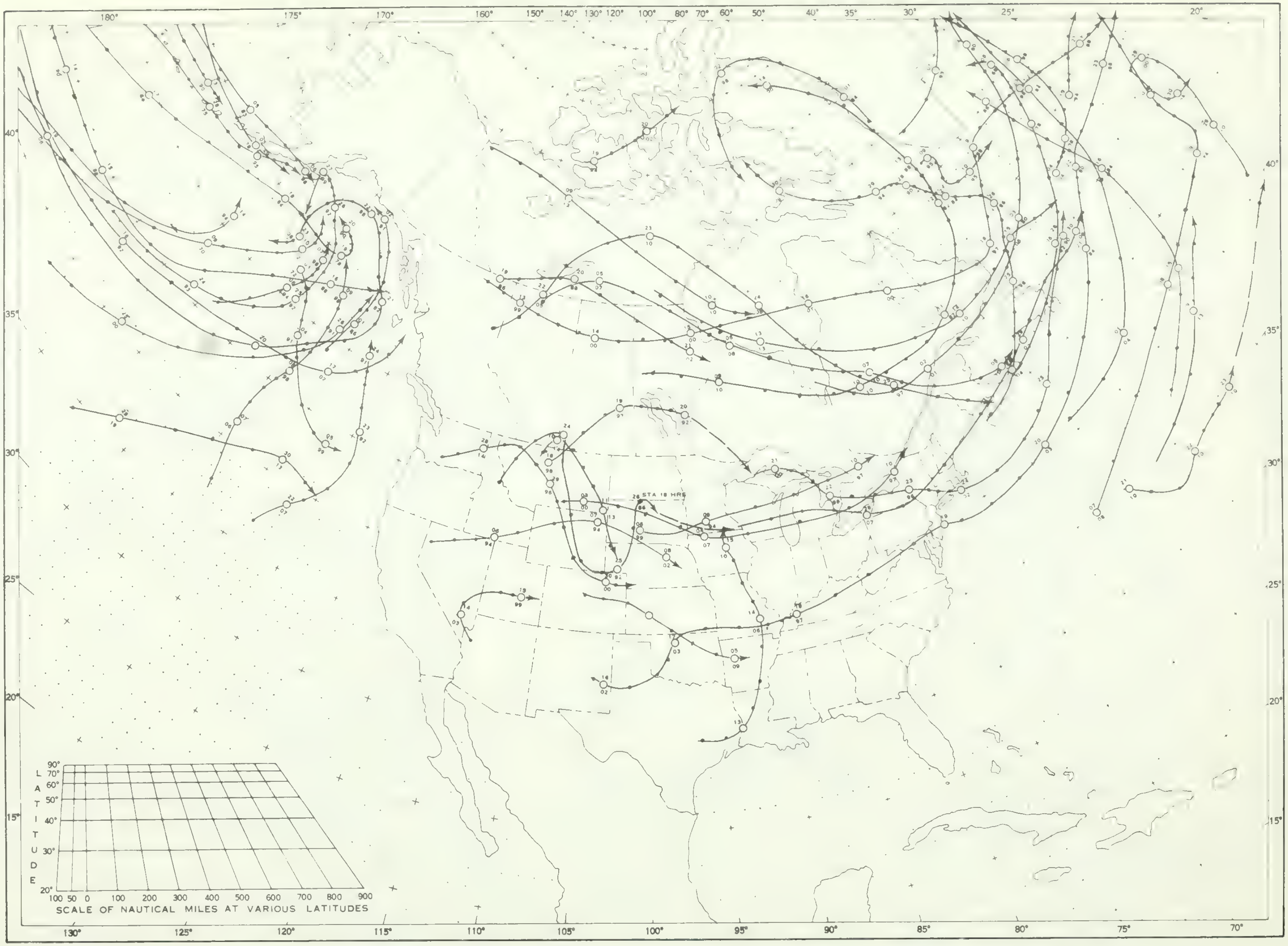


A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, April 1969.

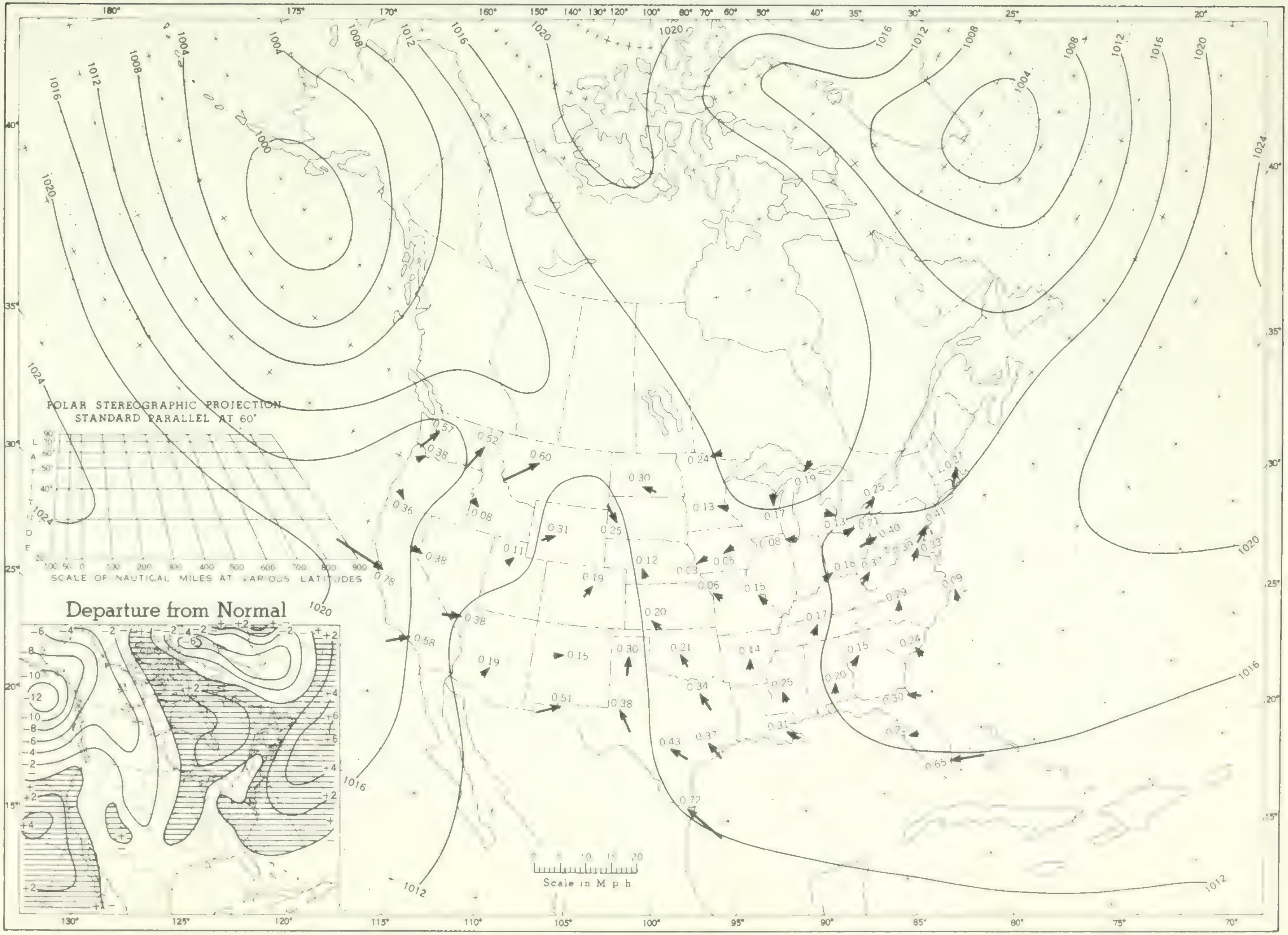
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX Tracks of Centers of Cyclones at Sea Level, April 1969.



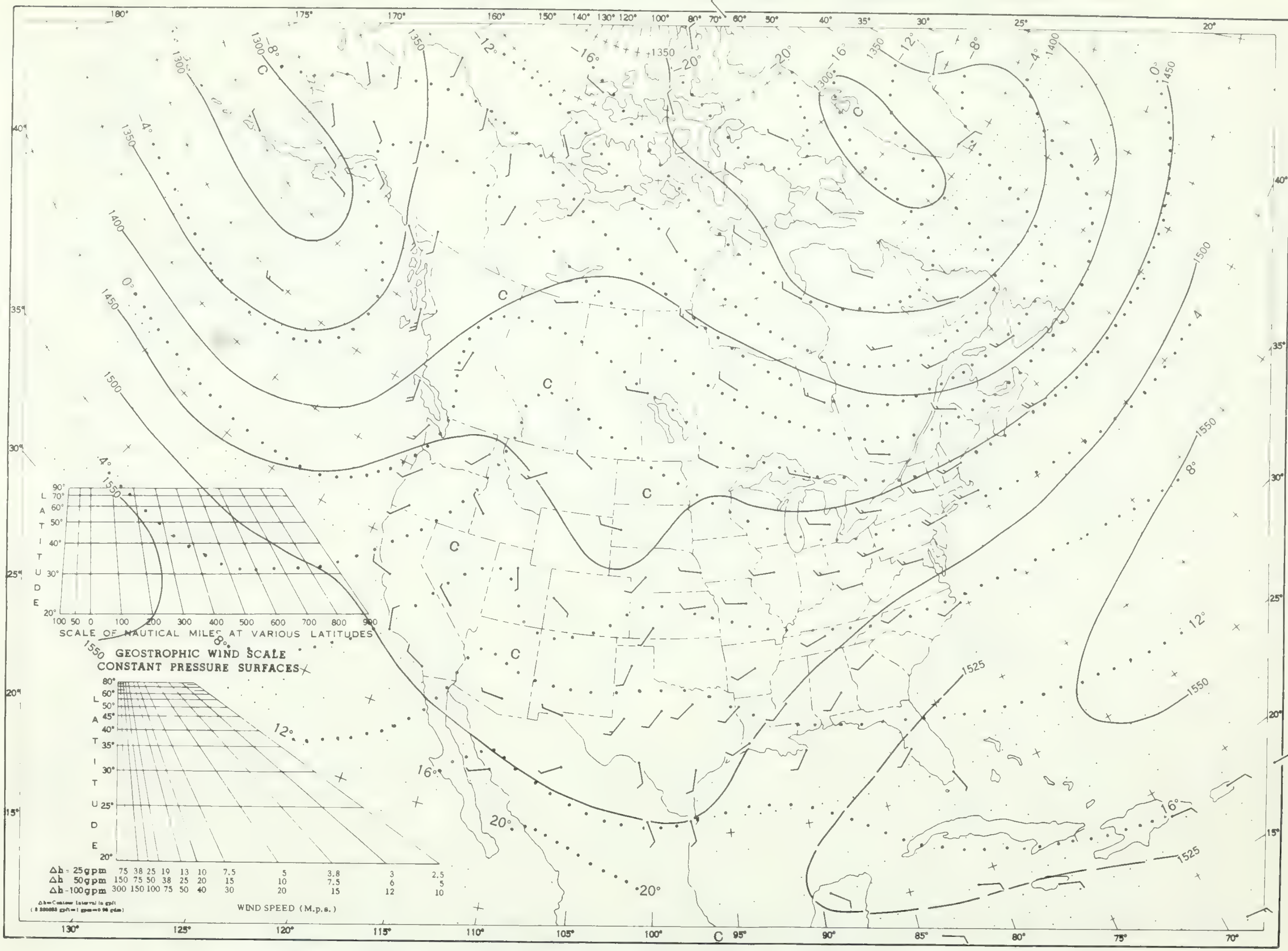
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, **April 1969**. Inset. Departure of Average Pressure (mb) from Normal, **April 1969**.



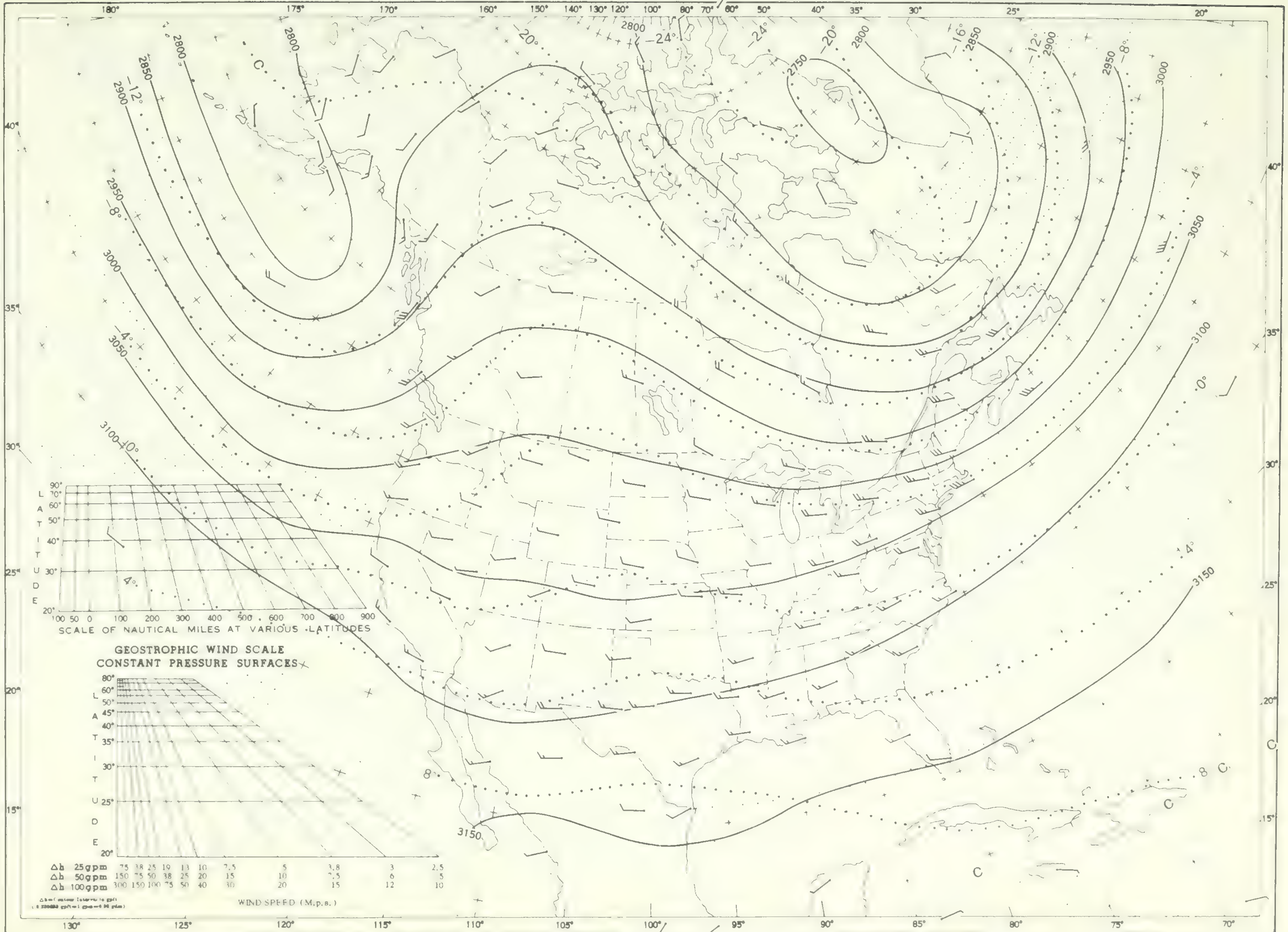
Average sea level pressures are obtained from eight daily 3 hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI 850-mb Surface, 1200 GMT, April 1969. Average Height and Temperature, and Resultant Winds.



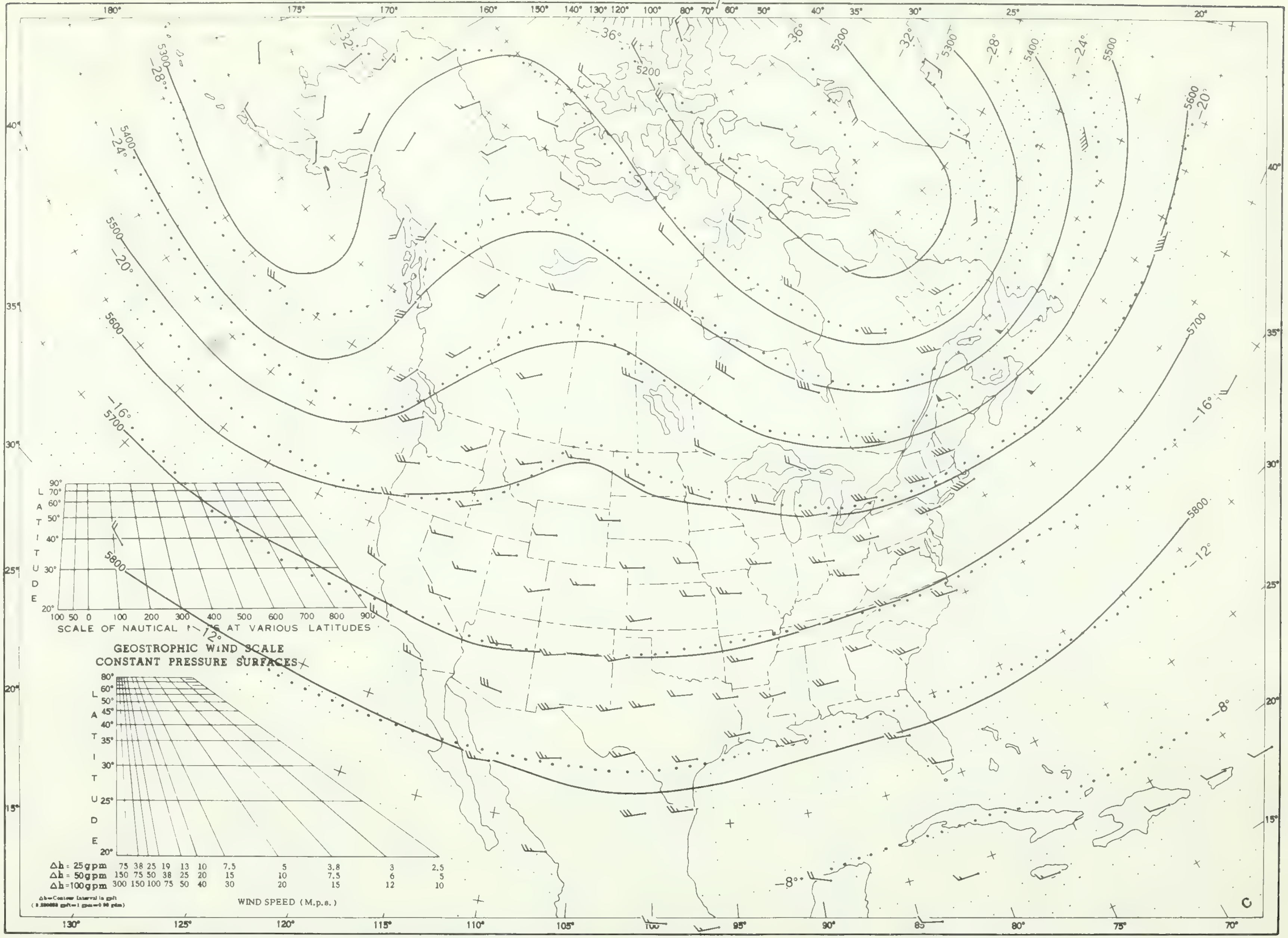
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, April 1969. Average Height and Temperature, and Resultant Winds.



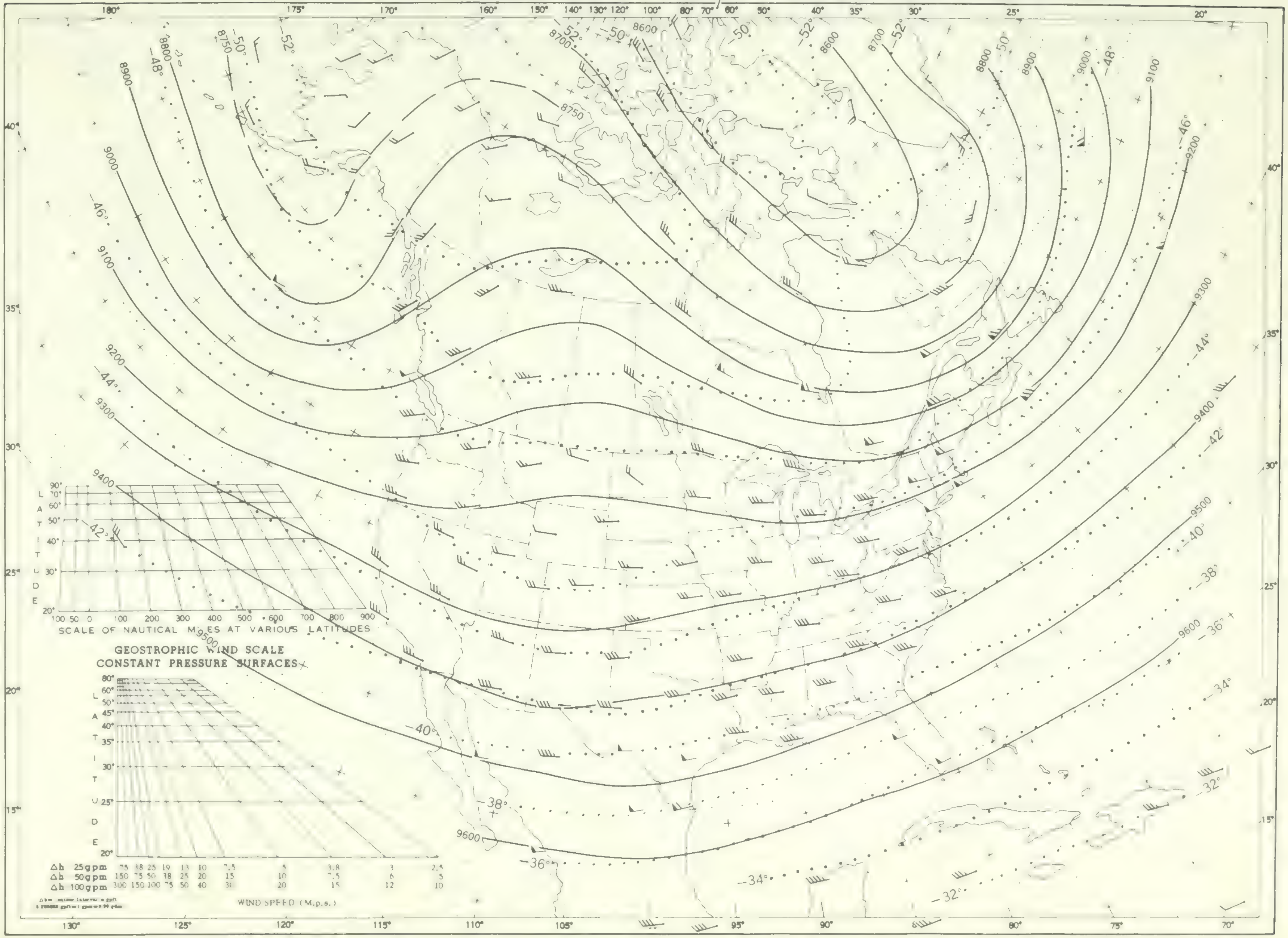
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, April 1969. Average Height and Temperature, and Resultant Winds.



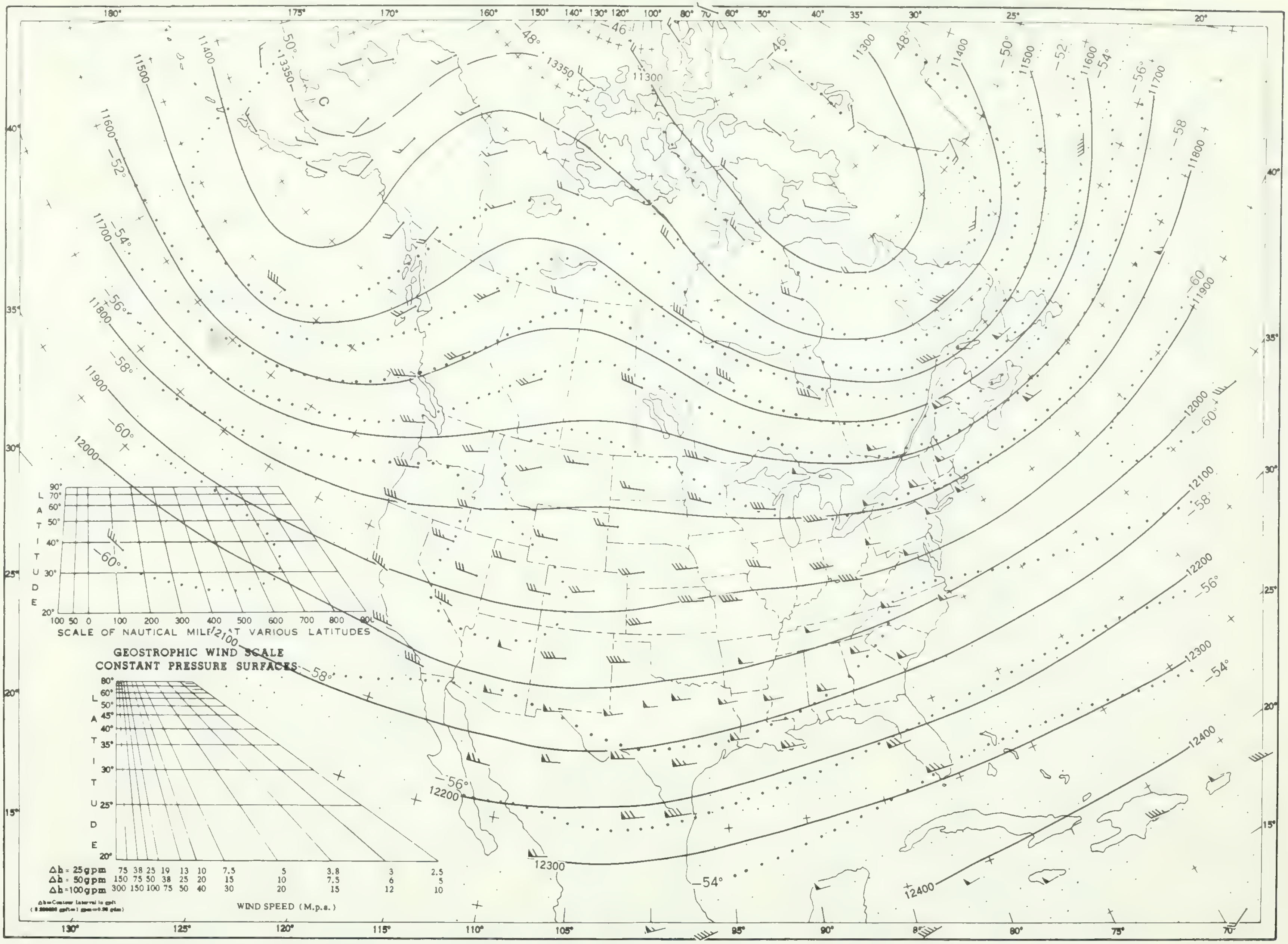
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, April 1969. Average Height and Temperature, and Resultant Winds



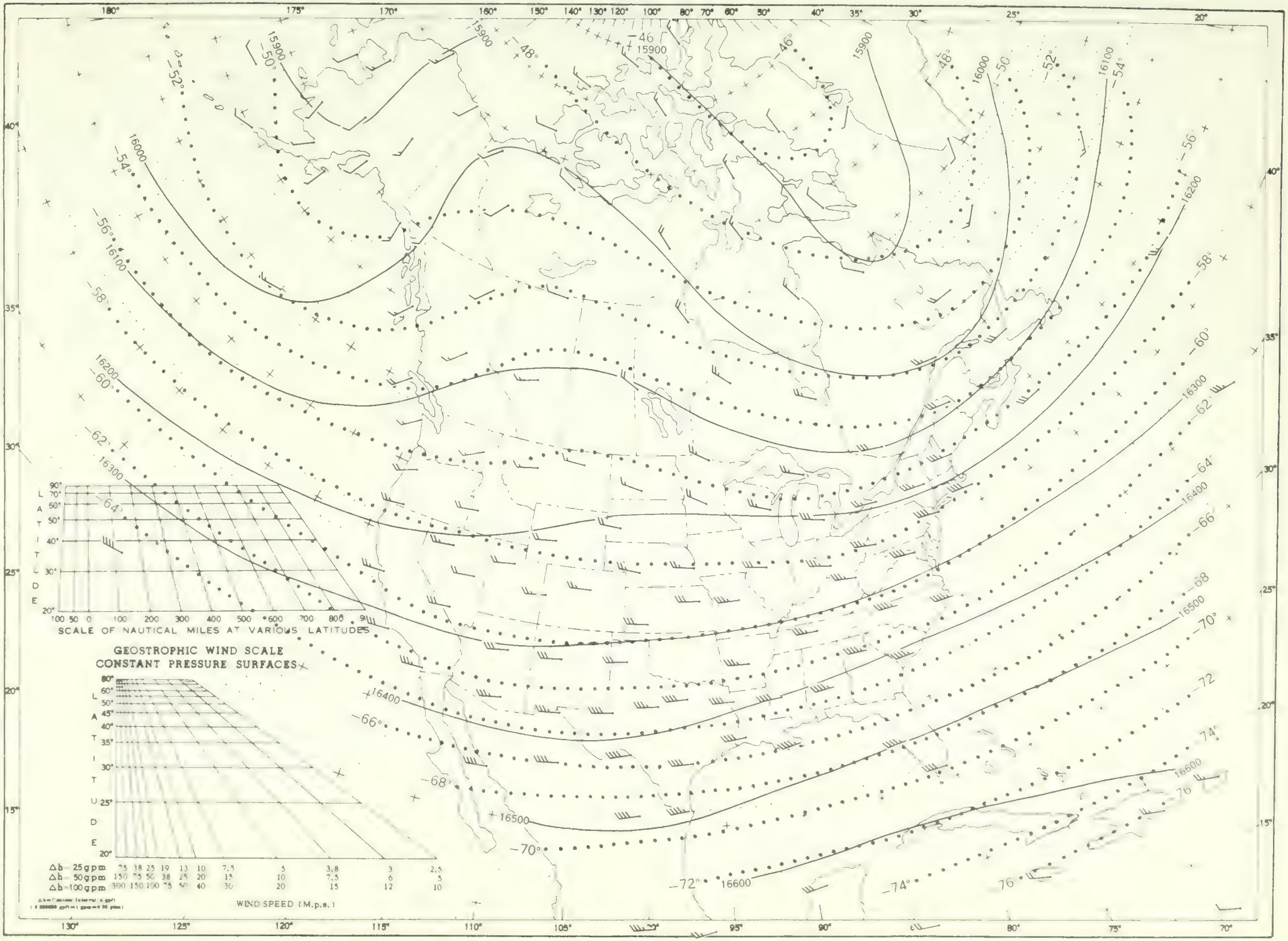
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, April 1969. Average Height and Temperature, and Resultant Winds



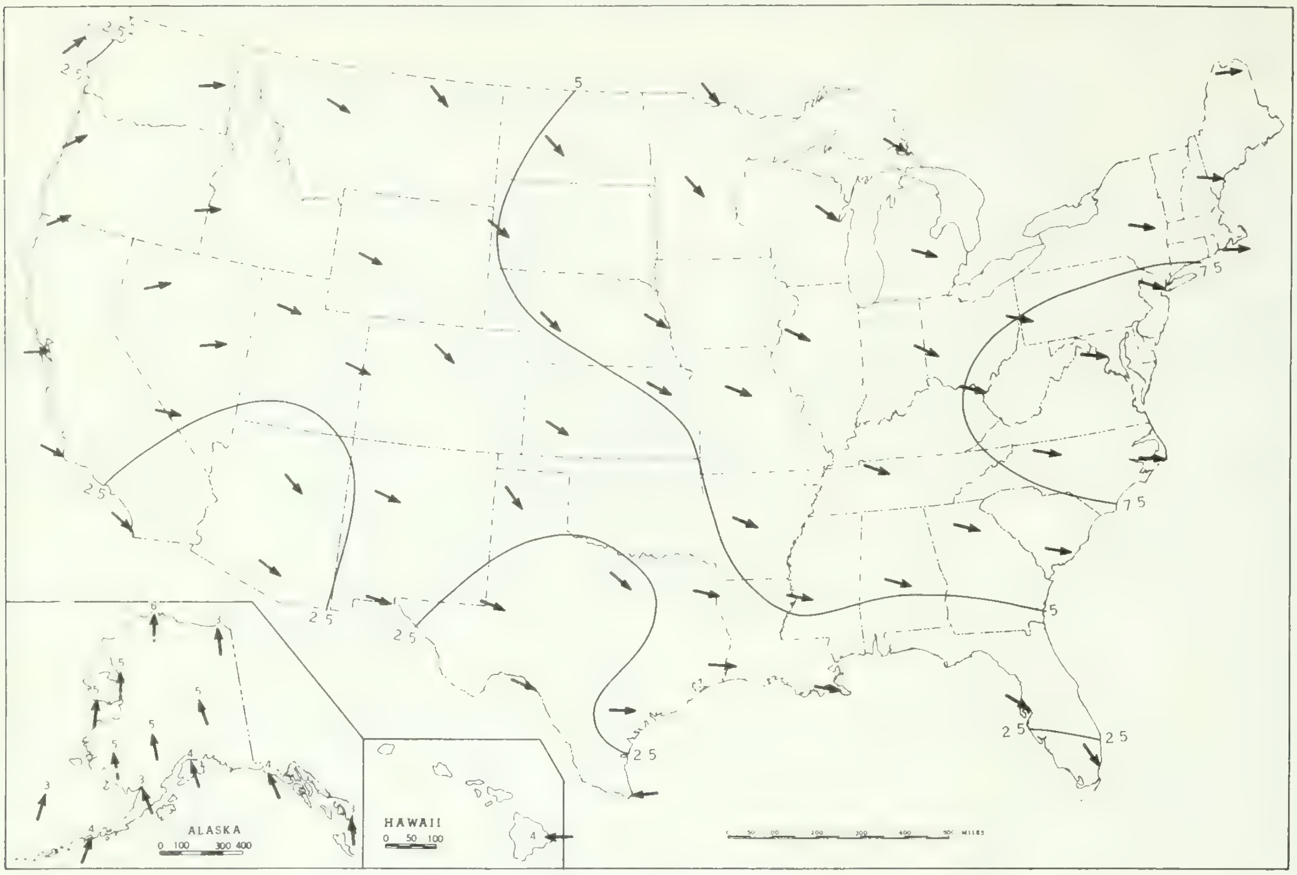
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, April 1969. Average Height and Temperature, and Resultant Winds.

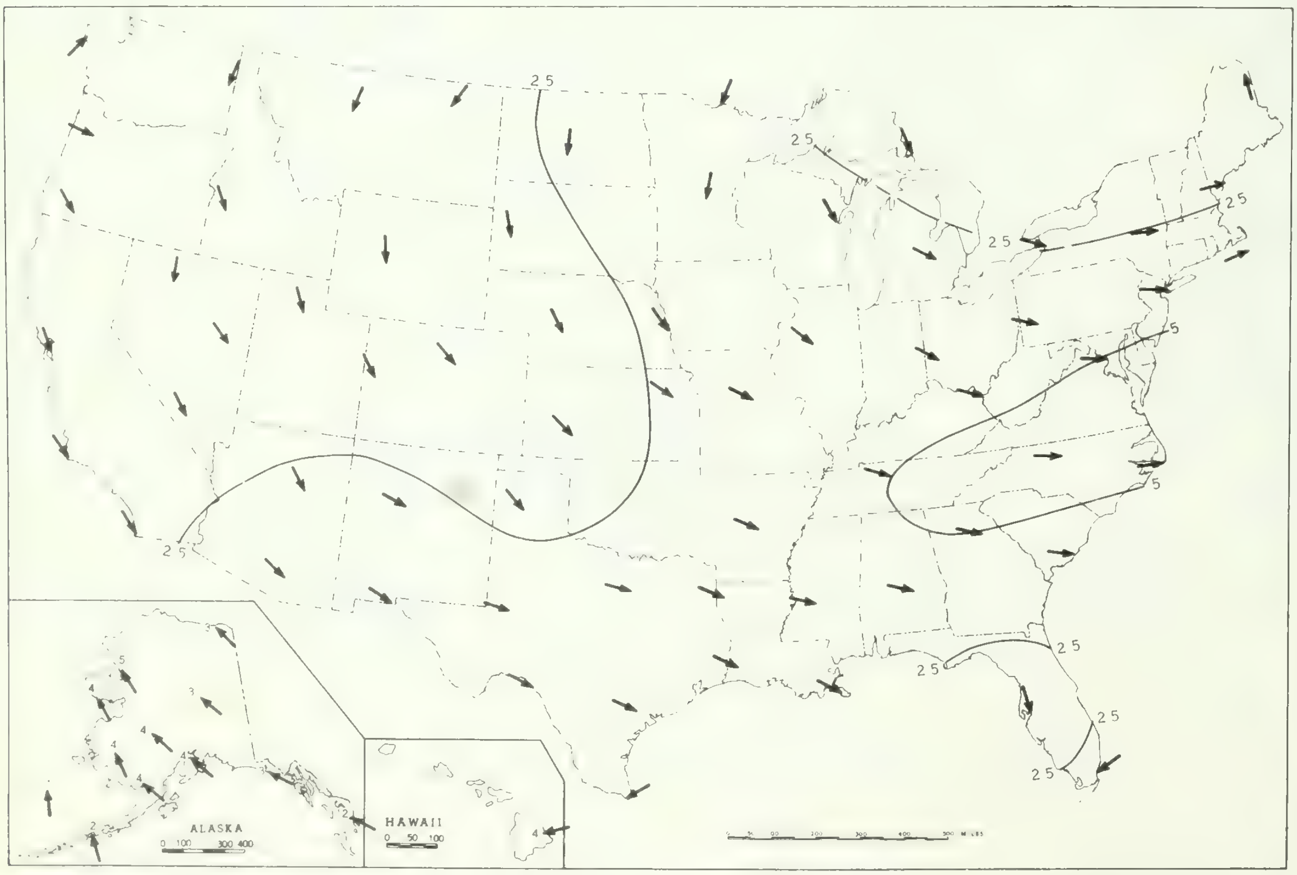


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, April 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, April 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-ESSA-Asheville, N. C. -9/22/69-1930

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MAY 1969
Volume 20 No. 5

Asheville 1969

C O N T E N T S

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 5 MAY 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:
1. Temperatures fluctuated considerably but averaged slightly warmer than normal over most of the Nation.
2. Precipitation over most areas ranged from 50% to 150% of normal. Some southwestern desert areas received more than twice their normals.
3. Tornado occurrences were about average, 144, but they caused only 4 deaths. The 16-year average for May is 34 deaths from tornadoes.

TEMPERATURE.--Temperatures in May averaged slightly below normal from the Great Lakes to New England and over the Southland from Texas to Virginia and Florida. Near to above normal temperatures predominated over most of the rest of the Nation. Warm temperatures persisted over most of the western half of the Nation during the entire month, and much of the Great Basin averaged 3° to 7° warmer than normal. Eastern areas were especially warm in the second and last weeks of May.

May began with cool temperatures over much of the East. Light frost occurred from Michigan to New England and southward to West Virginia with record-low temperatures in West Virginia and surrounding areas. Warming in the central Great Plains pushed maximums in western Kansas to the middle 80's. Another batch of cold air moved into the Pacific Northwest during the first week of May and cooled the northern States as far eastward as Minnesota. By the end of the week, warm weather again predominated over the Pacific Northwest as temperatures tumbled sharply over the Central and East. The southern Rockies cooled to far below normal. Douglas, Ariz., registered 32° on the morning of May 7.

By midmonth, the southwestern deserts had warmed to 100° or higher. Blythe, Calif., registered 103° on the 13th. In contrast to the warming trend over the West and Central, a deep northwesterly current cooled the East. Frost occurred in the northern and central Appalachians on 1 or 2 mornings. The temperature at Bristol, Tenn., on May 13 was 32°. On the 15th and 16th, cold air spilled into the northern Great Plains holding afternoon temperatures in the 50's; maximums had reached the 80's and 90's in this region a few days earlier. The warm air spread eastward, reaching the Northeast by the 17th, when Boston, Mass., registered 87°.

The warming trend continued west of the Rockies in the 4th week of May, with 90° readings common as far north as Seattle, Wash., and with readings above 100° in the southwestern deserts almost every day. Parts of the Great Basin averaged 7° above normal during the 4th week. Cold air pushed southward east of the Rockies. Frost damaged strawberries in Minnesota. The winter chill extended from the western Great Lakes to New England.

In the last few days of May, a southerly current warmed the West as far north as the Canadian border. The warm air moved eastward with Pierre, S. Dak., registering 105° on the 28th and Marquette, Mich., recording 100° on the 29th. On the 31st, cooler air from the Pacific Northwest was lowering temperatures in Montana and Wyoming.

PRECIPITATION.--May began with widespread showers over the Upper Mississippi River Valley and with tornadoes and hailstorms dotting the southern Great Plains. Numerous hailstorms and 27 tornadoes occurred in Texas in the 1st week of May. Hail as large as baseballs pelted the southern part of the State. Seven-inch rains caused major flooding in the Upper Trinity and Upper Brazos River Basins in north-central Texas. Four persons were drowned and property damage was estimated to exceed $5 million.

Rain began on the eastern slopes of the Colorado Rockies late on the 4th and continued until the morning of the 8th. Storm totals exceed 10 inches over most of the area from Estes Park to about 25 miles southwest of Denver and 12 inches in some localities. Heavy snow fell in the higher Rockies and, later in the period, in the lower mountain areas. Numerous rock and land slides occurred in the mountains and severe flooding occurred along the South Platte River. The rock and land slides blocked roads and disrupted communications, isolating some communities. Local flooding continued along the South Platte River until the crest reached the State line on the 12th.

Rain fell in 39 States on May 7 and tornadoes struck Illinois, Indiana, Ohio, Kentucky, and Mississippi on the 8th and 10th.

In the early evening of May 8, a tornado in the Tappan Lake, Ohio, area topped 20 trees, damaged dwellings, destroyed homes, killed 1 person and injured 21 others. Another tornado in Ohio injured 26 persons on the 10th. More heavy thundershowers drenched the southern Great Plains at midmonth and twisters hit scattered localities from Texas to Wisconsin and in the Ohio River Valley. Most of these tornadoes caused only light property damage. Violent weather struck the central Great Plains late in May with tornadoes in Kansas and hail in Minnesota.

Only light rains occurred in the Great Basin in May. The inch that fell at Las Vegas, Nev., is 10 times their normal. Many desert areas received several times their May normals.

Precipitation averaged above normal over most of Washington and Oregon, near normal over the northern and central Great Plains and eastward to the Atlantic Ocean, and above normal over north-central Texas, western Louisiana, and Alabama. The pattern was especially uneven in parts of Mississippi and Alabama. Jackson, Miss., received only about 1/3 of the normal May rain, but Birmingham, Ala., received more than 3 times the normal. Tampa, Fla., received more than twice the May normal, while nearby Orlando had less than half the normal for that location.

Among the interesting statistics for May are:

Red Bluff, Calif.: First May in 41 years and second in 94 years with no rain.

Roswell, N. Mex.: Least May rainfall, 0.10 inch, in 24 years.

Birmingham, Ala.: Most May rainfall, 11.10 inches, in 77 years.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

MAY 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	3 Stations	95	25+	2 Stations	33	10+	Sayre	12.23	Gainesville	1.57
Alaska	Annette WBAP	87	23	Barrow WBAP	0	13	Whittier	23.19	Ninilchik 5NE	T
Arizona	Willow Beach	114	31	Lukachukai	15	8	Cibecue	3.01	3 Stations	.00
Arkansas	2 Stations	95	31+	Calico Rock	31	11	De Queen	10.79	Melbourne 5WNW	.28
California	Death Valley	115	31	White Mountain 2	8	5	Mt Baldy Notch	3.20	108 Stations	.00
Colorado	Rocky Ford 2ESE	97	27	3 Stations	16	9+	Evergreen	10.94	3 Stations	T
Connecticut	Norwalk Gas Plant	97	30	Coventry	23	6	Shuttle Meadow Resvr	5.68	Bulls Bridge Dam	2.68
Delaware	4 Stations	93	30+	Milford 2WSW	36	12	Dover	3.70	Selbyville	.90
Florida	Avon Park	97	31	Fountain 3SSE	40	12	Pompano Beach	13.99	Winter Haven	.88
Georgia	Thomaston 2S	96	31	Blairsville Exp Sta	33	12	Brooklet 1W	12.68	Danville	1.85
Hawaii	Kahului WBAP	91	31+	Mauna Loa Slope Obs	29	8+	Kahana 883	32.94	9 Stations	.00
Idaho	Bruneau	97	23	Galena	15	3+	Sandpoint Exp Sta	3.64	4 Stations	.00
Illinois	2 Stations	95	29	3 Stations	32	12+	Harrisburg	8.36	Springfield WBAP	.96
Indiana	do	94	30+	Covington 4NE	28	11	Tell City Power Plant	6.46	Terre Haute 8S	1.72
Iowa	4 Stations	93	27	2 Stations	27	12+	Waterloo WBAP	6.76	Rockwell City	1.89
Kansas	Junction City	97	29	do	33	11+	2 Stations	8.96	Imperial	.78
Kentucky	Owensboro 2W	95	30	do	29	1	Scottsville 3SSW	7.39	Jackson	1.64
Louisiana	2 Stations	96	24+	Ashland 2S	44	12+	Jennings	12.09	Beekman 3NE	1.88
Maine	5 Stations	89	18+	2 Stations	19	3+	Patten 1S	5.07	Saco	1.47
Maryland	Baltimore WB City	100	29	Oakland 1SE	23	1	Coleman 3WNW	5.10	Princess Anne	.63
Massachusetts	Chester 2	95	29	Chester 2	23	6	Chester 2	5.47	Haverhill	1.00
Michigan	Marquette WB City	100	28	Herman	17	25	Millington 3SW	5.22	Chebyogan RR Light Sta	.26
Minnesota	6 Stations	98	28+	Bigfork	18	12	Hoyt Lakes 5N	5.84	Hallock	1.04
Mississippi	Moorhead	99	4+	3 Stations	37	11+	McHenry 5ESE	8.22	Pleasant Hill	.73
Missouri	2 Stations	96	30+	Berryman 6NW	28	11	Lexington	8.11	Oldfield	.10
Montana	Sonnette 2WNW	103	26	2 Stations	15	1	Bozeman 12NE	3.76	Hinsdale 23N	.12
Nebraska	Merriman	101	27	Anselmo	23	11	Cambridge	8.61	Merriman	.52
Nevada	Sunrise Manor Las Vegas	108	30	2 Stations	18	4+	Little Red Rock	1.43	9 Stations	.00
New Hampshire	Portsmouth	92	17	Mount Washington	8	5	Mount Washington	6.01	Nashua 2NNW	.93
New Jersey	Atlantic City WBAP	99	29	Sussex 1SE	26	6	Lambertville	4.31	Cape May 1NW	1.30
New Mexico	Jal	104	31+	2 Stations	17	8+	Clovis 13N	6.90	Roswell WBAP	.10
New York	2 Stations	99	29	Roxbury	20	27+	Forestport	9.99	Hornell-Almond Dam	1.32
North Carolina	do	96	30	Grandfather Mountain	25	11	Willard 1N	12.66	Shelby 2NNE	.85
North Dakota	4 Stations	101	28+	Medora	21	17	Cooperstown	4.63	Edmore 1N	.36
Ohio	Plymouth	96	29	Oberlin	23	1	Charles Mill Dam	7.92	Lithopolis 2S	1.60
Oklahoma	Hollis	102	31	3 Stations	36	11+	Antlers 2ENE	12.61	Grove 1E	.88
Oregon	4 Stations	95	23+	Crater Lake NP Hq	5	4	Valsetz	5.47	Whitehorse Ranch	.12
Pennsylvania	Burnt Cabins 2NE	98	31	Clermont 4NW	20	1	North East 2SE	7.63	Stump Creek	.64
Puerto Rico	Dos Bocas	97	13	Cerro Maravilla	59	10	Paraiso	30.88	Sabana Grande	4.42
Rhode Island	Greenville	88	29	Kingston	28	7+	Woonsocket	4.94	Newport	1.79
South Carolina	3 Stations	98	31+	Union 8SW	33	12	Yemassee 4W	10.22	Edisto Island 5SW	1.45
South Dakota	Fort Sully 8NE	106	27	Kyle	21	11	Wilmot 1ENE	5.35	Union Center	.75
Tennessee	Coldwater	95	30	Mountain City No 2	28	13	Monteagle	6.79	Knoxville Exp Sta	.97
Texas	Presidio	109	20	Cornudas Service Sta	32	7	Honey Grove	17.30	Salt Flat 10ENE	.04
Utah	Saint George	102	30+	Blowhard Mtn Radar	20	4	Ferron	1.61	15 Stations	.00
Vermont	Vernon	89	30	Mount Mansfield	15	6	Mount Mansfield	7.79	Bellows Falls	2.01
Virginia	2 Stations	98	31	Floyd 2NE	25	13	Free Union	5.48	Parramore Beach L B S	.16
Washington	3 Stations	96	24+	Rainier Paradise RS	21	2	Palmer 3ESE	6.68	Wenatchee FAA AP	T
West Virginia	2 Stations	96	30+	2 Stations	21	1	Hacker Valley	4.02	Petersburg	.75
Wisconsin	do	95	28	3 Stations	24	21+	Coddington 1E	7.71	Grantsburg 1E	.60
Wyoming	do	100	27	Buffalo 15SW	12	8	Albin	3.03	3 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	994.2	1016.4	80	58	69.0	- 2.8	88	31+	43	10+	0	0	59	74	11.10	7.68	4.63	13	9	0.0	0	1.4	10	36	N	25	12	7	12	5.4	64
HUNTSVILLE	624	993.9	1016.6	82	60	70.7	0.3	91	31	45	11+	3	0	58	66	6.85	3.46	4.25	11	8	0.0	0	2.1	11	28	17	30+	12	9	10	5.2	
MOBILE	211	1007.5	1015.3	85	64	74.5	- 1.1	94	21	51	10	6	0	62	69	7.95	3.07	3.23	8	6	0.0	0	2.4	9	25	36	24	8	17	6	5.4	
MONTGOMERY	183	1009.1	1016.2	83	61	71.5	- 0.9	91	31	47	12+	2	0	62	75	4.97	1.50	1.80	14	13	0.0	0	1.1	12	28	W	8	9	13	9	5.5	54
ALASKA												8																				
ANCHORAGE	114	1006.8	1011.8	55	40	47.7	0.3	77	24	30	9	1	1	35	61	0.86	0.34	0.75	4	2	0.0	0	4.0	19	25	16	31+	2	5	24	8.3	43
ANNETTE	110	1012.9	1017.1	63	45	53.7	4.5	87	23	34	6	7	0	42	70	4.56	- 2.51	1.62	14	0	0.0	0	3.6	16	25	14	3	3	7	21	7.9	
BARROW	31	1021.7	1022.1	25	16	20.5	2.1	34	15	0	13	0	31	18	90	0.51	0.39	0.30	7	0	7.4	17	8.0	7	25	10	19+	0	4	27	9.3	
BARTER ISLAND	39	1019.0	1021.0	28	19	23.6	2.9	37	22	10	15	0	31	21	88	0.06	- 0.19	0.03	4	0	2.1	3	4.6	7	32	29	24+	1	4	26	9.1	
BETHEL	125	1004.4	1010.0	56	35	45.5	6.5	79	25	27	16	4	13	33	65	0.21	- 0.74	0.09	5	0	T	T	1.8	9	30	8	3	3	10	18	7.0	
BETTLES	644	989.5	1014.7	58	35	46.5		77	22	22	28	4	13	28	49	0.13		0.07	4	0	0.2	0	3.7	3	29	1	26	9	13	9	5.0	
BIG DELTA	1268			58	37	47.6		74	24	29	28+	3	5			1.10		0.45	8	0	T	0			29	20	3	2	13	16	7.2	
COLD BAY	96	1003.4	1007.1	46	37	41.7	2.2	59	26	26	9	0	4	35	78	3.44	1.15	1.29	15	0	4.8	T	5.9	17	47	14	16	1	5	25	8.6	
FAIRBANKS	436	995.6	1012.7	62	37	49.4	2.3	77	24	30	4+	4	9	27	45	0.95	0.24	0.69	6	0	T	T	2.8	4	28	5	27+	3	15	13	7.0	
FAREWELL	1499			55	32	43.3		75	25	22	27	3	16			0.48		0.12	8	0	0.6	1						2	2	27	8.3	
GULKANA	1572	954.3	1011.8	57	33	45.4		77	24	25	9	3	17	28	52	0.66		0.41	5	0	T		3.0	17	25	20	15	2	11	18	7.2	
HOMER	67			51	36	43.8		66	24	28	18+	0	10			1.22	0.15	0.43	9	0	0.0	0						3	7	21	7.9	
ILIAMNA	186			52	33	42.5		72	25	26	9+	1	14			0.91		0.38	8	0	T	5						4	8	19	7.7	
JUNEAU	12	1014.9	1015.8	59	40	49.9	4.3	75	23	30	13	4	1	41	76	3.38	0.14	0.86	14	0	0.0	0	4.8	13	37	12	4	3	6	22	8.0	49
KING SALMON	49	1006.4	1008.4	52	36	44.1	0.8	70	25	29	18+	1	9	31	62	0.79	- 0.17	0.49	6	0	T	T	3.7	12	35	10	3	1	6	24	8.5	
KOTZEBUE	10	1013.9	1014.4	47	31	38.8	7.9	70	22	20	8	1	16	27	66	0.14	- 0.19	0.10	3	0	0.2	2	1.4	2	29	10	19	11	10	10	5.3	
MC GRATH	344	998.0	1010.6	60	37	48.3	4.2	78	24	29	9	7	9	28	48	0.44	- 0.44	0.23	6	1	T	0	2.6	7	29	2	27+	1	12	18	7.6	
NENANA	356			60	36	48.0		75	24	25	3	3	10			0.71		0.20	8	0	0.1				21	3	27+	2	15	14	7.2	
NOME	13	1011.2	1011.9	52	34	42.8	7.8	75	25	25	12+	1	14	28	58	0.44	- 0.25	0.23	5	0	0.4	T	5.1	6	30	3	3	7	13	11	6.1	48
ST. PAUL ISLAND	22	1005.4	1006.4	41	32	36.7	1.9	51	29	23	9	0	15	34	89	1.28	- 0.02	0.29	14	0	3.3	5	3.4	6	41	9	16	2	6	23	8.4	
SHEMYA	122	1003.4	1007.2	41	35	37.9	- 0.1	44	31+	30	2+	0	4	33	84	2.23	- 0.17	0.67	15	0	1.0	T	8.9	27	54	23	9	0	5	26	8.8	
SUMMIT	2401	925.5	1011.9	50	32	40.8		70	24	22	2	1	18	28	64	0.41		0.18	7	0	2.8	4	0.7	31	28	7	27	3	7	21	7.8	
TALKEETNA	345			60	36	47.6	2.8	81	25+	25	3	7	9			2.10	0.76	0.53	13	0	T	0			21	3	31+					
TANANA	232			60	35	47.6	3.6	75	24	22	5	4	13			0.24	- 0.49	0.16	4	0	0.0	0			26	5	27	7	15	9	6.0	
UNALAKLEET	15	1010.8	1011.6	54	34	44.3		78	25+	25	10	3	15	31	63	0.53		0.33	5	0	T	T	3.9	7	37	10	21	6	11	14	6.0	
YAKUTAT	28	1013.9	1014.9	52	36	43.6	- 1.0	74	23	26	13	1	9	39	83	10.42	2.44	3.04	22	0	0.3	T	3.1	13	29	13	9	2	4	25	8.6	
ARIZONA																																
FLAGSTAFF	7006	787.3	1013.3	70	35	52.4	1.5	84	30	25	3	0	7	22	34	1.06	0.55	0.57	6	3	4.6	4	3.8	21	23	22	30	20	5	6	3.3	
PHOENIX	1117	970.2	1008.2	95	62	78.3	3.3	107	30	47	6	25	0	34	24	0.26	0.13	0.25	2	0	0.0	0	1.0	15	31Y	SW	3	21	8	2	2.5	91
TUCSON	2584	922.8	1008.8	90	59	74.9	1.4	103	30+	39	5	20	0	29	22	0.46	0.33	0.45	2	2	0.0	0	2.9	21	34	S	4	23	5	3	2.2	92
WINSLOW	4895	850.0	1011.2	82	48	65.0	0.2	96	30+	37	8	11	0	27	31	1.22	0.90	0.90	3	1	0.0	0	5.6	22	31	23	4	20	8	3	3.1	
YUMA	194	1001.0	1008.3	96	65	80.3	2.3	107	30	51	5	25	0	40	28	0.05	0.04	0.05	1	0	0.0	0	4.2	20	22	W	3	24	4	3	2.0	97
ARKANSAS																																
FORT SMITH	447	998.6	1015.1	82	59	70.7	0.8	90	29	42	11	1	0	60	72	1.99	- 3.27	0.83	9	6	0.0	0	1.6	10	30	W	10+	10	8	13	5.7	64
LITTLE ROCK	257	1005.8	1015.1	82	58	69.9	- 0.6	92	31	42	11	5	0	60	74	3.60	- 1.68	1.81	9	4	0.0	0	1.2	17	29	NW	8	8	13	10	5.9	83
CALIFORNIA																																
BAKERSFIELD	475	994.9	1012.2	88	61	74.3	3.9	100	31+	46	4	15	0	47	40	0.08	- 0.14	0.08	1	0	0.0	0	4.4	33	23	29	3	24	6	1	1.9	
BISHOP	4108	871.0		85	46	65.6	3.0	96	31+	38	1	6	0			0.27	0.07	0.19	4		0.0	0						17	11	3	3.3	
BLUE CANYON	5280			66	48	57.0	4.8	79	31+	31	3	0	1			0.53	- 2.57	0.36	4		1.8	15			24	24	25	20	8	3	3.0	
EUREKA U	43			58	49	53.4	0.4	67	25	43	5+	0	0			1.01	- 1.17	0.67	6		0.0	0			34	N	3	6	6	19	7.3	49
FRESNO	328	1000.3	1012.2	87	54	70.4	2.2	99	31	42	1	13	0	49	50	0.06	- 0.24	0.06	2	0	0.0	0	6.2	31	29	NW	3	27	4	0	1.4	98
LONG BEACH	34	1012.5	1014.0	73	56	64.5	1.0	85	9	49	4	0	0	53	70	0.03	- 0.08	0.02	2	0	0.0	0	3.2	22	20	28	9	4	18	9	6.0	
LOS ANGELES	97	1009.5	1013.2	68	58	63.1	1.1	72	31+	50	4	0	0			T	- 0.13	T	0	0	0.0	0	5.2	23	26Y	W	4	5	13	13	6.2	
LOS ANGELES J	270			74	59	66.6	1.8	85	9	50	4	0	0			0.03	- 0.13	0.02	2		0.0	0			15	N	4	11	10	10	5.3	52
MT SHASTA R	3544			73	44	58.2	4.4	85	22+	32	27+	0	2			1.03	- 0.96	0.34	7		T	0										
OAKLAND	6	1014.9	1015.2	66	54	59.9	0.2	87	5	47	3+	0	0	51	75	T	- 0.65	T	0	0	0.0	0	8.3	27	31	27	3	16	11	4	3.8	
RED BLUFF	342	1000.3	1012.8	87	58	72.3	4.0	98	31+	48	1	13	0	43	39	0.00	- 1.13	0.00	0	0	0.0	0	1.4	33	34	SE	26	24	4	3	2.4	92
SACRAMENTO	17	1012.2	1013.1	83	51	66.9	2.9	100	31	42	3	7	0	51	64	0.04	- 0.55	0.04	1	0	0.0	0	5.3	23	26	W	25	24	7	0	1.8	98
SANDBERG R	4517	861.2		71	49	60.3	3.7	89	29	27	4	0	2			0.38	0.07	0.38	2		2.5	T			38	35	28+	19	8	4	2.9	
SAN DIEGO	13	1012.5	1013.6	68	58	62.9	- 1.1	75	9	51	4	0	0	54	76	0.17	0.02	0.13	3	0	0.0	0	4.1	26	17	NW	26+	4	12	15	6.9	51

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground) Ft.	Pressure: Station Mb.	Pressure: Sea level Mb.	Temperature: Average maximum F.	Temperature: Average minimum F.	Temperature: Average F.	Temperature: Departure from normal F.	Temperature: Highest F.	Temperature: Date	Temperature: Lowest F.	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point F.	Average relative humidity %	Precipitation: Total In.	Precipitation: Departure from normal In.	Precipitation: Greatest in 24 hours In.	Precipitation: No of days: .01 inch or more	Precipitation: No of days: With thunderstorms	Snow, Sleet: Total In.	Snow, Sleet: Maximum depth on ground In.	Wind: Resultant speed M.p.h	Wind: Resultant direction	Wind: Fastest mile: Speed M p h	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine %
CALIFORNIA																																
SAN FRANCISCO	8	1014.6	1015.4	68	51	59.5	1.2	84	5	44	2	0	0	48	73	T	- 0.48	T	0	0	0.0	0	11.5	28	51	WNW	3	17	10	4	3.6	
SAN FRANCISCO U	52			63	51	57.0	- 0.4	80	5	47	4+	0	0			T	- 0.63	T	0		0.0	0			33	SW	3					76
SANTA MARIA	236			68	49	58.2	0.6	82	28	40	5+	0	0			0.01	- 0.21	0.01	1		0.0	0						15	9	7	4.3	
STOCKTON	22	1012.5	1013.6	84	53	68.5	2.3	98	31	45	4	8	0	49	54	0.03	- 0.41	0.03	1	0	0.0	0	6.8	30	21	28	18+	27	4	0	1.4	
COLORADO																																
ALAMOSA	7536	771.8		72	35	53.2	2.4	84	29+	25	2	0	11			0.49	- 0.24	0.25	7		0.9	T						11	11	9	4.9	
COLORADO SPRINGS	6145	811.4	1013.7	69	44	56.8	1.8	86	27+	34	8	0	0	38	58	4.46	2.33	1.69	14	12	0.0	0	3.3	4	38	24	4	7	13	11	6.0	
DENVER	5283	836.1	1011.9	72	47	59.3	3.1	89	30+	37	8	0	0	41	58	6.12	3.42	3.14	11	10	0.0	0	1.0	8	25	NE	6+	7	16	8	5.6	62
GRAND JUNCTION	4843	849.6	1009.2	82	51	66.4	4.2	94	29	40	8	5	0	30	30	0.45	- 0.15	0.40	4	5	T	0	0.5	12	38	N	30	16	10	5	3.8	75
PUEBLO	4684	854.7	1011.4	78	51	64.3	3.7	94	30+	42	17+	4	0	41	48	0.87	- 0.93	0.49	7	6	0.0	0	3.3	9	37	SE	3	8	10	13	5.7	69
CONNECTICUT																																
BRIDGEPORT	7	1016.3	1016.9	68	51	59.8	1.1	92	29	42	6+	1	0	47	67	2.71	- 1.00	1.47	8	3	0.0	0	4.6	24	35	28	12	10	13	8	5.5	
HARTFORD	169	1009.5	1016.0	72	46	58.8	- 1.1	92	29	33	12+	1	0	44	62	3.13	- 0.28	1.28	7	3	0.0	0	3.1	21	37	NE	29	7	8	16	6.5	67
NEW HAVEN	6	1016.6		69	49	59.2	2.0	92	29	35	6	1	0			3.44	- 0.27	1.91	10		0.0	0			28	SW	12	9	13	9	5.5	70
DELAWARE																																
WILMINGTON	74	1014.6	1017.5	75	54	64.2	1.5	92	29	41	12	1	0	49	60	3.21	- 0.32	2.02	7	2	0.0	0	3.0	20	23	26	11+	11	10	10	5.1	
DIST. OF COLUMBIA																																
WASH NATL AP	10	1015.2	1017.5	80	57	68.4	2.6	97	29	40	12	2	0	51	56	1.20	- 2.94	0.55	4	1	0.0	0	3.2	20	28	S	8	14	7	10	4.8	72
FLORIDA																																
APALACHICOLA U	13			81	67	73.9	- 0.9	87	31+	56	10	0	0			2.76	- 0.12	1.24	8	4	0.0	0			26	E	1	11	11	9	5.0	65
DAYTONA BEACH	31	1015.2	1016.7	82	67	74.4	0.2	88	31	53	11	0	0	64	71	6.47	3.62	1.98	5	5	0.0	0	6.2	8	30	21	14	8	13	10	5.7	
FORT MYERS	15	1014.2	1014.7	87	69	77.8	0.4	90	27	64	11+	1	0	68	76	4.71	0.86	1.43	10	8	0.0	0	5.4	6	29	4	20	6	17	8	5.6	
JACKSONVILLE	20	1015.9	1016.9	83	64	73.8	- 2.0	95	31	53	10	4	0	64	75	3.78	0.31	2.31	10	3	0.0	0	5.0	9	52	N	15	6	15	10	5.9	67
KEY WEST	4	1013.2	1013.7	85	76	80.6	1.6	88	27	71	1	0	0	71	75	3.02	0.29	1.45	11	6	0.0	0	7.3	9	29	SE	2	6	16	9	5.5	80
LAKELAND U	214			85	68	76.1	- 0.8	90	31	62	11	1	0			4.26	0.72	1.87	8		0.0	0						7	16	8	5.3	67
MIAMI	7	1013.9	1014.1	85	74	79.6	2.0	88	31+	70	5+	0	0	68	71	8.02	1.58	2.65	13	9	0.0	0	8.0	9	23	11	8	1	18	12	6.8	
ORLANDO	108	1011.9	1016.0	86	67	76.9	- 0.7	91	31+	60	11	3	0	65	72	1.40	- 2.17	0.95	4	3	0.0	0	6.2	8	29	28	14	5	17	9	6.0	
TALLAHASSEE	55	1013.9	1016.2	86	61	73.4	- 1.5	94	30	43	12	9	0	64	77	4.38	0.28	1.15	14	11	0.0	0	2.3	8	17	6	27+	9	12	10	5.6	
TAMPA	19	1014.9	1015.1	86	66	76.2	- 0.6	90	27+	50	11	2	0	64	70	6.23	3.38	3.05	9	7	0.0	0	4.6	8	22	5	26	6	15	10	5.7	70
WEST PALM BEACH	15	1014.2	1014.8	83	71	77.0	- 0.6	86	31	63	5	0	0	67	72	8.32	3.21	3.14	16	5	0.0	0	9.0	8	24	7	27	4	14	13	6.6	
GEORGIA																																
ATHENS	802	988.5	1017.0	80	59	69.0	- 1.1	93	30	43	12	2	0	57	70	4.61	1.00	2.89	9	5	0.0	0	1.2	8	21	28	9	11	11	9	5.1	
ATLANTA	1010	980.7	1017.0	80	59	69.2	0.1	90	31	44	10	1	0	57	69	7.68	4.52	4.34	10	5	0.0	0	2.0	10	26	NW	25	15	8	8	4.8	64
AUGUSTA	136	1011.9	1017.0	83	58	70.4	- 1.2	91	31+	40	12	2	0	59	71	4.33	1.34	1.44	10	6	0.0	0	1.2	11	28	10	30	8	10	13	6.2	
COLUMBUS	385	1002.7		82	60	71.2	- 0.9	93	31	45	12	2	0	58	68	6.02	2.52	1.61	11	8	0.0	0	2.4	7	21	34	24+	10	11	10	5.5	
MACON	354	1004.1	1016.9	84	58	70.6	- 3.3	95	30	40	12	4	0	58	70	2.01	- 1.31	0.84	10	8	0.0	0	2.5	8	24	E	30	6	13	12	6.3	64
SAVANNAH	46	1015.6	1017.4	82	60	71.0	- 2.4	89	31+	44	12	0	0	60	72	8.74	4.97	4.23	10	7	0.0	0	3.2	11	24	SE	17	8	11	12	5.9	62
HAWAII																																
HILO	27	1015.6	1016.7	82	67	74.5	1.5	86	30	61	9	0	0	68	82	7.83	- 1.50	3.05	23	0	0.0	0	0.6	17	22	E	11	2	14	15	7.3	44
HONOLULU	7	1015.6	1016.1	84	69	76.7	0.8	88	27+	64	8	0	0	65	70	0.81	- 0.18	0.57	5	0	0.0	0	6.7	5	27	NE	3	10	18	3	4.8	73
KAHULUI	48	1013.5	1016.0	86	65	75.5	0.2	91	31+	58	10+	3	0	65	73	0.27	- 0.42	0.12	8	0	0.0	0	10.0	4	31	E	3	14	12	5	4.5	81
LIHUE	103	1012.2	1017.4	81	70	75.4	0.9	85	30	64	8	0	0	67	77	2.80	0.21	0.97	17	0	0.0	0	7.0	5	21	E	3+	3	18	10	6.3	53
IDAHO																																
BOISE	2838	914.3	1013.4	76	46	61.1	2.9	90	23	28	3	1	2	37	43	0.50	- 0.79	0.31	5	4	0.0	0	3.0	30	26	W	14	15	7	9	4.4	85
LEWISTON	1413			75	48	61.4	3.0	88	23	32	3	0	1			1.25	- 0.30	0.63	10		0.0	0						7	10	14	6.2	
POCATELLO	4454	862.5	1013.6	75	41	58.1	3.0	88	25	31	1	0	1	31	40	0.19	- 0.94	0.18	2	2	0.0	0	3.9	24	37	SW	18	14	12	5	4.0	86
ILLINOIS																																
CAIRO U	314			79	60	69.7	0.7	92	29	44	11	2	0			2.49	- 1.90	1.32	9		0.0	0			35	NW	10	12	11	8	4.9	67
CHICAGO O HARE	658	991.9	1016.2	71	50	60.4	2.6	90	28	39	26+	1	0	46	61	3.17	- 0.59	1.41	13	4	T	T	0.7	16	36	25	31	5	13	13	6.5	
CHICAGO MIDWAY	607	993.6	1016.3	72	51	61.2	1.2	92	28	40	12	1	0	45	60	4.04	0.31	1.45	12	6	T	T	1.5	18	26	NW	9	6	10	15	6.5	52

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F	F.		F.				F	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
MOLINE	582	993.9	1015.5	73	51	61.7	0.5	91	28	37	12+	1	0	50	68	3.40	-0.40	0.64	14	4	T	T	1.9	19	33	W	9	5	12	14	6.6	59
PEORIA	652	992.2	1016.0	73	50	61.4	-0.1	89	29	37	12	0	0	50	69	2.37	-1.90	0.53	13	7	0.0	0	1.3	19	30	NW	11+	6	11	14	6.7	52
ROCKFORD	724	988.5	1015.3	71	48	59.4	0.3	90	28	35	23	1	0	47	66	5.75	1.92	2.64	10	2	0.0	0	1.0	20	25	29	11	5	13	13	6.5	
SPRINGFIELD	588	993.6	1015.4	76	53	64.2	0.3	94	29	36	12+	2	0	50	63	0.96	-2.92	0.38	8	3	0.0	0	3.0	19	42	W	10	9	10	12	5.8	63
INDIANA																																
EVANSVILLE	381	1002.0	1016.1	77	53	65.0	-1.8	91	30	38	12+	3	0	55	73	5.36	1.17	2.73	9	6	0.0	0	1.0	24	35	W	10	9	11	11	5.3	65
FORT WAYNE	791	986.8	1016.6	71	49	60.3	-0.4	89	29	34	11	0	0	48	67	4.10	0.37	1.69	12	6	0.0	0	2.3	25	56	W	31	6	7	18	6.7	68
INDIANAPOLIS	792	986.8	1015.8	75	52	63.4	2.0	90	29	37	11	1	0	52	68	1.82	-2.17	0.78	7	6	0.0	0	1.8	21	29	W	10	7	7	17	6.8	48
SOUTH BEND	773	988.2	1016.1	71	48	59.5	0.8	89	28	35	11	0	0	48	67	4.26	0.64	1.31	10	2	0.0	0	1.8	24	39	25	31	6	9	16	6.8	
IOWA																																
BURLINGTON	692			72	51	61.7	-0.1	88	29	37	11+	0	0			2.42	-1.61		10	4	0.0				25	35	10	4	13	14	6.8	
DES MOINES	938	981.0	1015.5	73	53	62.9	2.3	88	29+	35	12	0	0	50	66	4.75	0.68	1.80	11	8	0.0	0	2.0	19	43	NW	10	6	10	15	6.6	50
DUBUQUE	1056	976.6		69	48	58.6	0.5	84	28	32	12	0	1			2.37	-1.85	0.49	12		T	0						4	7	20	7.3	
SIOUX CITY	1095	974.9	1014.6	73	50	61.8	0.4	90	28+	31	12	2	1	52	70	2.49	-0.74	0.90	12	9	0.0	0	1.2	18	40	NW	10	4	11	16	6.9	51
WATERLOO	868	983.7	1015.4	70	48	59.0	-0.9	87	28+	31	12	0	1	48	71	6.76	3.02	1.81	13	4	0.0	0	1.3	19	31	3	24	2	13	16	7.0	
KANSAS																																
CONCORDIA	1470	961.4	1014.0	73	53	62.9	-0.2	88	28	40	11	0	0	55	79	5.82	1.93	1.72	13	13	0.0	0	3.1	15	34	N	29+	7	8	16	6.4	50
DODGE CITY	2582	923.1	1012.8	77	54	65.5	1.8	91	28	43	8	1	0	54	73	2.83	-0.39	1.26	12	9	0.0	0	4.0	14	33	N	31	12	5	14	5.9	78
GOODLAND	3654	886.9	1012.4	72	49	60.6	2.1	87	27	37	9	0	0	49	71	3.83	1.42	1.71	10	7	0.0	0	3.1	13	30	34	16	13	7	11	5.4	
TOPEKA	876	983.1	1014.7	75	55	65.3	0.9	87	28+	36	11	0	0	55	73	3.77	-0.61	1.55	10	7	0.0	0	1.6	16	34	NW	8	8	6	17	6.8	57
WICHITA	1321	966.5	1013.9	75	55	65.2	-0.8	87	31	42	11	0	0	57	78	3.28	-0.69	1.11	14	13	0.0	0	3.8	15	43	N	21	8	10	13	6.3	60
KENTUCKY																																
COVINGTON	869	985.4	1016.6	77	54	65.0	2.5	91	31	38	1	2	0	54	70	2.05	-1.54	0.77	10	2	0.0	0	2.2	21	32	26	10	6	12	13	6.0	
LEXINGTON	966	982.1	1017.1	76	55	65.5	1.0	89	31	38	1	0	0	52	64	3.78	-0.07	1.35	10	6	0.0	0	2.0	20	25	29	10	10	12	9	5.4	
LOUISVILLE	477	998.6	1016.2	77	55	66.2	1.8	89	30	40	10	0	0	55	70	3.91	0.01	0.94	12	10	0.0	0	1.3	21	38	W	10	8	13	10	5.6	66
LOUISIANA																																
BATON ROUGE	64	1012.2	1015.0	85	64	74.6	-0.2	92	28+	53	10+	6	0	63	72	2.92	-1.88	1.03	9	6	0.0	0	1.9	9	22	11	7	12	9	10	5.1	
LAKE CHARLES	9	1013.5	1014.5	82	65	73.7	-1.9	92	22	54	10	2	0	65	78	6.65	2.04	2.08	8	11	0.0	0	2.6	10	23	4	26	13	9	9	5.2	
NEW ORLEANS	3	1014.6	1015.3	84	63	73.3	-1.1	91	24+	51	12+	4	0	64	73	5.51	1.13	1.71	9	7	0.0	0	2.6	9	30	13	7	15	9	7	4.3	
SHREVEPORT	254	1005.4	1014.7	83	62	72.4	-0.7	90	31+	50	9	4	0	61	72	5.18	0.39	1.65	9	7	0.0	0	2.1	15	35	22	24	12	9	10	5.1	62
MAINE																																
CARIBOU	624			59	38	48.2	-1.7	80	17	29	5+	0	7			2.88	-0.15	0.86	14		0.0	T						4	7	20	7.5	
PORTLAND	47	1012.9	1015.2	64	41	52.8	-0.2	87	17	32	27+	0	2	40	68	1.67	-1.74	0.79	12	3	0.0	0	3.1	23	31	NW	5	8	13	10	5.8	55
MARYLAND																																
BALTIMORE	14■	1011.5	1017.1	78	53	65.5	1.1	97	29	39	1	2	0	50	61	1.46	-2.52	0.79	4	1	0.0	0	2.6	21	29	W	11	15	8	8	4.4	70
MASSACHUSETTS																																
BLUE HILL OBS R	629			67	46	56.7	0.0	85	29+	38	27	0	0			2.78	-0.70	1.69	10		0.0	0			44	SW	9					62
BOSTON	15	1014.9	1015.9	67	50	58.5	-0.3	87	17	43	1	0	0	43	61	1.96	-1.38	1.25	10	3	0.0	0	4.2	23	32	SW	19	9	12	10	5.7	63
NANTUCKET	43	1016.9	1017.3	62	46	53.7	1.1	77	30	35	14	0	0	46	77	1.96	-0.92	0.60	7	3	0.0	0	4.1	23	34	S	9	7	13	11	5.8	66
WORCESTER	986	979.7	1016.6	67	45	56.3	1.1	86	29	34	12	0	0	41	59	3.09	-0.70	0.97	10	4	0.0	0	4.7	26	30	32	5	9	11	11	5.7	
MICHIGAN																																
ALPENA	689	990.9	1016.3	63	38	50.3	-0.3	93	28	25	26	1	11	39	66	3.11	0.20	0.82	14	2	T	0	0.3	5	23	N	9	4	12	15	6.7	58
DETROIT	619			68	47	57.4	-1.6	91	29	34	26	1	0	44	62	3.49	-0.04	1.01	9	3	0.0		0.7	23	29	27	8					
DETROIT M WAYNE CO	633	991.9	1016.0	69	46	57.4	-0.2	89	29	36	26+	0	0	45	66	3.74	0.20	1.16	12	3	0.0	0	0.6	27	33	SW	8	9	10	12	6.1	58
FLINT	771	988.2	1016.0	66	43	54.2	-2.2	83	29+	33	26+	0	0	44	68	4.64	1.25	2.24	11	6	0.0	0	1.9	22	30	24	6	6	10	15	6.7	
GRAND RAPIDS	784	986.8	1016.0	68	43	55.7	-1.1	85	28	30	11	0	3	45	68	3.40	-0.06	1.14	12	3	0.0	0	1.9	22	29	W	31	8	10	13	6.3	53
HOUGHTON LAKE	1149	974.3	1016.5	65	41	52.9	0.6	84	28	28	21	0	6	40	66	3.57	0.64	1.32	11	5	0.3	T	1.3	26	23	27	11	7	9	15	6.6	
LANSING	841	984.4	1016.1	69	44	56.5	-0.6	86	29+	31	11	0	2	46	69	4.47	0.74	1.40	10	5	T	T	2.0	22	33	W	6	7	13	11	6.2	57
MARQUETTE U	677			62	42	51.9	2.0	100	28	31	18	2	4			2.22	-0.74	0.95	13		0.1	T			30	S	1	6	14	11	6.3	63
MUSKEGON	625	992.6	1015.7	68	46	56.8	1.0	87	31	35	11	0	0	43	63	2.85	-0.12	0.76	15	5	0.0	0	2.3	23	23	24	31+	8	11	12	5.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ○	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
SAULT STE MARIE	721	989.2	1016.1	59	35	47.0	- 2.6	88	28	24	26	0	13	36	69	1.70	- 1.07	0.30	15	1	T	T	1.3	31	28	NW	20	6	[illegible]	17	6.8	62
MINNESOTA																																
DULUTH	1428	963.4	1015.2	62	39	50.6	1.4	90	28	29	12	1	3	35	59	2.62	- 0.47	0.68	10	6	T	0	0.3	34	33	SW	28	2	15	14	6.9	55
INTERNATIONAL FALLS	1179	970.5	1013.8	63	36	49.5	- 1.2	94	27	25	20	1	14	38	67	2.11	- 0.50	0.68	10	6	T	T	1.8	26	28	36	10	5	11	15	7.0	
MINNEAPOLIS	834	984.4	1014.6	72	49	60.6	3.3	95	28+	31	12	2	1	46	61	1.98	- 1.21	0.41	12	4	0.0	0	1.9	24	29	SW	28+	6	10	15	6.6	66
ROCHESTER	1297	967.5	1014.9	69	46	57.6	0.9	91	27	28	12	2	2	46	67	3.04	- 0.61	1.09	17	8	T	T	3.4	20	35	18	1	5	10	16	7.0	
ST CLOUD	1034	976.3	1014.1	70	46	57.8	2.2	97	27	31	12	2	1		61	2.16	- 1.35	0.94	10		T	T						6	12	13	6.5	
MISSISSIPPI																																
JACKSON	310	1003.7	1015.6	85	60	72.3	- 0.8	94	23	44	1	8	0	62	74	1.52	- 2.86	0.76	7	3	0.0	0	2.2	12	33	SE	7	13	8	10	5.0	62
MERIDIAN	290	1004.7	1015.9	83	59	70.8	- 1.6	93	23	43	1	4	0	60		2.22	- 1.69	1.00	7	5	0.0	0	0.6	10	21	36	24	8	8	15	5.9	
MISSOURI																																
COLUMBIA	778	987.1	1015.1	75	55	64.7	0.3	89	29	37	12	0	0	53	70	4.62	- 0.08	2.22	10	6	0.0	0	2.2	16	43	NW	10	5	9	17	7.1	54
KANSAS CITY	742	988.2	1014.8	75	57	66.1	0.5	88	29+	42	12+	0	0	55	71	3.89	- 0.51	1.93	11	6	0.0	0	2.1	16	36	NW	8	6	7	18	6.8	56
ST JOSEPH	811			79	57	67.8	3.7	92	29	39	12	3	0			4.08	- 0.31		12	5	0.0		1.6	16	29	33	10	7	9	15	6.6	
ST LOUIS	535	995.9	1016.2	77	54	65.7	1.5	91	29	38	11	3	0	55	70	2.11	- 1.62	1.33	8	4	0.0	0	2.0	18	38	NW	10	9	6	16	6.6	51
SPRINGFIELD	1268	970.5	1015.4	78	54	65.7	1.2	89	29	34	11	0	0	54	70	1.54	- 3.74	0.61	4	4	0.0	0	3.9	16	29	NW	10	7	10	14	6.2	56
MONTANA																																
BILLINGS	3567	891.3	1014.8	70	43	56.6	- 0.2	93	26	32	8+	2	2	36	52	0.78	- 1.10	0.39	6	3	T	0	2.1	33	42	NW	14	11	6	14	5.9	59
GLASGOW	2284	933.3	1015.0	67	41	53.9	- 1.3	91	26	29	20	2	6	36	56	0.25	- 1.24	0.13	5	4	0.0	0	2.2	1	40	32	27	4	14	13	6.4	
GREAT FALLS	3662	888.9	1015.3	70	42	55.8	2.8	86	24	27	1	0	2	33	46	1.14	- 0.96	0.60	10	1	0.1	0	3.0	25	29	NW	30	6	10	15	6.4	65
HAVRE	2584	923.1	1014.9	71	40	55.2	0.5	88	24+	27	21	0	4	34	49	0.82	- 0.71	0.25	8	0	0.0	0	2.1	27	36	NW	14	8	6	17	6.6	80
HELENA	3828	881.1	1015.6	70	40	55.2	2.3	84	26+	23	1	0	2	35	51	1.13	- 0.43	0.41	8	1	0.7	1	3.8	30	30	NW	30	7	12	12	5.8	71
KALISPELL	2965	911.6	1016.0	68	39	53.8	1.6	81	23	28	4	0	4	34	50	0.68	- 0.99	0.56	5	2	0.0	0	0.9	9	28	2	19	9	8	14	5.8	
MILES CITY	2629	921.8	1014.1	72	44	58.1	0.7	98	26	33	8	3	0	40	57	1.99	0.26		11	5	0.0		3.2	34								
MISSOULA	3190	904.8	1016.5	71	38	54.3	1.7	83	25+	27	4	0	6	38	59	1.21	- 0.66	0.42	9	1	0.0	0	1.9	32	25	SW	30	7	11	13	6.0	72
NEBRASKA																																
GRAND ISLAND	1841	948.9	1014.3	73	51	61.8	1.2	90	28	35	11	1	0	51	73	4.13	0.28	1.50	10	9	0.0	0	2.6	16	35	27	9	8	10	13	6.4	
LINCOLN U	1150			74	55	64.3	1.8	90	28	39	12	1	0			4.46	0.98	1.35	9		0.0	0			34	NW	10+	3	14	14	7.0	56
NORFOLK	1544			73	50	61.5	1.3	91	27	33	12	1	0			2.95	- 0.73	1.74	7		0.0	0						5	9	17	6.7	
NORTH PLATTE	2775	916.4	1013.3	74	48	61.0	2.5	92	27	31	11	2	2	48	68	1.35	- 1.60	0.51	10	10	T	0	3.2	10	37	N	7	9	11	11	5.8	61
OMAHA	977	979.3	1014.4	73	53	63.2	0.2	88	28	36	12	0	0	53	70	4.48	1.00	1.39	12	5	0.0	0	1.9	17	39	NW	10	5	10	16	7.0	63
SCOTTSBLUFF	3957	878.8	1013.3	73	45	59.2	2.4	95	30+	33	17+	4	0	41	57	2.44	- 0.26	1.56	7	9	0.0	0	2.9	7	28	33	28	11	9	11	5.5	
VALENTINE	2587			75	46	60.1	3.0	98	27+	27	11	5	2			0.68	- 1.99	0.42	5		0.0	0			44	W	25	12	7	12	5.6	64
NEVADA																																
ELKO	5050	843.6	1012.4	76	39	57.6	5.6	87	25	32	5	0	1	33	44	0.27	- 0.69	0.16	4	4	0.0	0	1.9	30	26	28	14+	17	8	6	4.0	
ELY	6253	808.0	1010.4	75	39	56.9	6.6	86	30	32	16	0	1	28	36	0.28	- 0.57	0.16	2	6	0.0	0	2.1	22	33	NE	5	14	8	9	4.6	83
LAS VEGAS	2162	933.6	1008.6	92	62	76.8	3.0	106	30	49	4	22	0	32	26	0.96	0.88	0.80	3	0	0.0	0	5.2	22	31	SW	14	21	4	6	2.8	89
RENO	4404	864.9	1012.8	78	38	58.1	4.2	88	29	30	3	0	3	35	43	0.20	- 0.32	0.13	5	4	T	0	1.3	28	35	NW	3	16	12	3	3.3	93
WINNEMUCCA	4301	866.6	1012.7	76	41	58.6	4.9	87	29	30	15	0	2	32	36	T	- 0.94	T	0	0	0.0	0	2.3	34	31	SE	22	15	13	3	3.9	93
NEW HAMPSHIRE																																
CONCORD	342	1003.4	1015.9	66	38	52.3	- 3.2	86	17	24	27	0	7	40	64	1.26	- 1.91	0.60	11	3	0.0	0	2.6	26	29	NW	5	10	12	9	5.7	63
MT WASHINGTON OBS	6262			38	25	31.8	- 3.2	53	17	8	5	0	23			6.01	0.17	1.66	18	1	9.9	4			94Y	W	11	4	4	23	7.9	37
NEW JERSEY																																
ATLANTIC CITY	64	1014.9	1017.5	76	48	62.0	0.7	99	29	34	12	3	0	49	67	1.68	- 1.83	1.26	4	3	0.0	0	5.2	20	30	19	9	12	10	9	5.1	59
ATLANTIC CITY U	11			67	56	61.4	1.9	94	29	49	12+	2	0			1.43	- 1.73	0.77	7						39	SSW	11+					
NEWARK	7	1015.6	1016.7	74	54	64.1	2.1	96	29	44	12	1	0	46	57	2.73	- 0.92	1.18	8	2	0.0	0	3.8	22	25	21	9	11	12	8	5.0	
TRENTON U	56			74	54	64.1	1.8	93	29	45	12+	1	0			3.11	- 0.51	1.75	8		0.0	0			30	SW	9	16	7	8	4.4	76
NEW MEXICO																																
ALBUQUERQUE	5311	837.1	1010.7	81	52	66.2	1.1	94	30	36	7	7	0	31	35	1.31	0.56	1.14	6	6	0.0	0	1.1	16	43	E	16	16	8	7	4.1	79
CLAYTON	4969			75	48	61.2	1.4	88	19	32	8	0	1			4.38	1.64	2.08	11		0.6	T						9	10	12	5.8	

See footnotes at end of table

State and Station	Elevation (ground)	Pressure: Station ∅	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ROSWELL	3617			87	52	69.1	1.1	100	31+	40	9+	11	0			0.10	- 1.18	0.06	4		0.0	0			31	SW	14					75
NEW YORK																																
ALBANY	275	1005.4	1016.0	70	43	56.3	- 1.6	89	29	29	12+	0	6	44	67	2.64	- 0.83	1.18	10	4	0.0	0	2.7	21	31	W	25	5	9	17	6.7	56
BINGHAMTON	1590	958.3	1016.9	66	46	56.3	1.2	87	29	33	1	0	0	43	64	1.60	- 1.89	0.72	9	3	T	T	4.0	26	34	SW	9	8	7	16	6.3	64
BUFFALO	705	990.5	1016.2	65	44	54.4	- 0.4	79	16	32	1	0	1	41	65	3.75	0.80	1.15	13	2	0.0	0	4.4	24	47	SW	9	5	12	14	6.4	60
NEW YORK U	132	1013.2		75	55	65.3	2.9	97	29	47	12	2	0	46	57	2.67	- 1.00	1.36	5	2	0.0	0	2.0	22	24	NE	29					76
J.F. KENNEDY	13	1016.3	1017.1	70	54	61.7	1.5	99	29	46	1	2	0	48	65	1.72	- 1.95	0.89	5	2	0.0	0	5.4	20	35	24	12+	11	12	8	5.2	
NEW YORK LA GUARDIA	11	1015.2	1016.9	72	54	62.9	0.8	94	29	46	1	1	0	45	55	2.52	- 1.06	1.10	5	1	0.0	0	3.4	23	30	S	18	10	12	9	5.3	
ROCHESTER	547	995.9	1016.2	67	44	55.6	- 1.1	87	29	31	1	0	1	43	66	2.25	- 0.52	0.48	12	3	0.0	0	3.8	26	38	SW	9	10	9	12	5.9	59
SYRACUSE	410	1001.0	1015.9	67	44	55.7	- 2.0	87	29	32	6	0	1	44	68	4.34	1.07	3.13	14	6	0.0	0	3.6	26	34	SW	10	5	14	12	6.1	59
NORTH CAROLINA																																
ASHEVILLE	2140	942.4	1017.7	79	52	65.2	2.2	91	30	35	13	1	0	54	72	3.32	- 0.34	1.15	11	5	0.0	0	0.1	15	23	36	9	12	9	10	4.9	74
CAPE HATTERAS R	7	1018.3	1018.6	74	59	66.3	- 1.7	83	30	47	3	0	0	58	76	0.87	- 3.11	0.35	6	2	0.0	0	1.8	13	30	S	9	15	5	11	4.9	73
CHARLOTTE	736	990.2	1017.4	80	56	67.9	- 1.1	92	31	39	12	2	0	55	66	2.03	- 1.08	1.11	7	3	0.0	0	1.0	18	25	SW	9	16	5	10	4.6	80
GREENSBORO	897	986.5	1017.8	80	55	67.3	0.4	91	30	37	12	3	0	53	65	3.17	- 0.12	1.20	9	10	0.0	0	1.7	19	29	W	14	12	10	9	4.6	71
RALEIGH	434	1001.7	1017.4	80	53	66.2	- 1.4	92	30	35	12	2	0	53	68	2.85	- 0.67	1.13	8	5	0.0	0	2.2	17	23	18	31+	12	9	10	4.8	72
WILMINGTON	28	1016.9	1018.1	80	58	68.8	- 1.7	89	31+	44	2	0	0	59	76	7.32	3.80	4.69	5	3	0.0	0	2.2	16	29	SW	9	9	12	10	5.3	76
NORTH DAKOTA																																
BISMARCK	1647	954.6	1014.2	70	42	55.9	0.0	95	27	29	11	2	2	40	60	1.57	- 0.40	0.90	16	2	T	T	1.7	34	52	N	9	4	13	14	6.8	73
FARGO	896	981.0	1013.6	68	42	54.8	- 0.6	95	27	24	12	1	7	42	62	2.36	0.33	0.98	9	3	T	T	1.2	30	41	NW	8	5	15	11	6.3	61
WILLISTON	1899	945.8	1014.3	70	41	55.0	0.3	97	26	30	11	2	3	37	55	0.42	- 1.01	0.14	6	1	T	0	3.3	34	46	NW	27	4	16	11	6.5	73
OHIO																																
AKRON	1208	972.6	1016.9	71	47	59.0	- 0.7	86	29	32	1	0	1	47	68	3.78	- 0.07	1.17	11	6	0.0	0	2.0	26	24	26	9	11	9	11	5.3	
CINCINNATI OBS	761			77	54	65.5	1.3	89	31+	38	11	0	0			2.59	- 1.21	1.03	9		0.0	0			27	W	10					62
CLEVELAND	777	987.8	1017.0	69	48	58.6	0.6	89	29	31	1	0	1	45	62	5.73	2.21	2.53	13	7	T	0	1.8	26	32	SW	8	12	8	11	5.6	66
COLUMBUS	812	987.1	1017.1	74	50	61.7	0.2	89	29	34	1	0	0	50	67	3.04	- 0.96	1.01	11	5	0.0	0	1.2	23	31	W	9	9	11	11	5.7	60
DAYTON	1002	980.7	1016.6	73	52	62.4	0.8	88	29	36	1	0	0	49	64	4.20	0.47	1.86	9	7	0.0	0	2.0	21	34	S	8	7	9	15	6.3	64
MANSFIELD	1295			73	50	61.4	3.4	89	29	38	26+	0	0	45	58	6.15	2.43	2.19	11	8	T	T	3.1	23	29	31	10	12	9	10	5.2	
TOLEDO	669	991.5	1016.9	71	46	58.4	0.1	92	29	30	1	1	1	46	66	3.74	0.70	0.97	10	4	0.0	0	1.0	26	30	NW	9	6	16	9	5.8	68
YOUNGSTOWN	1178	974.3	1017.0	69	45	56.8	- 1.1	87	29	30	27	0	3	45	68	4.07	0.00	1.43	13	5	T	0	1.9	27	27	27	9	12	7	12	5.7	
OKLAHOMA																																
OKLAHOMA CITY	1285	968.2	1014.0	78	58	67.7	- 0.7	90	31	42	11	1	0	59	76	3.99	- 1.20	1.70	13	9	0.0	0	4.3	17	48	NW	31	11	6	14	5.9	55
TULSA	650	990.2	1014.3	81	59	69.9	2.1	92	29	44	11	4	0	59	72	1.98	- 3.28	0.56	12	12	0.0	0	4.8	17	27	SE	31	9	9	13	5.8	61
OREGON																																
ASTORIA	8	1017.3	1017.8	63	44	53.5	0.2	83	7	33	4	0	0	47	81	3.92	0.72	1.29	12	0	0.0	0	3.3	24	23	20	29	4	12	15	6.9	
BURNS U	4151	873.0	1015.1	71	42	56.8	3.4	85	23	28	3	0	3	35	48	0.30	- 0.59	0.16	4		0.0	0	4.0	31				11	10	10	4.8	
EUGENE	359	1003.7	1017.0	72	48	60.1	4.0	87	22	35	4	0	0	49	71	2.38	0.24	1.06	11	1	0.0	0	1.8	29	22	21	29	6	12	13	6.4	
MEACHAM	4050	877.4	1015.7	61	42	51.5	3.5	80	23	26	3	0	4	34	55	1.65	- 0.80	0.60	11		1.3	T	2.2	30	17	35	7	9	8	14	5.8	
MEDFORD	1298	968.5	1015.9	79	46	62.4	4.9	93	10	31	2	7	1	45	58	1.62	0.15	0.68	7	5	0.0	0	2.7	30	31	3	11	15	9	7	4.6	
PENDLETON	1482	962.4	1015.9	75	49	61.7	2.1	92	23	33	3	1	0	44	56	1.40	0.28	0.62	8	2	0.0	0	2.3	26	32	30	26	11	10	10	5.4	
PORTLAND	21	1015.6	1016.7	72	47	59.5	2.1	88	22	36	4	0	0	47	67	1.61	- 0.38	0.60	10	1	0.0	0	1.9	29	27	S	18	7	8	16	6.2	62
SALEM	196	1009.8	1017.1	73	45	58.9	2.6	89	22	32	4	0	1	48	69	0.89	- 1.22	0.15	11	0	0.0	0	0.7	29	23	18	27	9	8	14	5.8	
SEXTON SUMMIT R	3836	884.5	1015.4	66	45	55.6	5.6	85	11	27	1	0	4			2.67	0.48	1.03	6		0.5	T			43	1	5	16	5	10	4.5	
PACIFIC AREA																																
JOHNSTON	7	1014.2	1014.7	84	75	79.3	0.1	86	31+	70	11	0	0	70	74	0.81	- 0.18	0.48	12	0	0.0	0	15.8	7	27	E	14	7	14	10	6.1	77
KOROR R	94	1006.1	1009.7	89	77	82.7	1.4	91	30+	73	5	15	0	77	85	11.72	- 2.91	2.16	25	1	0.0	0	4.4	10	26	SE	3	1	9	21	8.4	47
KWAJALEIN	8	1009.5	1010.2	87	77	82.0	0.9	88	30+	74	8+	0	0	76	82	8.13	- 0.05	2.30	20	1	0.0	0	17.2	8	28	7	14+	0	0	31	9.7	
MAJURO	10	1010.2	1010.3	86	77	81.5	1.1	87	31+	75	28+	0	0	76	81	8.78	- 3.97	2.28	24	0	0.0	0	12.2	8	30	E	16	0	6	25	8.7	62
PAGO PAGO	12	1011.9	1011.9	84	76	79.8		88	31	70	28+	0	0	73	81	4.91		1.40	20	0	0.0	0	10.8	12	25	E	22+	0	9	22	8.3	40
PONAPE R	123	1004.4	1009.7	87	76	81.1	0.7	90	12	72	16	1	0	76	84	17.75	- 2.56	2.91	27	2	0.0	0	7.3	6	19	SE	16+	0	6	25	8.9	58
TAGUAC GUAM R	361	998.6	1011.3	87	73	80.2	- 0.2	90	25	67	24+	1	0	74	81	2.72	- 1.47	0.78	20	0	0.0	0	11.2	10	22	E	6	0	16	15	7.4	70
TRUK MOEN ISLAND	5	1009.1	1009.5	87	77	81.7	0.9	90	25	74	26	1	0	76	82	19.26	5.14	4.21	27	0	0.0	0	9.0	6	24	SE	21	0	6	25	8.8	73

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h		M.p.h							%
PACIFIC AREA																																
WAKE	11	1015.6	1015.8	87	75	80.8	1.0	88	31+	72	10	0	0	70	72	1.38	- 0.66	0.67	13	0	0.0	0	15.7	8	31	E	16	15	12	4	4.3	84
YAP R	44	1007.8	1009.5	87	76	81.4	- 0.6	89	29+	71	2	0	0	76	84	7.69	- 1.83	1.41	24	0	0.0	0	8.5	9	21	SE	21	3	11	17	7.5	63
PENNSYLVANIA																																
ALLENTOWN	387	1003.1	1016.8	75	50	62.4	2.0	95	29	38	13+	1	0	46	57	1.90	- 2.18	0.86	6	0	0.0	0	3.5	24	31	24	11	12	11	8	5.0	
ERIE	731	990.2	1016.9	64	45	54.7	- 1.7	81	29	30	1	0	1	44	69	5.49	1.95	2.23	11	5	0.0	0	3.0	26	28	27	9	6	16	9	5.9	
HARRISBURG	338	1004.1	1016.8	75	51	63.2	0.5	95	29	36	1	1	0	46	55	1.56	- 2.34	0.83	10	2	0.0	0	2.2	24	29	W	9	12	9	10	5.1	69
PHILADELPHIA	5	1015.6	1016.8	75	54	64.6	2.0	93	29	44	12+	1	0	47	56	3.30	- 0.44	2.06	4	1	0.0	0	4.3	24	28	SW	9+	13	9	9	4.8	65
PITTSBURGH	1137	972.9	1016.6	73	47	60.2	0.4	89	29	33	1	0	0	45	59	1.89	- 2.02	0.78	9	3	T	0	4.0	28	32	25	9	10	8	13	5.8	60
SCRANTON	930	983.1	1017.0	71	49	59.9	0.3	91	29	35	27+	1	0	44	57	2.42	- 1.53	0.85	12	5	0.0	0	3.5	23	28	S	11	13	7	11	5.3	72
WILLIAMSPORT	524	997.6	1016.7	74	48	60.9	0.5	95	29	32	1	1	1	49	68	1.83	- 2.25	0.85	10	2	0.0	0	2.3	23	29	27	9	11	10	10	5.5	
RHODE ISLAND																																
BLOCK ISLAND	110			62	48	54.8	0.9	82	29	38	13	0	0			2.34	- 0.67	1.02	8		0.0	0						7	13	11	5.9	
PROVIDENCE	51	1014.2	1016.5	68	47	57.7	0.2	86	29	35	2	0	0	44	64	2.41	- 0.94	1.23	8	4	0.0	0	5.2	25	32	23	19+	8	12	11	5.9	62
SOUTH CAROLINA																																
CHARLESTON	40	1015.9	1017.9	81	59	69.9	- 3.0	90	31	44	12	1	0	59	73	2.34	- 1.27	0.83	8	4	0.0	0	2.5	12	32Y	N	25+	8	12	11	6.0	59
CHARLESTON U	9			78	65	71.6	- 1.7	85	31	56	10	0	0			2.09	- 1.00	0.87	7		0.0	0			31	SE	19					
COLUMBIA	213	1009.5	1017.6	83	58	70.6	- 1.6	93	31+	41	12	5	0	58	69	3.28	- 0.26	1.85	9	6	0.0	0	1.0	12	17	12	16+	12	9	10	5.3	65
GNVLE-SPARTANBURG	957	983.4	1017.7	80	55	67.6	- 1.8	93	30	39	12	3	0	54	66	1.93	- 1.29	0.80	10	5	0.0	0	0.6	22	28	W	9	15	6	10	4.5	67
SOUTH DAKOTA																																
ABERDEEN	1296	967.2	1013.9	71	44	57.5	0.2	96	27	30	12	1	3	46	68	3.38	1.04	1.37	15	8	0.0	0	1.0	5	35	36	15	7	14	10	6.1	
HURON	1281	967.5	1014.1	70	44	57.0	- 0.5	92	27	33	20+	1	0	45	67	3.84	1.48	1.70	12	10	0.0	0	0.9	15	38	NE	9	7	12	12	6.2	65
RAPID CITY	3162	903.8	1014.0	73	42	57.5	1.8	98	27	30	11	3	3	40	56	2.20	- 0.46	0.76	8	4	T	T	4.4	35	48	NW	28	11	9	11	5.6	68
SIOUX FALLS	1418	963.1	1014.2	72	47	59.6	1.3	92	27	30	12	1	2	47	65	2.43	- 0.95	1.05	12	4	0.0	0	1.5	19	29	30	31+	5	14	12	6.4	
TENNESSEE																																
BRISTOL	1507	964.1	1018.0	77	49	63.0	- 2.7	92	31	34	13	2	0	53	72	2.06	- 1.39	1.02	7	2	0.0	0	0.5	23	23	27	10	13	9	9	4.8	
CHATTANOOGA	665	992.2	1016.8	80	54	67.1	- 3.0	91	31	41	11+	1	0	56	72	2.36	- 1.16	1.05	11	7	0.0	0	1.7	18	33	NW	10	14	7	10	5.1	63
KNOXVILLE	980	981.7	1016.4	79	56	67.3	- 0.4	90	31	40	11	1	0	53	64	1.33	- 2.17	0.50	10	6	0.0	0	1.0	29	30	W	10	15	6	10	4.8	77
MEMPHIS	258	1005.4	1015.6	83	61	72.1	1.8	94	22	44	11	6	0	58	63	1.34	- 2.89	0.89	6	6	0.0	0	2.3	14	32	SW	10	11	9	11	5.5	64
NASHVILLE	590	994.6	1016.1	81	57	68.9	0.3	90	30+	39	11	2	0	58	72	4.81	1.09	1.44	12	8	0.0	0	2.2	17	32	NW	23	13	7	11	4.9	72
OAK RIDGE R	905			80	55	67.3	0.8	91	31	40	13+	1	0			2.76	- 0.97	1.24	10		0.0	0			36Y		10	15	5	11	4.8	
TEXAS																																
ABILENE	1762	952.3	1012.8	81	60	70.4	- 1.3	95	31	44	9	2	0	57	65	7.76	3.43	2.85	9	10	0.0	0	5.7	17	40	NW	16	10	11	10	5.3	73
AMARILLO	3604	889.6	1011.1	81	54	67.2	0.7	96	21	42	9	5	0	49	60	2.93	- 0.44	1.69	10	17	0.0	0	5.7	17	49	NW	21	14	6	11	5.2	69
AUSTIN	597	992.2	1013.9	83	64	73.7	- 1.4	92	31+	50	10	5	0	62	71	3.25	- 0.46	1.38	10	7	0.0	0	3.9	15	30	NE	5	13	8	10	5.2	65
BROWNSVILLE	19	1011.9	1012.3	88	70	78.8	- 0.2	94	7	64	10	5	0	68	73	6.69	4.33	4.56	6	6	0.0	0	7.8	12	59	E	12	12	11	8	5.3	75
CORPUS CHRISTI	41	1011.5	1013.2	85	66	75.5	- 2.0	90	31	56	10	1	0	66	77	2.07	- 0.92	1.30	5	2	0.0	0	7.2	11	31	W	16	11	8	12	5.5	74
DALLAS	481	996.6	1013.9	83	64	73.9	1.0	93	31	49	9	7	0	62	69	9.01	4.18	5.41	12	9	0.0	0	5.3	15	29	N	6	8	7	16	6.0	56
DEL RIO	1026	976.3	1011.9	86	65	75.5	- 2.9	99	31	54	18+	10	0	61	65	2.36	- 0.37	1.05	7	9	0.0	0	8.4	11	32	34	17	6	17	8	5.3	
EL PASO	3918	879.4	1008.6	89	55	72.1	0.2	101	28	42	7	15	0	34	28	0.28	- 0.12	0.25	3	4	0.0	0	1.8	23	37	SW	15	18	11	2	2.9	90
FORT WORTH	537	994.2	1014.5	82	62	71.9	- 0.8	93	30	46	9	3	0	64	79	7.12	2.53	3.11	10	14	0.0	0	4.2	16	38	30	6	9	8	14	6.3	
GALVESTON U	7			80	71	75.5	- 0.3	87	23+	62	9	0	0			6.97	4.18	3.83	9		0.0	0			29	N	8					63
HOUSTON	50	1012.2	1014.2	84	67	75.4	- 0.6	90	31+	56	10	7	0	66	77	4.73	0.41	1.31	11	7	0.0	0	3.7	13	30	24	5	4	15	12	6.3	62
LUBBOCK	3254	902.1	1011.5	82	55	68.4	0.2	101	31	42	9	4	0	52	62	3.88	0.70	1.37	9	11	0.0	0	5.3	16	30	1	31+	9	10	12	5.6	
MIDLAND	2851	914.3	1011.3	83	55	69.3	- 4.1	102	31	42	9	5	0	51	58	3.28	1.20	1.29	8	10	0.0	0	6.0	14	32	34	25+	18	11	2	3.5	
PORT ARTHUR	16	1013.9	1014.6	84	66	74.9	0.2	91	28+	55	10	4	0	68	83	5.69	0.75	1.75	9	8	0.0	0	3.2	13	38	NW	8	10	10	11	5.6	64
SAN ANGELO	1903	946.2	1011.9	85	58	71.4	- 2.9	99	31	45	10+	9	0	57	65	3.20	0.00	1.53	5	8	0.0	0	3.7	17	23	5	16+	13	14	4	4.5	
SAN ANTONIO	788	986.1	1013.7	83	64	73.5	- 1.8	91	31	48	10	2	0	63	72	4.61	1.16	1.86	8	7	0.0	0	4.3	12	35	N	8	9	12	10	5.6	64
VICTORIA	104	1009.5	1013.6	84	65	74.9	- 1.3	90	31+	55	10	5	0	66	78	2.09	- 2.03	1.53	6	7	0.0	0	4.8	12	41Y	SE	12	5	15	11	5.9	
WACO	501	996.3	1014.0	85	65	75.2	0.9	94	30+	52	9	12	0	63	69	3.98	- 0.59	1.26	10	8	0.0	0	5.4	14	35	35	14	12	7	12	5.3	
WICHITA FALLS	994	977.0	1013.3	83	59	71.0	- 1.2	100	31	47	11	8	0	61	75	5.04	0.44	1.80	13	15	0.0	0	4.9	14	35	34	6	12	6	13	6.0	
UTAH																																
MILFORD	5028	844.2		80	43	61.2	4.7	92	30	34	3	1	0			0.27	- 0.42	0.22	4		0.0	0						17	6	8	3.8	

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M p.h							%
UTAH																																
SALT LAKE CITY	4220	869.3	1010.9	79	49	64.0	5.1	91	26+	37	3	3	0	35	37	0.18	- 1.22	0.12	2	2	0.0	0	0.6	1	29	NE	7	12	13	6	4.4	95
WENDOVER	4237	868.9	1011.8	79	56	67.4	6.0	91	26+	46	3+	2	0			0.04	- 0.62	0.04	1		0.0	0										
VERMONT																																
BURLINGTON	332	1003.1	1015.6	62	40	51.3	- 2.5	81	17	28	27+	0	7	42	73	3.10	0.11	1.23	16	3	0.0	0	1.4	22	30	S	19	5	10	16	7.1	59
VIRGINIA																																
LYNCHBURG	916			79	52	65.4	0.1	93	30	34	12	3	0			2.37	- 0.84	1.78	5		0.0	0			31	W	9	13	13	5	4.4	68
NORFOLK	22	1016.9	1018.1	77	58	67.4	- 0.1	93	30	44	2	3	0	52	59	2.05	- 1.31	1.50	6	1	0.0	0	3.0	15	34	S	9	14	8	9	4.6	74
RICHMOND	164	1011.9	1017.8	79	53	65.5	- 1.5	93	30	36	13	2	0	53	66	3.32	- 0.40	2.06	10	6	0.0	0	2.1	20	33	NW	9	14	10	7	4.4	78
ROANOKE	1149	975.6	1017.3	78	52	65.0	- 0.7	93	30	36	13	2	0	51	64	1.58	- 2.21	0.74	10	2	0.0	0	1.6	23	35	28	9	13	11	7	4.9	
WALLOPS ISLAND	9			69	55	61.9		91	30	43	2	2	0			1.16		0.68	4		0.0	0			42Y	W	30					
WASHINGTON																																
OLYMPIA	195	1010.2	1017.6	71	42	56.2	1.1	89	23	30	4	0	2	46	72	2.07	0.06	1.12	9	0	0.0	0	1.7	21	21	26	13	6	11	14	6.6	
QUILLAYUTE	179	1010.2	1017.7	63	43	53.2	1.2	85	22	31	4	0	1	45	79	5.49	1.07	2.55	9	0	0.0	0	1.6	21	24	SE	18	2	10	19	7.7	50
SEATTLE TACOMA	400	1001.4	1017.7	68	48	58.0	2.5	90	23	36	4	1	0	46	69	2.93	1.20	1.83	9	2	0.0	0	1.6	29	25	SW	18	5	10	16	6.8	61
SPOKANE	2356	931.6	1014.9	70	44	57.4	1.2	86	23	28	1	0	2	41	59	0.54	- 0.67	0.28	6	2	0.0	0	3.5	19	26	SW	27	9	8	14	5.9	69
STAMPEDE PASS R	3958	880.5		55	41	47.5	3.6	70	23	28	1	0	4			3.07	- 1.18	2.01	10		3.0	113						7	3	21	7.2	
WALLA WALLA U	949			75	52	63.4	2.4	92	23	40	3	1	0			1.10	- 0.39	0.37	9		0.0	0			22	W	27	9	10	12	5.7	71
YAKIMA	1052	976.6	1015.0	75	45	59.9	1.4	90	10	33	4	1	0	39	47	0.54	0.00	0.26	5	1	0.0	0	3.3	28	28	30	24	10	5	16	5.9	
WEST INDIES																																
SAN JUAN P.R.	13	1011.5	1014.0	87	75	80.7	2.0	92	28	71	8+	7	0	72	77	5.79	- 1.33	1.96	15	5	0.0	0	5.3	12	34	S	21	3	15	13	6.8	64
SWAN ISLAND	28			89	80	84.5	1.8	91	23+	73	30	12	0			4.28	0.98	3.05	9		0.0	0						5	14	12	6.5	
WEST VIRGINIA																																
BECKLEY	2504	929.9	1017.2	73	50	61.3	0.5	84	31+	34	1	0	0	48	65	2.81	- 1.32	1.05	9	5	T	T	3.1	23	40	23	10+	12	8	11	5.3	
CHARLESTON	939	982.7	1016.7	78	50	64.1	- 0.7	93	30	31	1	4	1	52	67	1.95	- 1.76	1.03	9	5	0.0	0	1.7	24	35	[illegible]	10	11	[illegible]	13	5.5	
ELKINS	1970	946.8		73	45	59.0	- 0.3	85	29	24	1	0	2			2.76	- 1.81	1.29	11		T	T			40	21	10	11	8	12	5.7	
HUNTINGTON	827	987.1	1017.1	77	52	64.1	- 0.5	89	30	32	1	0	1	52	68	3.30	- 0.59	1.10	8	7	0.0	0	1.7	22	23	26	10	11	10	10	5.2	
PARKERSBURG U	615			77	52	64.4	0.4	90	29	35	1	1	0			2.15	- 1.55	1.08	9		0.0	0			35	W	9					63
WISCONSIN																																
GREEN BAY	682	990.2	1015.6	67	42	54.3	- 0.5	87	28	31	26+	0	3	43	68	2.66	- 0.40	1.04	12	3	0.0	0	1.0	23	34	SW	16	3	13	15	6.7	58
LA CROSSE	651	990.5	1015.1	72	50	60.6	1.4	92	28	34	12	2	0	48	66	2.55	- 1.21		11	4	0.0		2.1	18								
MADISON	858	984.1	1015.4	69	44	56.4	0.3	86	28	30	12	0	1	46	69	3.45	0.11	0.79	15	4	T	0	1.8	21	32	NW	24	5	10	16	6.9	57
MILWAUKEE	672	990.5	1015.8	67	44	55.3	1.9	88	28	34	12	0	0	44	67	3.05	- 0.11	1.29	15	5	T	T	1.7	31	31	N	17	6	12	13	6.4	56
WYOMING																																
CASPER	5338	837.1	1013.3	72	39	55.4	2.3	91	27	27	8	1	5	34	53	0.85	- 1.18	0.42	7	2	T	T	2.2	36	40	2	7	8	9	14	6.2	
CHEYENNE	6126	812.7	1013.6	69	42	55.7	2.8	90	27	34	1	1	0	35	53	1.77	- 0.75	0.97	8	5	0.0	0	1.8	34	54	NW	31	[illegible]	[illegible]	10	5.5	66
LANDER	5563	828.7	1012.7	72	42	57.0	4.1	90	27	31	1	1	1	34	46	1.02	- 1.63	0.60	2	2	0.0	0	2.2	27	45	SW	18	8	11	[illegible]	6.0	76
SHERIDAN	3964	879.1	1015.5	68	40	54.0	0.4	92	27	28	8	1	4	39	59	1.79	- 0.78	0.51	10	4	1.3	1	4.2	32	40	NW	7	8	9	14	6.1	65

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M.p.s.		M p.s							%
ALABAMA																																
BIRMINGHAM	189	994.2	1016.4	26.7	14.4	20.6	-1.6	31.1	31+	6.1	10+	0	0	15.0	74	282	195	118	13	9	0	0	0.6	10	16.1	N	25	12	7	12	5.4	64
HUNTSVILLE	190	993.9	1016.6	27.8	15.6	21.5	0.2	32.8	31	7.2	11+	3	0	14.4	66	174	88	108	11	8	0	0	0.9	11	12.5	17	30+	12	9	10	5.2	
MOBILE	64	1007.5	1015.3	29.4	17.8	23.6	-0.6	34.4	21	10.6	10	6	0	16.7	69	202	78	82	8	6	0	0	1.1	9	11.2	36	24	8	17	6	5.4	
MONTGOMERY	56	1009.1	1016.2	28.3	16.1	21.9	-0.5	32.8	31	8.3	12+	2	0	16.7	75	126	38	46	14	13	0	0	0.5	12	12.5	W	8	9	13	9	5.5	54
ALASKA												B																				
ANCHORAGE	35	1006.8	1011.8	12.8	4.4	8.7	0.2	25.0	24	-1.1	9	1	1	1.7	61	22	9	19	4	2	0	0	1.8	19	11.2	16	31+	2	5	24	8.3	43
ANNETTE	34	1012.9	1017.1	17.2	7.2	12.1	2.5	30.6	23	1.1	6	7	0	5.6	70	116	-64	41	14	0	0	0	1.6	16	11.2	14	3	3	7	21	7.9	
BARROW	9	1021.7	1022.1	-3.9	-8.9	-6.4	1.2	1.1	15	-17.8	13	0	31	-7.8	90	13	10	8	7	0	188	432	3.6	7	11.2	10	19+	0	4	27	9.3	
BARTER ISLAND	12	1019.0	1021.0	-2.2	-7.2	-4.7	1.6	2.8	22	-12.2	15	0	31	-6.1	88	2	-5	1	4	0	53	76	2.1	7	14.3	29	24+	1	4	26	9.1	
BETHEL	38	1004.4	1010.0	13.3	1.7	7.5	3.6	26.1	25	-2.8	16	4	13	0.6	65	5	-19	2	5	0	T	T	0.8	9	13.4	8	3	3	10	18	7.0	
BETTLES	196	989.5	1014.7	14.4	1.7	8.1		25.0	22	-5.6	28	4	13	-2.2	49	3		2	4	0	5	0	1.7	3	13.0	1	26	9	13	9	5.0	
BIG DELTA	386			14.4	2.8	8.7		23.3	24	-1.7	28+	3	5			28		11	8	0	T	0			13.0	20	3	2	13	16	7.2	
COLD BAY	29	1003.4	1007.1	7.8	2.8	5.4	1.2	15.0	26	-3.3	9	0	4	1.7	78	87	29	33	15	0	122	T	2.6	17	21.0	14	16	1	5	25	8.6	
FAIRBANKS	133	995.6	1012.7	16.7	2.8	9.7	1.3	25.0	24	-1.1	4+	4	9	-2.8	45	24	6	18	6	0	T	T	1.3	4	12.5	5	27+	3	15	13	7.0	
FAREWELL	457			12.8	0.0	6.3		23.9	25	-5.6	27	3	16			12		3	8	0	15	25						2	2	27	8.3	
GULKANA	479	954.3	1011.8	13.9	0.6	7.4		25.0	24	-3.9	9	3	17	-2.2	52	17		10	5	0	T		1.3	17	11.2	20	15	2	11	18	7.2	
HOMER	20			10.6	2.2	6.6		18.9	24	-2.2	18+	0	10			31	4	11	9	0	0	0						3	7	21	7.9	
ILIAMNA	57			11.1	0.6	5.8		22.2	25	-3.3	9+	1	14			23		10	8	0	T	127						4	8	19	7.7	
JUNEAU	4	1014.9	1015.8	15.0	4.4	9.9	2.4	23.9	23	-1.1	13	4	1	5.0	76	86	4	22	14	0	0	0	2.1	13	16.5	12	4	3	6	22	8.0	49
KING SALMON	15	1006.4	1008.4	11.1	2.2	6.7	0.4	21.1	25	-1.7	18+	1	9	-0.6	62	20	-4	12	6	0	T	T	1.7	12	15.6	10	3	1	6	24	8.5	
KOTZEBUE	3	1013.9	1014.4	8.3	-0.6	3.8	4.4	21.1	22	-6.7	8	1	16	-2.8	66	4	-5	3	3	0	5	51	0.6	2	13.0	10	19	11	10	10	5.3	
MC GRATH	105	998.0	1010.6	15.6	2.8	9.1	2.3	25.6	24	-1.7	9	7	9	-2.2	48	11	-11	6	6	1	T	0	1.2	7	13.0	2	27+	1	12	18	7.6	
NENANA	109			15.6	2.2	8.9		23.9	24	-3.9	3	3	10			18		5	8	0	T				9.4	3	27+	2	15	14	7.2	
NOME	4	1011.2	1011.9	11.1	1.1	6.0	4.3	23.9	25	-3.9	12+	1	14	-2.2	58	11	-6	6	5	0	10	T	2.3	6	13.4	3	3	7	13	11	6.1	48
ST. PAUL ISLAND	7	1005.4	1006.4	5.0	0.0	2.6	1.1	10.6	29	-5.0	9	0	15	1.1	89	33	-1	7	14	0	84	127	1.5	6	18.3	9	16	2	6	23	8.4	
SHEMYA	37	1003.4	1007.2	5.0	1.7	3.3	-0.1	6.7	31+	-1.1	2+	0	4	0.6	84	57	-4	17	15	0	25	T	4.0	27	24.1	23	9	0	5	26	8.8	
SUMMIT	732	925.5	1011.9	10.0	0.0	4.9		21.1	24	-5.6	2	1	18	-2.2	64	10		5	7	0	71	102	0.3	31	12.5	7	27	3	7	21	7.8	
TALKEETNA	105			15.6	2.2	8.7	1.6	27.2	25+	-3.9	3	7	9			53	19	13	13	0	T	0			9.4	3	31+					
TANANA	71			15.6	1.7	8.7	2.0	23.9	24	-5.6	5	4	13			6	-12	4	4	0	0	0			11.6	5	27	7	15	9	6.0	
UNALAKLEET	5	1010.8	1011.6	12.2	1.1	6.8		25.6	25+	-3.9	10	3	15	-0.6	63	13		8	5	0	T	T	1.7	7	16.5	10	21	6	11	14	6.0	
YAKUTAT	9	1013.9	1014.9	11.1	2.2	6.4	-0.6	23.3	23	-3.3	13	1	9	3.9	83	265	62	77	22	0	8	T	1.4	13	13.0	13	9	2	4	25	8.6	
ARIZONA																																
FLAGSTAFF	2135	787.3	1013.3	21.1	1.7	11.3	0.8	28.9	30	-3.9	3	0	7	-5.6	34	27	14	14	6	3	117	102	1.7	21	10.3	22	30	20	5	6	3.3	
PHOENIX	340	970.2	1008.2	35.0	16.7	25.7	1.8	41.7	30	8.3	6	25	0	1.1	24	7	3	6	2	0	0	0	0.4	15	13.9Y	SW	3	21	8	2	2.5	91
TUCSON	788	922.8	1008.8	32.2	15.0	23.8	0.8	39.4	30+	3.9	5	20	0	-1.7	22	12	8	11	2	2	0	0	1.3	21	15.2	S	4	23	5	3	2.2	92
WINSLOW	1492	850.0	1011.2	27.8	8.9	18.3	0.1	35.6	30+	2.8	8	11	0	-2.8	31	31	23	23	3	1	0	0	2.5	22	13.9	23	4	20	8	3	3.1	
YUMA	59	1001.0	1008.3	35.6	18.3	26.8	1.3	41.7	30	10.6	5	25	0	4.4	28	1	1	1	1	0	0	0	1.9	20	9.8	W	3	24	4	3	2.0	97
ARKANSAS																																
FORT SMITH	136	998.6	1015.1	27.8	15.0	21.5	0.4	32.2	29	5.6	11	1	0	15.6	72	51	-83	21	9	6	0	0	0.7	10	13.4	W	10+	10	8	13	5.7	64
LITTLE ROCK	78	1005.8	1015.1	27.8	14.4	21.1	-0.3	33.3	31	5.6	11	5	0	15.6	74	91	-43	46	9	4	0	0	0.5	17	13.0	NW	8	8	13	10	5.9	83
CALIFORNIA																																
BAKERSFIELD	145	994.9	1012.2	31.1	16.1	23.5	2.2	37.8	31+	7.8	4	15	0	8.3	40	2	-4	2	1	0	0	0	2.0	33	10.3	29	3	24	6	1	1.9	
BISHOP	1252	871.0		29.4	7.8	18.7	1.7	35.6	31+	3.3	1	6	0			7	2	5	4		0	0						17	11	3	3.3	
BLUE CANYON	1609			18.9	8.9	13.9	2.7	26.1	31+	-0.6	3	0	1			13	-65	9	4		46	381			10.7	24	25	20	8	3	3.0	
EUREKA U	13			14.4	9.4	11.9	0.2	19.4	25	6.1	5+	0	0			26	-30	17	6		0	0			15.2	N	3	6	6	19	7.3	49
FRESNO	100	1000.3	1012.2	30.6	12.2	21.3	1.2	37.2	31	5.6	1	13	0	9.4	50	2	-6	2	2	0	0	0	2.8	31	13.0	NW	3	27	4	0	1.4	98
LONG BEACH	10	1012.5	1014.0	22.8	13.3	18.1	0.6	29.4	9	9.4	4	0	0	11.7	70	1	-2	1	2	0	0	0	1.4	22	8.9	28	9	4	18	9	6.0	
LOS ANGELES	30	1009.5	1013.2	20.0	14.4	17.3	0.6	22.2	31+	10.0	4	0	0			T	-3	T	0	0	0	0	2.3	23	11.6Y	W	4	5	13	13	6.2	
LOS ANGELES U	82			23.3	15.0	19.2	1.0	29.4	9	10.0	4	0	0			1	-3	1	2		0	0			6.7	N	4	11	10	10	5.3	52
MT SHASTA R	1080			22.8	6.7	14.6	2.4	29.4	22+	0.0	27+	0	2			26	-24	9	7		T	0										
OAKLAND	2	1014.9	1015.2	18.9	12.2	15.5	0.1	30.6	5	8.3	3+	0	0	10.6	75	T	-17	T	0	0	0	0	3.7	27	13.9	27	3	16	11	4	3.8	
RED BLUFF	104	1000.3	1012.8	30.6	14.4	22.4	2.2	36.7	31+	8.9	1	13	0	6.1	39	0	-29	0	0	0	0	0	0.6	33	15.2	SE	26	24	4	3	2.4	92
SACRAMENTO	5	1012.2	1013.1	28.3	10.6	19.4	1.6	37.8	31	5.6	3	7	0	10.6	64	1	-14	1	1	0	0	0	2.4	23	11.6	W	25	24	7	0	1.8	98
SANDBERG R	1377	861.2		21.7	9.4	15.7	2.1	31.7	29	-2.8	4	0	2			10	2	10	2		64	T			17.0	35	28+	19	8	4	2.9	
SAN DIEGO	4	1012.5	1013.6	20.0	14.4	17.2	-0.6	23.9	9	10.6	4	0	0	12.2	76	4	1	3	3	0	0	0	1.8	26	7.6	NW	26+	4	12	15	6.9	51
SAN FRANCISCO	2	1014.6	1015.4	20.0	10.6	15.3	0.7	28.9	5	6.7	2	0	0	8.9	73	T	-12	T	0	0	0	0	5.1	28	22.8	WNW	3	17	10	4	3.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb	C	C	C.	C	C.		C.				C.	%
CALIFORNIA															
SAN FRANCISCO U	16			17.2	10.6	13.9	- 0.2	26.7	5	8.3	4+	0	0		
SANTA MARIA	72			20.0	9.4	14.6	0.3	27.8	28	4.4	5+	0	0		
STOCKTON	7	1012.5	1013.6	28.9	11.7	20.3	1.3	36.7	31	7.2	4	8	0	9.4	54
COLORADO															
ALAMOSA	2297	771.8		22.2	1.7	11.8	1.3	28.9	29+	- 3.9	2	0	11		
COLORADO SPRINGS	1873	811.4	1013.7	20.6	6.7	13.8	1.0	30.0	27+	1.1	8	0	0	3.3	58
DENVER	1610	836.1	1011.9	22.2	8.3	15.2	1.7	31.7	30+	2.8	8	0	0	5.0	58
GRAND JUNCTION	1476	849.6	1009.2	27.8	10.6	19.1	2.3	34.4	29	4.4	8	5	0	- 1.1	30
PUEBLO	1428	854.7	1011.4	25.6	10.6	17.9	2.1	34.4	30+	5.6	17+	4	0	5.0	48
CONNECTICUT															
BRIDGEPORT	2	1016.3	1016.9	20.0	10.6	15.4	0.6	33.3	29	5.6	6+	1	0	8.3	67
HARTFORD	52	1009.5	1016.0	22.2	7.8	14.9	- 0.6	33.3	29	0.6	12+	1	0	6.7	62
NEW HAVEN	2	1016.6		20.6	9.4	15.1	1.1	33.3	29	1.7	6	1	0		
DELAWARE															
WILMINGTON	23	1014.6	1017.5	23.9	12.2	17.9	0.8	33.3	29	5.0	12	1	0	9.4	60
DIST.OF COLUMBIA															
WASH NATL AP	3	1015.2	1017.5	26.7	13.9	20.2	1.4	36.1	29	4.4	12	2	0	10.6	56
FLORIDA															
APALACHICOLA U	4			27.2	19.4	23.3	- 0.5	30.6	31+	13.3	10	0	0		
DAYTONA BEACH	9	1015.2	1016.7	27.8	19.4	23.6	0.1	31.1	31	11.7	11	0	0	17.8	71
FORT MYERS	5	1014.2	1014.7	30.6	20.6	25.4	0.2	32.2	27	17.8	11+	1	0	20.0	76
JACKSONVILLE	6	1015.9	1016.9	28.3	17.8	23.2	- 1.1	35.0	31	11.7	10	4	0	17.8	75
KEY WEST	1	1013.2	1013.7	29.4	24.4	27.0	0.9	31.1	27	21.7	1	0	0	21.7	75
LAKELAND U	65			29.4	20.0	24.5	- 0.4	32.2	31	16.7	11	1	0		
MIAMI	2	1013.9	1014.1	29.4	23.3	26.4	1.1	31.1	31+	21.1	5+	0	0	20.0	71
ORLANDO	33	1011.9	1016.0	30.0	19.4	24.9	- 0.4	32.8	31+	15.6	11	3	0	18.3	72
TALLAHASSEE	17	1013.9	1016.2	30.0	16.1	23.0	- 0.8	34.4	30	6.1	12	9	0	17.8	77
TAMPA	6	1014.9	1015.1	30.0	18.9	24.6	- 0.3	32.2	27+	10.0	11	2	0	17.8	70
WEST PALM BEACH	5	1014.2	1014.8	28.3	21.7	25.0	- 0.3	30.0	31	17.2	5	0	0	19.4	72
GEORGIA															
ATHENS	244	988.5	1017.0	26.7	15.0	20.6	- 0.6	33.9	30	6.1	12	2	0	13.9	70
ATLANTA	308	980.7	1017.0	26.7	15.0	20.7	0.1	32.2	31	6.7	10	1	0	13.9	69
AUGUSTA	41	1011.9	1017.0	28.3	14.4	21.3	- 0.7	32.8	31+	4.4	12	2	0	15.0	71
COLUMBUS	117	1002.7		27.8	15.6	21.8	- 0.5	33.9	31	7.2	12	2	0	14.4	68
MACON	108	1004.1	1016.9	28.9	14.4	21.4	- 1.8	35.0	30	4.4	12	4	0	14.4	70
SAVANNAH	14	1015.6	1017.4	27.8	15.6	21.7	- 1.3	31.7	31+	6.7	12	0	0	15.6	72
HAWAII															
HILO	8	1015.6	1016.7	27.8	19.4	23.6	0.8	30.0	30	16.1	9	0	0	20.0	82
HONOLULU	2	1015.6	1016.1	28.9	20.6	24.8	0.4	31.1	27+	17.8	8	0	0	18.3	70
KAHULUI	15	1013.5	1016.0	30.0	18.3	24.2	0.1	32.8	31+	14.4	10+	3	0	18.3	73
LIHUE	31	1012.2	1017.4	27.2	21.1	24.1	0.5	29.4	30	17.8	8	0	0	19.4	77
IDAHO															
BOISE	865	914.3	1013.4	24.4	7.8	16.2	1.6	32.2	23	- 2.2	3	1	2	2.8	43
LEWISTON	431			23.9	8.9	16.3	1.7	31.1	23	0.0	3	0	1		
POCATELLO	1358	862.5	1013.6	23.9	5.0	14.5	1.7	31.1	25	- 0.6	1	0	1	- 0.6	40
ILLINOIS															
CAIRO U	96			26.1	15.6	20.9	0.4	33.3	29	6.7	11	2	0		
CHICAGO O HARE	201	991.9	1016.2	21.7	10.0	15.8	1.4	32.2	28	3.9	26+	1	0	7.8	61
CHICAGO MIDWAY	185	993.6	1016.3	22.2	10.6	16.2	0.7	33.3	28	4.4	12	1	0	7.2	60
MOLINE	177	993.9	1015.5	22.8	10.6	16.5	0.3	32.8	28	2.8	12+	1	0	10.0	68
PEORIA	199	992.2	1016.0	22.8	10.0	16.3	- 0.1	31.7	29	2.8	12	0	0	10.0	69

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm.	Mm			Mm	Mm.	M p.s		M p.s							%
CALIFORNIA																	
SAN FRANCISCO U	T	- 16	T	0		0	0			14.8	SW	3					76
SANTA MARIA	T	- 5	T	1		0	0						15	9	7	4.3	
STOCKTON	1	- 10	1	1	0	0	0	3.0	30	9.4	28	18+	27	4	0	1.4	
COLORADO																	
ALAMOSA	12	- 6	6	7		23	T						11	11	9	4.9	
COLORADO SPRINGS	113	59	43	14	12	0	0	1.5	4	17.0	24	4	7	13	11	6.0	
DENVER	155	87	80	11	10	0	0	0.4	8	11.2	NE	6+	7	16	8	5.6	62
GRAND JUNCTION	11	- 4	10	4	5	T	0	0.2	12	17.0	N	30	16	10	5	3.8	75
PUEBLO	22	- 24	12	7	6	0	0	1.5	9	16.5	SE	3	8	10	13	5.7	69
CONNECTICUT																	
BRIDGEPORT	69	- 25	37	8	3	0	0	2.1	24	15.6	28	12	10	13	8	5.5	
HARTFORD	80	- 7	33	7	3	0	0	1.4	21	16.5	NE	29	7	8	16	6.5	67
NEW HAVEN	87	- 7	49	10		0	0			12.5	SW	12	9	13	9	5.5	70
DELAWARE																	
WILMINGTON	82	- 8	51	7	2	0	0	1.3	20	10.3	26	11+	11	10	10	5.1	
DIST.OF COLUMBIA																	
WASH NATL AP	30	- 75	14	4	1	0	0	1.4	20	12.5	S	8	14	7	10	4.8	72
FLORIDA																	
APALACHICOLA U	70	- 3	31	8	4	0	0			11.6	E	1	11	11	9	5.0	65
DAYTONA BEACH	164	92	50	5	5	0	0	2.8	8	13.4	21	14	8	13	10	5.7	
FORT MYERS	120	22	36	10	8	0	0	2.4	6	13.0	4	20	6	17	8	5.6	
JACKSONVILLE	96	8	59	10	3	0	0	2.2	9	23.2	N	15	6	15	10	5.9	67
KEY WEST	77	7	37	11	6	0	0	3.3	9	13.0	SE	2	6	16	9	5.5	80
LAKELAND U	108	18	47	8		0	0						7	16	8	5.3	67
MIAMI	204	40	67	13	9	0	0	3.6	9	10.3	11	8	1	18	12	6.8	
ORLANDO	36	- 55	24	4	3	0	0	2.8	8	13.0	28	14	5	17	9	6.0	
TALLAHASSEE	111	7	29	14	11	0	0	1.0	8	7.6	6	27+	9	12	10	5.6	
TAMPA	158	86	77	9	7	0	0	2.1	8	9.8	5	26	6	15	10	5.7	70
WEST PALM BEACH	211	82	80	16	5	0	0	4.0	8	10.7	7	27	4	14	13	6.6	
GEORGIA																	
ATHENS	117	25	73	9	5	0	0	0.5	8	9.4	28	9	11	11	9	5.1	
ATLANTA	195	115	110	10	5	0	0	0.9	10	11.6	NW	25	15	8	8	4.8	64
AUGUSTA	110	34	37	10	6	0	0	0.5	11	12.5	10	30	8	10	13	6.2	
COLUMBUS	153	64	41	11	8	0	0	1.1	7	9.4	34	24+	10	11	10	5.5	
MACON	51	- 33	21	10	8	0	0	1.1	8	10.7	E	30	6	13	12	6.3	64
SAVANNAH	222	126	107	10	7	0	0	1.4	11	10.7	SE	17	8	11	12	5.9	62
HAWAII																	
HILO	199	- 38	77	23	0	0	0	0.3	17	9.8	E	11	2	14	15	7.3	44
HONOLULU	21	- 5	14	5	0	0	0	3.0	5	12.1	NE	3	10	18	3	4.8	73
KAHULUI	7	- 11	3	8	0	0	0	4.5	4	13.9	E	3	14	12	5	4.5	81
LIHUE	71	5	25	17	0	0	0	3.1	5	9.4	E	3+	3	18	10	6.3	53
IDAHO																	
BOISE	13	- 20	8	5	4	0	0	1.3	30	11.6	W	14	15	7	9	4.4	85
LEWISTON	32	- 8	16	10		0	0						7	10	14	6.2	
POCATELLO	5	- 24	5	2	2	0	0	1.7	24	16.5	SW	18	14	12	5	4.0	86
ILLINOIS																	
CAIRO U	63	- 48	34	9		0	0			15.6	NW	10	12	11	8	4.9	67
CHICAGO O HARE	81	- 15	36	13	4	T	T	0.3	16	16.1	25	3	5	13	13	6.5	
CHICAGO MIDWAY	103	8	37	12	6	T	T	0.7	18	11.6	NW	9	6	10	15	6.5	52
MOLINE	86	- 10	16	14	4	T	T	0.8	19	14.8	W	9	5	12	14	6.6	59
PEORIA	60	- 48	13	13	7	0	0	0.6	19	13.4	NW	11+	6	11	14	6.7	52

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb.	C.	C	C	C.	C.		C.				C.	%	Mm	Mm.	Mm			Mm	Mm.	M.p.s		M.p.s							%
ILLINOIS																																
ROCKFORD	221	988.5	1015.3	21.7	8.9	15.2	0.2	32.2	28	1.7	23	1	0	8.3	66	146	49	67	10	2	0	0	0.4	20	11.2	29	11	5	13	13	6.5	
SPRINGFIELD	179	993.6	1015.4	24.4	11.7	17.9	0.2	34.4	29	2.2	12+	2	0	10.0	63	24	-74	10	8	3	0	0	1.3	19	18.6	W	10	9	10	12	5.8	63
INDIANA																																
EVANSVILLE	116	1002.0	1016.1	25.0	11.7	18.3	-1.0	32.8	30	3.3	12+	3	0	12.8	73	136	30	69	9	6	0	0	0.4	24	15.6	W	10	9	11	11	5.3	65
FORT WAYNE	241	986.8	1016.6	21.7	9.4	15.7	-0.2	31.7	29	1.1	11	0	0	8.9	67	104	9	43	12	6	0	0	1.0	25	25.0	W	31	6	7	18	6.7	68
INDIANAPOLIS	241	986.8	1015.8	23.9	11.1	17.4	1.1	32.2	29	2.8	11	1	0	11.1	68	46	-55	20	7	6	0	0	0.8	21	13.0	W	10	7	7	17	6.8	48
SOUTH BEND	236	988.2	1016.1	21.7	8.9	15.3	0.4	31.7	28	1.7	11	0	0	8.9	67	108	16	33	10	2	0	0	0.8	24	17.4	25	31	6	9	16	6.8	
IOWA																																
BURLINGTON	211			22.2	10.6	16.5	-0.1	31.1	29	2.8	11+	0	0			61	-41		10	4	0				11.2	35	10	4	13	14	6.8	
DES MOINES	286	981.0	1015.5	22.8	11.7	17.2	1.3	31.1	29+	1.7	12	0	0	10.0	66	121	17	46	11	8	0	0	0.9	19	19.2	NW	10	6	10	15	6.6	50
DUBUQUE	322	976.6		20.6	8.9	14.8	0.3	28.9	28	0.0	12	0	1			60	-47	12	12		T	0						4	7	20	7.3	
SIOUX CITY	334	974.9	1014.6	22.8	10.0	16.6	0.2	32.2	28+	-0.6	12	2	1	11.1	70	63	-19	23	12	9	0	0	0.5	18	17.9	NW	10	4	11	16	6.9	51
WATERLOO	265	983.7	1015.4	21.1	8.9	15.0	-0.5	30.6	28+	-0.6	12	0	1	8.9	71	172	77	46	13	4	0	0	0.6	19	13.9	3	24	2	13	16	7.0	
KANSAS																																
CONCORDIA	448	961.4	1014.0	22.8	11.7	17.2	-0.1	31.1	28	4.4	11	0	0	12.8	79	148	49	44	13	13	0	0	1.4	15	15.2	N	29+	7	8	16	6.4	50
DODGE CITY	787	923.1	1012.8	25.0	12.2	18.6	1.0	32.8	28	6.1	8	1	0	12.2	73	72	-10	32	12	9	0	0	1.8	14	14.8	N	31	12	5	14	5.9	78
GOODLAND	1114	886.9	1012.4	22.2	9.4	15.9	1.2	30.6	27	2.8	9	0	0	9.4	71	97	36	43	10	7	0	0	1.4	13	13.4	34	16	13	7	11	5.4	
TOPEKA	267	983.1	1014.7	23.9	12.8	18.5	0.5	30.6	28+	2.2	11	0	0	12.8	73	96	-15	39	10	7	0	0	0.7	16	15.2	NW	8	8	6	17	6.8	57
WICHITA	403	966.5	1013.9	23.9	12.8	18.4	-0.4	30.6	31	5.6	11	0	0	13.9	78	83	-18	28	14	13	0	0	1.7	15	19.2	N	21	8	10	13	6.3	60
KENTUCKY																																
COVINGTON	265	985.4	1016.6	25.0	12.2	18.3	1.4	32.8	31	3.3	1	2	0	12.2	70	52	-39	20	10	2	0	0	1.0	21	14.3	26	10	6	12	13	6.0	
LEXINGTON	294	982.1	1017.1	24.4	12.8	18.6	0.6	31.7	31	3.3	1	0	0	11.1	64	96	-2	34	10	6	0	0	0.9	20	11.2	29	10	10	12	9	5.4	
LOUISVILLE	145	998.6	1016.2	25.0	12.8	19.0	1.0	31.7	30	4.4	10	0	0	12.8	70	99	T	24	12	10	0	0	0.6	21	17.0	W	10	8	13	10	5.6	66
LOUISIANA																																
BATON ROUGE	20	1012.2	1015.0	29.4	17.8	23.7	-0.1	33.3	28+	11.7	10+	6	0	17.2	72	74	-48	26	9	6	0	0	0.8	9	9.8	11	7	12	9	10	5.1	
LAKE CHARLES	3	1013.5	1014.5	27.8	18.3	23.2	-1.1	33.3	22	12.2	10	2	0	18.3	78	169	52	53	8	11	0	0	1.2	10	10.3	4	26	13	9	9	5.2	
NEW ORLEANS	1	1014.6	1015.3	28.9	17.2	22.9	-0.6	32.8	24+	10.6	12+	4	0	17.8	73	140	29	43	9	7	0	0	1.2	9	13.4	13	7	15	9	7	4.3	
SHREVEPORT	77	1005.4	1014.7	28.3	16.7	22.4	-0.4	32.2	31+	10.0	9	4	0	16.1	72	132	10	42	9	7	0	0	0.9	15	15.6	22	24	12	9	10	5.1	62
MAINE																																
CARIBOU	190			15.0	3.3	9.0	-0.9	26.7	17	-1.7	5+	0	7			73	-4	22	14		0	T						4	7	20	7.5	
PORTLAND	14	1012.9	1015.2	17.8	5.0	11.6	-0.1	30.6	17	0.0	27+	0	2	4.4	68	42	-44	20	12	3	0	0	1.4	23	13.9	NW	5	8	13	10	5.8	55
MARYLAND																																
BALTIMORE	45	1011.5	1017.1	25.6	11.7	18.6	0.6	36.1	29	3.9	1	2	0	10.0	61	37	-64	20	4	1	0	0	1.2	21	13.0	W	11	15	8	8	4.4	70
MASSACHUSETTS																																
BLUE HILL OBS R	192			19.4	7.8	13.7	0.0	29.4	29+	3.3	27	0	0			71	-18	43	10		0	0			19.7	SW	9					62
BOSTON	5	1014.9	1015.9	19.4	10.0	14.7	-0.2	30.6	17	6.1	1	0	0	6.1	61	50	-35	32	10	3	0	0	1.9	23	14.3	SW	19	9	12	10	5.7	63
NANTUCKET	13	1016.9	1017.3	16.7	7.8	12.1	0.6	25.0	30	1.7	14	0	0	7.8	77	50	-23	15	7	3	0	0	1.8	23	15.2	S	9	7	13	11	5.8	66
WORCESTER	301	979.7	1016.6	19.4	7.2	13.5	0.6	30.0	29	1.1	12	0	0	5.0	59	78	-18	25	10	4	0	0	2.1	26	13.4	32	5	9	11	11	5.7	
MICHIGAN																																
ALPENA	210	990.9	1016.3	17.2	3.3	10.2	-0.2	33.9	28	-3.9	26	1	11	3.9	66	79	5	21	14	2	T	0	0.1	5	10.3	N	9	4	12	15	6.7	58
DETROIT	189			20.0	8.3	14.1	-0.9	32.8	29	1.1	26	1	0	6.7	62	89	-1	26	9	3	0		0.3	23	13.0	27	8					
DETROIT M WAYNE CO	193	991.9	1016.0	20.6	7.8	14.1	-0.1	31.7	29	2.2	26+	0	0	7.2	66	95	5	29	12	3	0	0	0.3	27	14.8	SW	8	9	10	12	6.1	58
FLINT	235	988.2	1016.0	18.9	6.1	12.3	-1.2	28.3	29+	0.6	26+	0	0	6.7	68	118	32	57	11	6	0	0	0.8	22	13.4	24	6	6	10	15	6.7	
GRAND RAPIDS	239	986.8	1016.0	20.0	6.1	13.2	-0.6	29.4	28	-1.1	11	0	3	7.2	68	86	-2	29	12	3	0	0	0.8	22	13.0	W	31	8	10	13	6.3	53
HOUGHTON LAKE	350	974.3	1016.5	18.3	5.0	11.6	0.3	28.9	28	-2.2	21	0	6	4.4	66	91	16	34	11	5	8	T	0.6	26	10.3	27	11	7	9	15	6.6	
LANSING	256	984.4	1016.1	20.6	6.7	13.6	-0.3	30.0	29+	-0.6	11	0	2	7.8	69	114	19	36	10	5	T	T	0.9	22	14.8	W	6	7	13	11	6.2	57
MARQUETTE U	206			16.7	5.6	11.1	1.1	37.8	28	-0.6	18	2	4			56	-19	24	13		T	T			13.4	S	1	6	14	11	6.3	63
MUSKEGON	191	992.6	1015.7	20.0	7.8	13.8	0.6	30.6	31	1.7	11	0	0	6.1	63	72	-3	19	15	5	0	0	1.0	23	10.3	24	31+	8	11	12	5.8	
SAULT STE MARIE	220	989.2	1016.1	15.0	1.7	8.3	-1.4	31.1	28	-4.4	26	0	13	2.2	69	43	-27	8	15	1	T	T	0.6	31	12.5	NW	20	6	8	17	6.8	62
MINNESOTA																																
DULUTH	435	963.4	1015.2	16.7	3.9	10.3	0.8	32.2	28	-1.7	12	1	3	1.7	59	72	-12	17	10	6	T	0	0.1	34	14.8	SW	28	2	15	14	6.9	55

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C.	C	C	C		C.				C.	%	Mm.	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
MINNESOTA																																
INTERNATIONAL FALLS	359	970.5	1013.8	17.2	2.2	9.7	- 0.7	34.4	27	- 3.9	20	1	14	3.3	67	54	- 13	17	10	6	T	T	0.8	26	12.5	36	10	5	11	15	7.0	
MINNEAPOLIS	254	984.4	1014.6	22.2	9.4	15.9	1.8	35.0	28+	- 0.6	12	2	1	7.8	61	50	- 31	10	12	4	0	0	0.8	24	13.0	SW	28+	6	10	15	6.6	66
ROCHESTER	395	967.5	1014.9	20.6	7.8	14.2	0.5	32.8	27	- 2.2	12	2	2	7.8	67	77	- 15	28	17	8	T	T	1.5	20	15.6	18	1	5	10	16	7.0	
ST CLOUD	315	976.3	1014.1	21.1	7.8	14.3	1.2	36.1	27	- 0.6	12	2	1		61	55	- 34	24	10		T	T						6	12	13	6.5	
MISSISSIPPI																																
JACKSON	94	1003.7	1015.6	29.4	15.6	22.4	- 0.4	34.4	23	6.7	1	8	0	16.7	74	39	- 73	19	7	3	0	0	1.0	12	14.8	SE	7	13	8	10	5.0	62
MERIDIAN	88	1004.7	1015.9	28.3	15.0	21.6	- 0.9	33.9	23	6.1	1	4	0	15.6		56	- 43	25	7	5	0	0	0.3	10	9.4	36	24	8	8	15	5.9	
MISSOURI																																
COLUMBIA	237	987.1	1015.1	23.9	12.8	18.2	0.2	31.7	29	2.8	12	0	0	11.7	70	117	- 2	56	10	6	0	0	1.0	16	19.2	NW	10	5	9	17	7.1	54
KANSAS CITY	226	988.2	1014.8	23.9	13.9	18.9	0.3	31.1	29+	5.6	12+	0	0	12.8	71	99	- 13	49	11	6	0	0	0.9	16	16.1	NW	8	6	7	18	6.8	56
ST JOSEPH	247			26.1	13.9	19.9	2.1	33.3	29	3.9	12	3	0			104	- 8		12	5	0		0.7	16	13.0	33	10	7	9	15	6.6	
ST LOUIS	163	995.9	1016.2	25.0	12.2	18.7	0.8	32.8	29	3.3	11	3	0	12.8	70	54	- 41	34	8	4	0	0	0.9	18	17.0	NW	10	9	6	16	6.6	51
SPRINGFIELD	386	970.5	1015.4	25.6	12.2	18.7	0.7	31.7	29	1.1	11	0	0	12.2	70	39	- 95	15	4	4	0	0	1.7	16	13.0	NW	10	7	10	14	6.2	56
MONTANA																																
BILLINGS	1087	891.3	1014.8	21.1	6.1	13.7	- 0.1	33.9	26	0.0	8+	2	2	2.2	52	20	- 28	10	6	3	T	0	0.9	33	18.8	NW	14	11	6	14	5.9	59
GLASGOW	696	933.3	1015.0	19.4	5.0	12.1	- 0.7	32.8	26	- 1.7	20	2	6	2.2	56	6	- 31	3	5	4	0	0	1.0	1	17.9	32	27	4	14	13	6.4	
GREAT FALLS	1116	888.9	1015.3	21.1	5.6	13.2	1.6	30.0	24	- 2.8	1	0	2	0.6	46	29	- 24	15	10	1	T	0	1.3	25	13.0	NW	30	6	10	15	6.4	65
HAVRE	788	923.1	1014.9	21.7	4.4	12.9	0.3	31.1	24+	- 2.8	21	0	4	1.1	49	21	- 18	6	8	0	0	0	0.9	27	16.1	NW	14	8	6	17	6.6	80
HELENA	1167	881.1	1015.6	21.1	4.4	12.9	1.3	28.9	26+	- 5.0	1	0	2	1.7	51	29	- 11	10	8	1	18	25	1.7	30	13.4	NW	30	7	12	12	5.8	71
KALISPELL	904	911.6	1016.0	20.0	3.9	12.1	0.9	27.2	23	- 2.2	4	0	4	1.1	50	17	- 25	14	5	2	0	0	0.4	9	12.5	2	19	9	8	14	5.8	
MILES CITY	801	921.8	1014.1	22.2	6.7	14.5	0.4	36.7	26	0.6	8	3	0	4.4	57	51	7		11	5	0		1.4	34								
MISSOULA	972	904.8	1016.5	21.7	3.3	12.4	0.9	28.3	25+	- 2.8	4	0	6	3.3	59	31	- 17	11	9	1	0	0	0.8	32	11.2	SW	30	7	11	13	6.0	72
NEBRASKA																																
GRAND ISLAND	561	948.9	1014.3	22.8	10.6	16.6	0.7	32.2	28	1.7	11	1	0	10.6	73	105	7	38	10	9	0	0	1.2	16	15.6	27	9	8	10	13	6.4	
LINCOLN U	351			23.3	12.8	17.9	1.0	32.2	28	3.9	12	1	0			113	25	34	9		0	0			15.2	NW	10+	3	14	14	7.0	56
NORFOLK	471			22.8	10.0	16.4	0.7	32.8	27	0.6	12	1	0			74	- 19	44	7		0	0						5	9	17	6.7	
NORTH PLATTE	846	916.4	1013.3	23.3	8.9	16.1	1.4	33.3	27	- 0.6	11	2	2	8.9	68	34	- 41	13	10	10	T	0	1.4	10	16.5	N	7	9	11	11	5.8	61
OMAHA	298	979.3	1014.4	22.8	11.7	17.3	0.1	31.1	28	2.2	12	0	0	11.7	70	114	25	35	12	5	0	0	0.8	17	17.4	NW	10	5	10	16	7.0	63
SCOTTSBLUFF	1206	878.8	1013.3	22.8	7.2	15.1	1.3	35.0	30+	0.6	17+	4	0	5.0	57	62	- 7	40	7	9	0	0	1.3	7	12.5	33	28	11	9	11	5.5	
VALENTINE	789			23.9	7.8	15.6	1.7	36.7	27+	- 2.8	11	5	2			17	- 51	11	5		0	0			19.7	W	25	12	7	12	5.6	64
NEVADA																																
ELKO	1539	843.6	1012.4	24.4	3.9	14.2	3.1	30.6	25	0.0	5	0	1	0.6	44	7	- 18	4	4	4	0	0	0.8	30	11.6	28	14+	17	8	6	4.0	
ELY	1906	808.0	1010.4	23.9	3.9	13.8	3.7	30.0	30	0.0	16	0	1	- 2.2	36	7	- 14	4	2	6	0	0	0.9	22	14.8	NE	5	14	8	9	4.6	83
LAS VEGAS	659	933.6	1008.6	33.3	16.7	24.9	1.7	41.1	30	9.4	4	22	0	0.0	26	24	22	20	3	0	0	0	2.3	22	13.9	SW	14	21	4	6	2.8	89
RENO	1342	864.9	1012.8	25.6	3.3	14.5	2.3	31.1	29	- 1.1	3	0	3	1.7	43	5	- 8	3	5	4	T	0	0.6	28	15.6	NW	3	16	12	3	3.3	93
WINNEMUCCA	1311	866.6	1012.7	24.4	5.0	14.8	2.7	30.6	29	- 1.1	15	0	2	0.0	36	T	- 24	T	0	0	0	0	1.0	34	13.9	SE	22	15	13	3	3.7	93
NEW HAMPSHIRE																																
CONCORD	104	1003.4	1015.9	18.9	3.3	11.3	- 1.8	30.0	17	- 4.4	27	0	7	4.4	64	32	- 49	15	11	3	0	0	1.2	26	13.0	NW	5	10	12	9	5.7	63
MT WASHINGTON OBS	1909			3.3	- 3.9	- 0.1	- 1.8	11.7	17	-13.3	5	0	23			153	4	42	18	1	251	102			42.0	W	11	4	4	23	7.9	37
NEW JERSEY																																
ATLANTIC CITY	20	1014.9	1017.5	24.4	8.9	16.7	0.4	37.2	29	1.1	12	3	0	9.4	67	43	- 46	32	4	3	0	0	2.3	20	13.4	14	9	12	10	9	5.1	59
ATLANTIC CITY J	3			19.4	13.3	16.3	1.1	34.4	29	9.4	12+	2	0			36	- 44	20	7						17.4	SSW	11+					
NEWARK	2	1015.6	1016.7	23.3	12.2	17.8	1.2	35.6	29	6.7	12	1	0	7.8	57	69	- 23	30	8	2	0	0	1.7	22	11.2	21	9	11	12	8	5.0	
TRENTON U	17			23.3	12.2	17.8	1.0	33.9	29	7.2	12+	1	0			79	- 13	44	8		0	0			14.4	SW	9	16	7	8	4.4	76
NEW MEXICO																																
ALBUQUERQUE	1619	837.1	1010.7	27.2	11.1	19.0	0.6	34.4	30	2.2	7	7	0	- 0.6	35	33	14	29	6	6	0	0	0.5	16	19.2	E	16	16	8	7	4.1	79
CLAYTON	1515			23.9	8.9	16.2	0.8	31.1	19	0.0	8	0	1			111	42	53	11		15	T						9	10	12	5.8	
ROSWELL	1102			30.6	11.1	20.6	0.6	37.8	31+	4.4	9+	11	0			3	- 30	2	4		0	0			13.9	SW	14					75
NEW YORK																																
ALBANY	84	1005.4	1016.0	21.1	6.1	13.5	- 0.9	31.7	29	- 1.7	12+	0	6	6.7	67	67	- 21	30	10	4	0	0	1.2	21	13.4	W	25	5	9	17	6.7	56
BINGHAMTON	485	958.3	1016.9	18.9	7.8	13.5	0.7	30.6	29	0.6	1	0	0	6.1	64	41	- 48	18	9	3	T	T	1.8	26	15.2	SW	9	8	7	16	6.3	64

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb.	C.	C	C.	C	C.		C.				C	%
NEW YORK															
BUFFALO	215	990.5	1016.2	18.3	6.7	12.4	- 0.2	26.1	16	0.0	1	0	1	5.0	65
J.F. KENNEDY	4	1016.3	1017.1	21.1	12.2	16.5	0.8	37.2	29	7.8	1	2	0	8.9	65
NEW YORK U	40	1013.2		23.9	12.8	18.5	1.6	36.1	29	8.3	12	2	0	7.8	57
NEW YORK LA GUARDIA	3	1015.2	1016.9	22.2	12.2	17.2	0.4	34.4	29	7.8	1	1	0	7.2	55
ROCHESTER	167	995.9	1016.2	19.4	6.7	13.1	- 0.6	30.6	29	- 0.6	1	0	1	6.1	66
SYRACUSE	125	1001.0	1015.9	19.4	6.7	13.2	- 1.1	30.6	29	0.0	6	0	1	6.7	68
NORTH CAROLINA															
ASHEVILLE	652	942.4	1017.7	26.1	11.1	18.4	1.2	32.8	30	1.7	13	1	0	12.2	72
CAPE HATTERAS R	2	1018.3	1018.6	23.3	15.0	19.1	- 0.9	28.3	30	8.3	3	0	0	14.4	76
CHARLOTTE	224	990.2	1017.4	26.7	13.3	19.9	- 0.6	33.3	31	3.9	12	2	0	12.8	66
GREENSBORO	273	986.5	1017.8	26.7	12.8	19.6	0.2	32.8	30	2.8	12	3	0	11.7	65
RALEIGH	132	1001.7	1017.4	26.7	11.7	19.0	- 0.8	33.3	30	1.7	12	2	0	11.7	68
WILMINGTON	9	1016.9	1018.1	26.7	14.4	20.4	- 0.9	31.7	31+	6.7	2	0	0	15.0	76
NORTH DAKOTA															
BISMARCK	502	954.6	1014.2	21.1	5.6	13.3	0.0	35.0	27	- 1.7	11	2	2	4.4	60
FARGO	273	981.0	1013.6	20.0	5.6	12.7	- 0.3	35.0	27	- 4.4	12	1	7	5.6	62
WILLISTON	579	945.8	1014.3	21.1	5.0	12.8	0.2	36.1	26	- 1.1	11	2	3	2.8	55
OHIO															
AKRON	368	972.6	1016.9	21.7	8.3	15.0	- 0.4	30.0	29	0.0	1	0	1	8.3	68
CINCINNATI OBS	232			25.0	12.2	18.6	0.7	31.7	31+	3.3	11	0	0		
CLEVELAND	237	987.8	1017.0	20.6	8.9	14.8	0.3	31.7	29	- 0.6	1	0	1	7.2	62
COLUMBUS	247	987.1	1017.1	23.3	10.0	16.5	0.1	31.7	29	1.1	1	0	0	10.0	67
DAYTON	305	980.7	1016.6	22.8	11.1	16.9	0.4	31.1	29	2.2	1	0	0	9.4	64
MANSFIELD	395			22.8	10.0	16.3	1.9	31.7	29	3.3	26+	0	0	7.2	58
TOLEDO	204	991.5	1016.9	21.7	7.8	14.7	0.1	33.3	29	- 1.1	1	1	1	7.8	66
YOUNGSTOWN	359	974.3	1017.0	20.6	7.2	13.8	- 0.6	30.6	29	- 1.1	27	0	3	7.2	68
OKLAHOMA															
OKLAHOMA CITY	392	968.2	1014.0	25.6	14.4	19.8	- 0.4	32.2	31	5.6	11	1	0	15.0	76
TULSA	198	990.2	1014.3	27.2	15.0	21.1	1.2	33.3	29	6.7	11	4	0	15.0	72
OREGON															
ASTORIA	2	1017.3	1017.8	17.2	6.7	11.9	0.1	28.3	7	0.6	4	0	0	8.3	81
BURNS U	1265	873.0	1015.1	21.7	5.6	13.8	1.9	29.4	23	- 2.2	3	0	3	1.7	48
EUGENE	109	1003.7	1017.0	22.2	8.9	15.6	2.2	30.6	22	1.7	4	0	0	9.4	71
MEACHAM	1234	877.4	1015.7	16.1	5.6	10.8	1.9	26.7	23	- 3.3	3	0	4	1.1	55
MEDFORD	396	968.5	1015.9	26.1	7.8	16.9	2.7	33.9	10	- 0.6	2	7	1	7.2	58
PENDLETON	452	962.4	1015.9	23.9	9.4	16.5	1.2	33.3	23	0.6	3	1	0	6.7	56
PORTLAND	6	1015.6	1016.7	22.2	8.3	15.3	1.2	31.1	22	2.2	4	0	0	8.3	67
SALEM	60	1009.8	1017.1	22.8	7.2	14.9	1.4	31.7	22	0.0	4	0	1	8.9	69
SEXTON SUMMIT R	1169	884.5	1015.4	18.9	7.2	13.1	3.1	29.4	11	- 2.8	1	0	4		
PACIFIC AREA															
JOHNSTON	2	1014.2	1014.7	28.9	23.9	26.3	0.1	30.0	31+	21.1	11	0	0	21.1	74
KOROR R	29	1006.1	1009.7	31.7	25.0	28.2	0.8	32.8	30+	22.8	5	15	0	25.0	85
KWAJALEIN	2	1009.5	1010.2	30.6	25.0	27.8	0.5	31.1	30+	23.3	8+	0	0	24.4	82
MAJURO	3	1010.2	1010.3	30.0	25.0	27.5	0.6	30.6	31+	23.9	28+	0	0	24.4	81
PAGO PAGO	4	1011.9	1011.9	28.9	24.4	26.6		31.1	31	21.1	28+	0	0	22.8	81
PONAPE R	37	1004.4	1009.7	30.6	24.4	27.3	0.4	32.2	12	22.2	16	1	0	24.4	84
TAGUAC GUAM R	110	998.6	1011.3	30.6	22.8	26.8	- 0.1	32.2	25	19.4	24+	1	0	23.3	81
TRUK MOEN ISLAND	2	1009.1	1009.5	30.6	25.0	27.6	0.5	32.2	25	23.3	26	1	0	24.4	82
WAKE	3	1015.6	1015.8	30.6	23.9	27.1	0.6	31.1	31+	22.2	10	0	0	21.1	72
YAP R	13	1007.8	1009.5	30.6	24.4	27.4	- 0.3	31.7	29+	21.7	2	0	0	24.4	84
PENNSYLVANIA															
ALLENTOWN	118	1003.1	1016.8	23.9	10.0	16.9	1.1	35.0	29	3.3	13+	1	0	7.8	57
ERIE	223	990.2	1016.9	17.8	7.2	12.6	- 0.9	27.2	29	- 1.1	1	0	1	6.7	69

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm.	Mm			Mm	Mm	M.p.s		M.p.s							%
NEW YORK																	
BUFFALO	95	20	29	13	2	0	0	2.0	24	21.0	SW	9	5	12	14	6.4	60
J.F. KENNEDY	44	- 50	23	5	2	0	0	2.4	20	15.6	24	12+	11	12	8	5.2	
NEW YORK U	68	- 25	35	5	2	0	0	0.9	22	10.7	NE	29					76
NEW YORK LA GUARDIA	64	- 27	28	5	1	0	0	1.5	23	13.4	S	18	10	12	9	5.3	
ROCHESTER	57	- 13	12	12	3	0	0	1.7	26	17.0	SW	9	10	9	12	5.9	59
SYRACUSE	110	27	80	14	6	0	0	1.6	26	15.2	SW	10	5	14	12	6.1	59
NORTH CAROLINA																	
ASHEVILLE	84	- 9	29	11	5	0	0	0.0	15	10.3	36	9	12	9	10	4.9	74
CAPE HATTERAS R	22	- 79	9	6	2	0	0	0.8	13	13.4	S	9	15	5	11	4.9	73
CHARLOTTE	52	- 27	28	7	3	0	0	0.4	18	11.2	SW	9	16	5	10	4.6	80
GREENSBORO	81	- 3	30	9	10	0	0	0.8	19	13.0	W	14	12	10	9	4.6	71
RALEIGH	72	- 17	29	8	5	0	0	1.0	17	10.3	18	31+	12	9	10	4.8	72
WILMINGTON	186	97	119	5	3	0	0	1.0	16	13.0	SW	9	9	12	10	5.3	76
NORTH DAKOTA																	
BISMARCK	40	- 10	23	16	2	T	T	0.8	34	23.2	N	9	4	13	14	6.8	73
FARGO	60	8	25	9	3	T	T	0.5	30	18.3	NW	8	5	15	11	6.3	61
WILLISTON	11	- 26	4	6	1	T	0	1.5	34	20.6	NW	27	4	16	11	6.5	73
OHIO																	
AKRON	96	- 2	30	11	6	0	0	0.9	26	10.7	26	9	11	9	11	5.3	
CINCINNATI OBS	66	- 31	26	9		0	0			12.1	W	10					62
CLEVELAND	146	56	64	13	7	T	0	0.8	26	14.3	SW	8	12	8	11	5.6	66
COLUMBUS	77	- 24	26	11	5	0	0	0.5	23	13.9	W	9	9	11	11	5.7	60
DAYTON	107	12	47	9	7	0	0	0.9	21	15.2	S	8	7	9	15	6.3	64
MANSFIELD	156	62	56	11	8	T	T	1.4	23	13.0	31	10	12	9	10	5.2	
TOLEDO	95	18	25	10	4	0	0	0.4	26	13.4	NW	9	6	16	9	5.8	68
YOUNGSTOWN	103	0	36	13	5	T	0	0.8	27	12.1	27	9	12	7	12	5.7	
OKLAHOMA																	
OKLAHOMA CITY	101	- 30	43	13	9	0	0	1.9	17	21.5	NW	31	11	6	14	5.9	55
TULSA	50	- 83	14	12	12	0	0	2.1	17	12.1	SE	31	9	9	13	5.8	61
OREGON																	
ASTORIA	100	18	33	12	0	0	0	1.5	24	10.3	20	29	4	12	15	6.9	
BURNS U	8	- 15	4	4		0	0	1.8	31				11	10	10	4.8	
EUGENE	60	6	27	11	1	0	0	0.8	29	9.8	21	29	6	12	13	6.4	
MEACHAM	42	- 20	15	11		33	T	1.0	30	7.6	35	7	9	8	14	5.8	
MEDFORD	41	4	17	7	5	0	0	1.2	30	13.9	3	11	15	9	7	4.6	
PENDLETON	36	7	16	8	2	0	0	1.0	26	14.3	30	26	11	10	10	5.4	
PORTLAND	41	- 10	15	10	1	0	0	0.8	29	12.1	S	18	7	8	16	6.2	62
SALEM	23	- 31	4	11	0	0	0	0.3	29	10.3	18	27	9	8	14	5.8	
SEXTON SUMMIT R	68	12	26	6		13	T			19.2	1	5	16	5	10	4.5	
PACIFIC AREA																	
JOHNSTON	21	- 5	12	12	0	0	0	7.1	7	12.1	E	14	7	14	10	6.1	77
KOROR R	298	- 74	55	25	1	0	0	2.0	10	11.6	SE	3	1	9	21	8.4	47
KWAJALEIN	207	- 1	58	20	1	0	0	7.7	8	12.5	7	14+	0	0	31	9.7	
MAJURO	223	-101	58	24	0	0	0	5.5	8	13.4	E	16	0	6	25	8.7	62
PAGO PAGO	125		36	20	0	0	0	4.8	12	11.2	E	22+	0	9	22	8.3	40
PONAPE R	451	- 65	74	27	2	0	0	3.3	8	8.5	SE	16+	0	6	25	8.9	58
TAGUAC GUAM R	69	- 37	20	20	0	0	0	4.9	10	9.8	E	6	0	16	15	7.4	70
TRUK MOEN ISLAND	489	131	107	27	0	0	0	4.0	6	10.7	SE	21	0	6	25	8.8	73
WAKE	35	- 17	17	13	0	0	0	7.0	8	13.9	E	16	15	12	4	4.3	84
YAP R	195	- 46	36	24	0	0	0	3.8	9	9.4	SE	21	3	11	17	7.5	63
PENNSYLVANIA																	
ALLENTOWN	48	- 55	22	6	0	0	0	1.6	24	13.9	24	11	12	11	8	5.0	
ERIE	139	50	57	11	5	0	0	1.3	26	12.5	27	9	6	16	9	5.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm	Mm.			Mm	Mm	M.p.s		M.p.s							%
PENNSYLVANIA																																
HARRISBURG	103	1004.1	1016.8	23.9	10.6	17.3	0.3	35.0	29	2.2	1	1	0	7.8	55	40	- 59	21	10	2	0	0	1.0	24	13.0	W	9	12	9	10	5.1	69
PHILADELPHIA	2	1015.6	1016.8	23.9	12.2	18.1	1.1	33.9	29	6.7	12+	1	0	8.3	56	84	- 11	52	4	1	0	0	1.9	24	12.5	SW	9+	13	9	9	4.8	65
PITTSBURGH	347	972.9	1016.6	22.8	8.3	15.7	0.2	31.7	29	0.6	1	0	0	7.2	59	48	- 51	20	9	3	T	0	1.8	28	14.3	25	9	10	8	13	5.8	60
SCRANTON	283	983.1	1017.0	21.7	9.4	15.5	0.2	32.8	29	1.7	27+	1	0	6.7	57	61	- 39	22	12	5	0	0	1.6	23	12.5	S	11	13	7	11	5.3	72
WILLIAMSPORT	160	997.6	1016.7	23.3	8.9	16.1	0.3	35.0	29	0.0	1	1	1	9.4	68	46	- 57	22	10	2	0	0	1.0	23	13.0	27	9	11	10	10	5.5	
RHODE ISLAND																																
BLOCK ISLAND	34			16.7	8.9	12.7	0.5	27.8	29	3.3	13	0	0			59	- 17	26	8		0	0						7	13	11	5.9	
PROVIDENCE	16	1014.2	1016.5	20.0	8.3	14.3	0.1	30.0	29	1.7	2	0	0	6.7	64	61	- 24	31	8	4	0	0	2.3	25	14.3	23	19+	8	12	11	5.9	62
SOUTH CAROLINA																																
CHARLESTON	12	1015.9	1017.9	27.2	15.0	21.1	- 1.7	32.2	31	6.7	12	1	0	15.0	73	59	- 32	21	8	4	0	0	1.1	12	14.3Y	N	25+	8	12	11	6.0	59
CHARLESTON U	3			25.6	18.3	22.0	- 0.9	29.4	31	13.3	10	0	0			53	- 25	22	7		0	0			13.9	SE	19					
COLUMBIA	65	1009.5	1017.6	28.3	14.4	21.4	- 0.9	33.9	31+	5.0	12	5	0	14.4	69	83	- 7	47	9	6	0	0	0.4	12	7.6	12	16+	12	9	10	5.3	65
GNVLE-SPARTANBURG	292	983.4	1017.7	26.7	12.8	19.8	- 1.0	33.9	30	3.9	12	3	0	12.2	66	49	- 33	20	10	5	0	0	0.3	22	12.5	W	9	15	6	10	4.5	67
SOUTH DAKOTA																																
ABERDEEN	395	967.2	1013.9	21.7	6.7	14.2	0.1	35.6	27	- 1.1	12	1	3	7.8	68	86	26	35	15	8	0	0	0.4	5	15.6	36	15	7	14	10	6.1	
HURON	390	967.5	1014.1	21.1	6.7	13.9	- 0.3	33.3	27	0.6	20+	1	0	7.2	67	98	38	43	12	10	0	0	0.4	15	17.0	NE	9	7	12	12	6.2	65
RAPID CITY	964	903.8	1014.0	22.8	5.6	14.2	1.0	36.7	27	- 1.1	11	3	3	4.4	56	56	- 12	19	8	4	T	T	2.0	35	21.5	NW	28	11	9	11	5.6	68
SIOUX FALLS	432	963.1	1014.2	22.2	8.3	15.3	0.7	33.3	27	- 1.1	12	1	2	8.3	65	62	- 24	27	12	4	0	0	0.7	19	13.0	30	31+	5	14	12	6.4	
TENNESSEE																																
BRISTOL	459	964.1	1018.0	25.0	9.4	17.2	- 1.5	33.3	31	1.1	13	2	0	11.7	72	52	- 35	26	7	2	0	0	0.2	23	10.3	27	10	13	9	9	4.8	
CHATTANOOGA	203	992.2	1016.8	26.7	12.2	19.5	- 1.7	32.8	31	5.0	11+	1	0	13.3	72	60	- 29	27	11	7	0	0	0.8	18	14.8	NW	10	14	7	10	5.1	63
KNOXVILLE	299	981.7	1016.4	26.1	13.3	19.6	- 0.2	32.2	31	4.4	11	1	0	11.7	64	34	- 55	13	10	6	0	0	0.4	29	13.4	W	10	15	6	10	4.8	77
MEMPHIS	79	1005.4	1015.6	28.3	16.1	22.3	1.0	34.4	22	6.7	11	6	0	14.4	63	34	- 73	23	6	6	0	0	1.0	14	14.3	SW	10	11	9	11	5.5	64
NASHVILLE	180	994.6	1016.1	27.2	13.9	20.5	0.2	32.2	30+	3.9	11	2	0	14.4	72	122	28	37	12	8	0	0	1.0	17	14.3	NW	23	13	7	11	4.9	72
OAK RIDGE R	276			26.7	12.8	19.6	0.4	32.8	31	4.4	13+	1	0			70	- 25	31	10		0	0			16.1Y		10	15	5	11	4.8	
TEXAS																																
ABILENE	537	952.3	1012.8	27.2	15.6	21.3	- 0.7	35.0	31	6.7	9	2	0	13.9	65	197	87	72	9	10	0	0	2.5	17	17.9	NW	16	10	11	10	5.3	73
AMARILLO	1098	889.6	1011.1	27.2	12.2	19.6	0.4	35.6	21	5.6	9	5	0	9.4	60	74	- 11	43	10	17	0	0	2.5	17	21.9	NW	21	14	6	11	5.2	69
AUSTIN	182	992.2	1013.9	28.3	17.8	23.2	- 0.8	33.3	31+	10.0	10	5	0	16.7	71	83	- 12	35	10	7	0	0	1.7	15	13.4	NE	5	13	8	10	5.2	65
BROWNSVILLE	6	1011.9	1012.3	31.1	21.1	26.0	- 0.1	34.4	7	17.8	10	5	0	20.0	73	170	110	116	6	6	0	0	3.5	12	26.4	E	12	12	11	8	5.3	75
CORPUS CHRISTI	12	1011.5	1013.2	29.4	18.9	24.2	- 1.1	32.2	31	13.3	10	1	0	18.9	77	53	- 23	33	5	2	0	0	3.2	11	13.9	W	16	11	8	12	5.5	74
DALLAS	147	996.6	1013.9	28.3	17.8	23.3	0.6	33.9	31	9.4	9	7	0	16.7	69	229	106	137	12	9	0	0	2.4	15	13.0	N	6	8	7	16	6.0	56
DEL RIO	313	976.3	1011.9	30.0	18.3	24.2	- 1.6	37.2	31	12.2	18+	10	0	16.1	65	60	- 9	27	7	9	0	0	3.8	11	14.3	34	17	6	17	8	5.3	
EL PASO	1194	879.4	1008.6	31.7	12.8	22.3	0.1	38.3	28	5.6	7	15	0	1.1	28	7	- 3	6	3	4	0	0	0.8	23	16.5	SW	15	18	11	2	2.9	90
FORT WORTH	164	994.2	1014.5	27.8	16.7	22.2	- 0.4	33.9	30	7.8	9	3	0	17.8	79	181	64	79	10	14	0	0	1.9	16	17.0	30	6	9	8	14	6.3	
GALVESTON U	2			26.7	21.7	24.2	- 0.2	30.6	23+	16.7	9	0	0			177	106	97	9		0	0			13.0	N	8					63
HOUSTON	15	1012.2	1014.2	28.9	19.4	24.1	- 0.3	32.2	31+	13.3	10	7	0	18.9	77	120	10	33	11	7	0	0	1.7	13	13.4	24	5	4	15	12	6.3	62
LUBBOCK	992	902.1	1011.5	27.8	12.8	20.2	0.1	38.3	31	5.6	9	4	0	11.1	62	99	18	35	9	11	0	0	2.4	16	13.4	1	31+	9	10	12	5.6	
MIDLAND	869	914.3	1011.3	28.3	12.8	20.7	- 2.3	38.9	31	5.6	9	5	0	10.6	58	83	30	33	8	10	0	0	2.7	14	14.3	34	25+	18	11	2	3.5	
PORT ARTHUR	5	1013.9	1014.6	28.9	18.9	23.8	0.1	32.8	28+	12.8	10	4	0	20.0	83	145	19	44	9	8	0	0	1.4	13	17.0	NW	8	10	10	11	5.6	64
SAN ANGELO	580	946.2	1011.9	29.4	14.4	21.9	- 1.6	37.2	31	7.2	10+	9	0	13.9	65	81	0	39	5	8	0	0	1.7	17	10.3	5	16+	15	14	4	4.5	
SAN ANTONIO	240	986.1	1013.7	28.3	17.8	23.1	- 1.0	32.8	31	8.9	10	2	0	17.2	72	117	29	47	8	7	0	0	1.9	12	15.6	N	8	9	12	10	5.6	64
VICTORIA	32	1009.5	1013.6	28.9	18.3	23.8	- 0.7	32.2	31+	12.8	10	5	0	18.9	78	53	- 52	39	6	7	0	0	2.1	12	18.3Y	SE	12	5	15	11	5.9	
WACO	153	996.3	1014.0	29.4	18.3	24.0	0.5	34.4	30+	11.1	9	12	0	17.2	69	101	- 15	32	10	8	0	0	2.4	14	15.6	35	14	11	7	12	5.3	
WICHITA FALLS	303	977.0	1013.3	28.3	15.0	21.7	- 0.7	37.8	31	8.3	11	8	0	16.1	75	128	11	46	13	15	0	0	2.2	14	15.6	34	6	12	6	13	6.0	
UTAH																																
MILFORD	1533	844.2		26.7	6.1	16.2	2.6	33.3	30	1.1	3	1	0			7	- 11	6	4		0	0						17	6	8	3.8	
SALT LAKE CITY	1286	869.3	1010.9	26.1	9.4	17.8	2.8	32.8	26+	2.8	3	3	0	1.7	37	5	- 31	3	2	2	0	0	0.5	[illegible]	15.0	NE	7	12	13	6	4.4	95
WENDOVER	1291	868.9	1011.8	26.1	13.3	19.7	3.3	32.8	26+	7.8	3+	2	0			1	- 16	1	1		0	0										
VERMONT																																
BURLINGTON	101	1003.1	1015.6	16.7	4.4	10.7	- 1.4	27.2	17	- 2.2	27+	0	7	5.6	73	79	3	31	16	3	0	0	0.6	22	13.4	[illegible]	19	5	10	16	7.1	59
VIRGINIA																																
LYNCHBURG	279			26.1	11.1	18.6	0.1	33.9	30	1.1	12	3	0			60	- 21	45	5		0	0			13.9	W	9	13	13	5	4.4	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy 4-7	No. of days: Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	M	Mb	Mb.	C.	C.	C	C	C		C.				C.	%	Mm	Mm	Mm			Mm	Mm	Mps		Mps							%
VIRGINIA																																
NORFOLK	7	1016.9	1018.1	25.0	14.4	19.7	- 0.1	33.9	30	6.7	2	3	0	11.1	59	52	- 33	38	6	1	0	0	1.3	15	15.2	5	9	14	8	9	4.6	74
RICHMOND	50	1011.9	1017.8	26.1	11.7	18.6	- 0.8	33.9	30	2.2	13	2	0	11.7	66	84	- 10	52	10	6	0	0	0.9	20	14.8	NW	9	14	10	7	4.4	78
ROANOKE	350	975.6	1017.3	25.6	11.1	18.3	- 0.4	33.9	30	2.2	13	2	0	10.6	64	40	- 56	19	10	2	0	0	0.7	23	15.6	28	9	13	11	7	4.9	
WALLOPS ISLAND	3			20.6	12.8	16.6		32.8	30	6.1	2	2	0			29		17	4		0	0			18.8Y	W	30					
WASHINGTON																																
OLYMPIA	59	1010.2	1017.6	21.7	5.6	13.4	0.6	31.7	23	- 1.1	4	0	2	7.8	72	53	2	28	9	0	0	0	0.8	21	9.4	26	13	6	11	14	6.6	
QUILLAYUTE	55	1010.2	1017.7	17.2	6.1	11.8	0.7	29.4	22	- 0.6	4	0	1	7.2	79	139	27	65	9	0	0	0	0.7	21	10.7	SE	18	2	10	19	7.7	50
SEATTLE TACOMA	122	1001.4	1017.7	20.0	8.9	14.4	1.4	32.2	23	2.2	4	1	0	7.8	69	74	30	46	9	2	0	0	0.7	29	11.2	SW	18	5	10	16	6.8	61
SPOKANE	718	931.6	1014.9	21.1	6.7	14.1	0.7	30.0	23	- 2.2	1	0	2	5.0	59	14	- 17	7	6	2	0	0	1.6	19	11.6	SW	27	9	8	14	5.9	69
STAMPEDE PASS R	1206	880.5		12.8	5.0	8.6	2.0	21.1	23	- 2.2	1	0	4			78	- 30	51	10		76	2870						7	3	21	7.2	
WALLA WALLA U	289			23.9	11.1	17.4	1.3	33.3	23	4.4	3	1	0			28	- 10	9	9		0	0			9.8	W	27	9	10	12	5.7	71
YAKIMA	321	976.6	1015.0	23.9	7.2	15.5	0.8	32.2	10	0.6	4	1	0	3.9	47	14	0	7	5	1	0	0	1.5	28	12.5	30	24	10	5	16	5.9	
WEST INDIES																																
SAN JUAN P.R.	4	1011.5	1014.0	30.6	23.9	27.1	1.1	33.3	28	21.7	8+	7	0	22.2	77	147	- 34	50	15	5	0	0	2.4	12	15.2	5	21	3	15	13	6.8	64
SWAN ISLAND	9			31.7	26.7	29.1	1.0	32.8	23+	22.8	30	12	0			109	25	77	9		0	0						5	14	12	6.5	
WEST VIRGINIA																																
BECKLEY	763	929.9	1017.2	22.8	10.0	16.3	0.3	28.9	31+	1.1	1	0	0	8.9	65	71	- 34	27	9	5	T	T	1.4	23	13.4	23	10+	12	8	11	5.3	
CHARLESTON	286	982.7	1016.7	25.6	10.0	17.8	- 0.4	33.9	30	- 0.6	1	4	1	11.1	67	50	- 45	26	9	5	0	0	0.8	24	15.6	22	10	11	7	13	5.5	
ELKINS	600	946.8		22.8	7.2	15.0	- 0.2	29.4	29	- 4.4	1	0	2			70	- 46	33	11		T	T			17.9	21	10	11	8	12	5.7	
HUNTINGTON	252	987.1	1017.1	25.0	11.1	17.8	- 0.3	31.7	30	0.0	1	0	1	11.1	68	84	- 15	28	8	7	0	0	0.8	22	10.3	26	10	11	10	10	5.2	
PARKERSBURG U	187			25.0	11.1	18.0	0.2	32.2	29	1.7	1	1	0			55	- 39	27	9		0	0			15.6	W	9					63
WISCONSIN																																
GREEN BAY	208	990.2	1015.6	19.4	5.6	12.4	- 0.3	30.6	28	- 0.6	26+	0	3	6.1	68	68	- 10	26	12	3	0	0	0.4	20	15.2	SW	16	3	13	15	6.7	58
LA CROSSE	198	990.5	1015.1	22.2	10.0	15.9	0.8	33.3	28	1.1	12	2	0	8.9	66	65	- 31		11	4	0		0.9	18								
MADISON	262	984.1	1015.4	20.6	6.7	13.6	0.2	30.0	28	- 1.1	12	0	1	7.8	69	88	3	20	15	4	T	0	0.8	21	14.3	NW	24	5	10	16	6.9	53
MILWAUKEE	205	990.5	1015.8	19.4	6.7	12.9	1.1	31.1	28	1.1	12	0	0	6.7	67	77	- 3	33	15	5	T	T	0.8	31	13.9	N	17	6	12	13	6.4	56
WYOMING																																
CASPER	1627	837.1	1013.3	22.2	3.9	13.0	1.3	32.8	27	- 2.8	8	1	5	1.1	53	22	- 30	11	7	2	T	T	1.0	36	17.9	2	7	8	9	14	6.2	
CHEYENNE	1867	812.7	1013.6	20.6	5.6	13.2	1.6	32.2	27	1.1	1	1	0	1.7	53	45	- 19	25	8	5	0	0	0.8	34	24.1	NW	31	9	12	10	5.5	66
LANDER	1696	828.7	1012.7	22.2	5.6	13.9	2.3	32.2	27	- 0.6	1	1	1	1.1	46	26	- 41	15	2	2	0	0	1.0	27	20.1	SW	18	8	11	12	6.0	76
SHERIDAN	1208	879.1	1015.5	20.0	4.4	12.2	0.2	33.3	27	- 2.2	8	1	4	3.9	59	45	- 20	13	10	4	33	25	1.9	32	17.9	NW	7	8	9	14	6.1	65

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	26	3243	2551
HUNTSVILLE	21	3632	3070
MOBILE	0	1898	1560
MONTGOMERY	8	2546	2291
ALASKA			
ANCHORAGE	527	10562	10366
ANNETTE	348	6806	6748
BARROW	1372	18747	19217
BARTER ISLAND	1278	18813	18938
BETHEL	600	12258	12794
BETTLES	568	15650	
BIG DELTA	532	13878	
COLD BAY	714	8695	9289
FAIRBANKS	475	14584	14057
FAREWELL	665	14019	
GULKANA	600	14412	
HOMER	652	9994	
ILIAMNA	690	11186	
JUNEAU	464	9437	8694
KING SALMON	642	11450	10935
KOTZEBUE	803	14524	15469
MC GRATH	510	14188	14025
NENANA	521	15000	
NOME	681	13226	13598
ST. PAUL ISLAND	872	9964	10473
SHEMYA	830	9071	8991
SUMMIT	746	13823	
TALKEETNA	532	11629	11259
TANANA	533	15338	14732
UNALAKLEET	636	13016	
YAKUTAT	652	10200	8657
ARIZONA			
FLAGSTAFF	383	7495	6972
PHOENIX	13	1569	1765
TUCSON	35	1672	1800
WINSLOW	99	4758	4782
YUMA	9	1014	1217
ARKANSAS			
FORT SMITH	13	3514	3292
LITTLE ROCK	16	3234	3219
CALIFORNIA			
BAKERSFIELD	13	2118	2122
BISHOP	53	4704	4191
BLUE CANYON	254	5911	5312
EUREKA U	352	4439	4358
FRESNO	30	2800	2492
LONG BEACH	42	1479	1693
LOS ANGELES	64	1491	1745
LOS ANGELES U	25	1122	1331
MT SHASTA R	211	6054	5563
OAKLAND	157	2730	2780
RED BLUFF	11	2896	2515
SACRAMENTO	41	2923	2767
SANDBERG R	181	4613	4152
SAN DIEGO	63	1319	1403
SAN FRANCISCO	167	3079	2889
SAN FRANCISCO U	242	3078	2821
SANTA MARIA	207	2615	2802
STOCKTON	26	2981	2676
COLORADO			
ALAMOSA	361	8336	8361
COLORADO SPRINGS	260	6298	6339
DENVER	204	5913	6217
GRAND JUNCTION	52	5759	5620
PUEBLO	83	4906	5447
CONNECTICUT			
BRIDGEPORT	184	5312	5590
HARTFORD	221	6291	6148
NEW HAVEN	202	5665	5852
DELAWARE			
WILMINGTON	92	4789	4924
DIST.OF COLUMBIA			
WASH NATL AP	40	4130	4224
FLORIDA			
APALACHICOLA U	0	1680	1308
DAYTONA BEACH	0	1201	879
FORT MYERS	0	564	442
JACKSONVILLE	0	1530	1239
KEY WEST	0	63	108
LAKELAND U	0	908	661
MIAMI	0	233	214
ORLANDO	0	919	766
TALLAHASSEE	3	1998	1485
TAMPA	0	1102	683
WEST PALM BEACH	0	448	253
GEORGIA			
ATHENS	26	3318	2929
ATLANTA	28	3417	2983
AUGUSTA	8	2849	2397
COLUMBUS	8	2775	2383
MACON	12	2855	2136
SAVANNAH	3	2398	1819

State and station	Current season		Normals
	This month	Period July through this month	July through this month
IDAHO			
BOISE	147	5172	5728
LEWISTON	134	5662	5452
POCATELLO	223	7295	6892
ILLINOIS			
CAIRO U	27	4049	3821
CHICAGO O HARE	204	6221	6567
CHICAGO MIDWAY	197	6038	6107
MOLINE	172	6666	6369
PEORIA	172	6201	[illegible]
ROCKFORD	210	6774	6770
SPRINGFIELD	130	5852	5411
INDIANA			
EVANSVILLE	80	4812	4435
FORT WAYNE	191	6266	6166
INDIANAPOLIS	121	5623	5660
SOUTH BEND	226	6371	6379
IOWA			
BURLINGTON	169	6369	6081
DES MOINES	159	6988	6769
DUBUQUE	235	7383	7298
SIOUX CITY	165	7363	6912
WATERLOO	217	7757	7266
KANSAS			
CONCORDIA	128	6015	5461
DODGE CITY	70	5274	4977
GOODLAND	171	6030	6099
TOPEKA	94	5480	5170
WICHITA	77	5094	4614
KENTUCKY			
COVINGTON	84	5071	5241
LEXINGTON	77	4759	4683
LOUISVILLE	61	4511	4651
LOUISIANA			
BATON ROUGE	0	1863	1560
LAKE CHARLES	0	1684	1459
NEW ORLEANS	0	1801	1385
SHREVEPORT	2	2397	2184
MAINE			
CARIBOU	512	8959	9584
PORTLAND	377	7051	7400
MARYLAND			
BALTIMORE	69	4589	4654
MASSACHUSETTS			
BLUE HILL OBS R	263	6338	6299
BOSTON	208	5618	5598
NANTUCKET	345	5520	5762
WORCESTER	282	6809	6891
MICHIGAN			
ALPENA	466	8057	8350
DETROIT	262	6117	6190
DETROIT M WAYNE CO	259	6334	[illegible]
FLINT	339	6952	6810
GRAND RAPIDS	300	7093	6927
HOUGHTON LAKE	378	8131	8204
LANSING	286	6998	6840
MARQUETTE U	435	7842	8216
MUSKEGON	272	6799	6618
SAULT STE MARIE	555	8937	8847
MINNESOTA			
DULUTH	449	9488	9802
INTERNATIONAL FALLS	489	10132	10432
MINNEAPOLIS	204	7963	8301
ROCHESTER	262	8357	8202
ST CLOUD	263	8813	8774
MISSISSIPPI			
JACKSON	3	2591	2203
MERIDIAN	8	2679	2289
MISSOURI			
COLUMBIA	101	5185	5034
KANSAS CITY	86	5266	4711
ST JOSEPH	61	5220	5469
ST LOUIS	85	5055	4885
SPRINGFIELD	71	4885	4555
MONTANA			
BILLINGS	283	7503	6947
GLASGOW	361	9740	8846
GREAT FALLS	292	8666	7564
HAVRE	315	9904	8558
HELENA	301	8869	7934
KALISPELL	339	8732	7984
MILES CITY	260	8521	7624
MISSOULA	325	8055	7906

State and station	Current season		Normals
	This month	Period July through this month	July through this month
NEBRASKA			
GRAND ISLAND	154	6871	6485
LINCOLN U	129	[illegible]	5834
NORFOLK	171	7419	6951
NORTH PLATTE	178	7270	[illegible]
OMAHA	140	6485	6188
SCOTTSBLUFF	219	6709	6598
VALENTINE	223	7770	7341
NEVADA			
ELKO	225	6742	7241
ELY	244	7421	7508
LAS VEGAS	16	2601	2709
RENO	208	5630	6143
WINNEMUCCA	194	6113	6608
NEW HAMPSHIRE			
CONCORD	389	7502	7308
MT WASHINGTON OBS	1022	13340	13214
NEW JERSEY			
ATLANTIC CITY	150	5382	4797
ATLANTIC CITY U	141	4760	4717
NEWARK	[illegible]	4974	5058
TRENTON U	98	4868	4968
NEW MEXICO			
ALBUQUERQUE	84	4575	4348
CLAYTON	142	5080	5137
ROSWELL	38	3621	3793
NEW YORK			
ALBANY	284	6882	6830
BINGHAMTON	292	7187	7187
BUFFALO	325	6649	6984
J.F. KENNEDY	144	5080	5207
NEW YORK U	74	4720	4862
NEW YORK LA GUARDIA	111	4948	[illegible]
ROCHESTER	302	6495	6700
SYRACUSE	306	6734	6711
NORTH CAROLINA			
ASHEVILLE	70	4440	4457
CAPE HATTERAS R	41	2983	2612
CHARLOTTE	45	3775	3191
GREENSBORO	48	3932	3805
RALEIGH	61	3790	3393
WILMINGTON	27	2835	2347
NORTH DAKOTA			
BISMARCK	314	9389	8734
FARGO	348	9606	9127
WILLISTON	326	9532	9102
OHIO			
AKRON	215	5870	5998
CINCINNATI OBS	82	5059	4797
CLEVELAND	234	6222	6137
COLUMBUS	143	5679	5633
DAYTON	139	5665	5592
MANSFIELD	168	5834	6343
TOLEDO	239	6502	6434
YOUNGSTOWN	275	6511	6357
OKLAHOMA			
OKLAHOMA CITY	38	3883	3725
TULSA	24	3914	3860
OREGON			
ASTORIA	351	5397	4955
BURNS U	250	7101	6780
EUGENE	160	4423	4591
MEACHAM	414	7931	7535
MEDFORD	133	4525	4930
PENDLETON	140	5523	5064
PORTLAND	178	4889	4530
SALEM	195	5003	4610
SEXTON SUMMIT R	318	6626	5975
PENNSYLVANIA			
ALLENTOWN	133	5556	5786
ERIE	324	6302	6391
HARRISBURG	123	5171	5239
PHILADELPHIA	84	4990	5289
PITTSBURGH	182	[illegible]	5948
PITTSBURGH U	129	5352	5277
SCRANTON	188	6169	6221
WILLIAMSPORT	171	5836	5910
RHODE ISLAND			
BLOCK ISLAND	318	5711	5705
PROVIDENCE	241	5859	5903
SOUTH CAROLINA			
CHARLESTON	6	2693	2033
CHARLESTON U	3	2222	[illegible]
COLUMBIA	13	2935	2484
GNVLE-SPARTANBURG	44	3656	3044
SOUTH DAKOTA			
ABERDEEN	273	8922	8383
HURON	280	8317	8136
RAPID CITY	264	7480	7219
SIOUX FALLS	217	[illegible]	7761

State and station	Current season		Normals
	This month	Period July through this month	July through this month
TENNESSEE			
BRISTOL	113	4765	4143
CHATTANOOGA	48	[illegible]	3254
KNOXVILLE	50	4098	3494
MEMPHIS	12	3346	3232
NASHVILLE	38	3967	3578
OAK RIDGE R	48	4221	3817
TEXAS			
ABILENE	15	2625	2624
AMARILLO	69	4073	[illegible]
AUSTIN	1	1813	1711
BROWNSVILLE	0	470	600
CORPUS CHRISTI	0	975	914
DALLAS	3	2295	2363
DEL RIO	0	1475	1504
EL PASO	24	2714	2700
FORT WORTH	6	2366	2405
GALVESTON U	0	1242	1235
HOUSTON	0	1301	1396
LUBBOCK	45	3605	3578
MIDLAND	30	2799	[illegible]
PORT ARTHUR	0	1511	1447
SAN ANGELO	9	2171	[illegible]
SAN ANTONIO	3	1760	1546
VICTORIA	0	1232	1173
WACO	1	2041	2030
WICHITA FALLS	14	3078	2832
UTAH			
MILFORD	125	6111	6410
SALT LAKE CITY	75	5930	5968
WENDOVER	44	5871	5727
VERMONT			
BURLINGTON	422	8337	[illegible]
VIRGINIA			
LYNCHBURG	74	4578	4166
NORFOLK	44	3582	3421
RICHMOND	66	4166	3865
ROANOKE	77	4559	4150
WALLOPS ISLAND	124	4520	
WASHINGTON			
OLYMPIA	274	5606	5059
QUILLAYUTE	358	5899	5469
SEATTLE TACOMA	230	4977	4986
SPOKANE	236	7340	6520
STAMPEDE PASS R	536	9302	8800
WALLA WALLA U	109	5194	4760
YAKIMA	161	6499	5872
WEST VIRGINIA			
BECKLEY	140	5849	5352
CHARLESTON	98	4824	4467
ELKINS	194	6134	5627
HUNTINGTON	95	4839	4434
PARKERSBURG U	99	4963	4748
WISCONSIN			
GREEN BAY	346	7997	7930
LA CROSSE	196	7537	7520
MADISON	282	7557	7761
MILWAUKEE	317	7039	[illegible]
WYOMING			
CASPER	304	7426	7281
CHEYENNE	297	6751	7176
LANDER	252	7508	7717
SHERIDAN	345	8261	7533

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	156	189	
HUNTSVILLE	207	247	
MOBILE	363	456	
MONTGOMERY	218	294	
ALASKA			
ANCHORAGE	0	0	
ANNETTE	7	7	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	1	1	
BETTLES	0	0	
BIG DELTA	0	0	
COLD BAY	0	0	
FAIRBANKS	0	0	
FAREWELL	0	0	
GULKANA	0	0	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	0	0	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	0	
NENANA	0	0	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	0	
TALKEETNA	0	0	
TANANA	0	0	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	0	
PHOENIX	433	578	
TUCSON	348	450	
WINSLOW	109	109	
YUMA	490	768	
ARKANSAS			
FORT SMITH	196	239	
LITTLE ROCK	176	201	
CALIFORNIA			
BAKERSFIELD	308	382	
BISHOP	79	79	
BLUE CANYON	14	14	
EUREKA U	0	0	
FRESNO	206	225	
LONG BEACH	33	59	
LOS ANGELES	10	30	
LOS ANGELES U	81	169	
MT SHASTA R	8	8	
OAKLAND	4	4	
RED BLUFF	243	244	
SACRAMENTO	108	109	
SANDBERG R	43	45	
SAN DIEGO	3	18	
SAN FRANCISCO	3	3	
SAN FRANCISCO U	1	6	
SANTA MARIA	3	3	
STOCKTON	142	146	
COLORADO			
ALAMOSA	0	0	
COLORADO SPRINGS	11	11	
DENVER	35	35	
GRAND JUNCTION	104	107	
PUEBLO	68	68	
CONNECTICUT			
BRIDGEPORT	29	29	
HARTFORD	35	39	
NEW HAVEN	29	29	
DELAWARE			
WILMINGTON	73	81	
DIST.OF COLUMBIA			
WASH NATL AP	151	175	
FLORIDA			
APALACHICOLA U	284	399	
DAYTONA BEACH	300	501	
FORT MYERS	401	798	
JACKSONVILLE	282	466	
KEY WEST	490	1289	
LAKELAND U	352	642	
MIAMI	459	1149	
ORLANDO	376	662	
TALLAHASSEE	272	404	
TAMPA	353	601	
WEST PALM BEACH	380	854	
GEORGIA			
ATHENS	156	189	
ATLANTA	162	194	
AUGUSTA	183	240	
COLUMBUS	208	283	
MACON	193	274	
SAVANNAH	194	292	
HAWAII			
HILO	298	1193	
HONOLULU	369	1321	
KAHULUI	332	1169	
LIHUE	332	930	
IDAHO			
BOISE	32	32	
LEWISTON	31	31	
POCATELLO	15	15	
ILLINOIS			
CAIRO U	177	193	
CHICAGO O HARE	70	70	
CHICAGO MIDWAY	88	89	
MOLINE	77	78	
PEORIA	67	67	
ROCKFORD	45	45	
SPRINGFIELD	110	116	
INDIANA			
EVANSVILLE	85	93	
FORT WAYNE	52	60	
INDIANAPOLIS	78	83	
SOUTH BEND	59	59	
IOWA			
BURLINGTON	74	74	
DES MOINES	99	99	
DUBUQUE	43	43	
SIOUX CITY	72	72	
WATERLOO	41	41	
KANSAS			
CONCORDIA	70	70	
DODGE CITY	92	100	
GOODLAND	43	43	
TOPEKA	107	111	
WICHITA	90	91	
KENTUCKY			
COVINGTON	92	101	
LEXINGTON	97	104	
LOUISVILLE	106	115	
LOUISIANA			
BATON ROUGE	305	470	
LAKE CHARLES	275	399	
NEW ORLEANS	266	445	
SHREVEPORT	241	313	
MAINE			
CARIBOU	0	0	
PORTLAND	3	3	
MARYLAND			
BALTIMORE	93	109	
MASSACHUSETTS			
BLUE HILL OBS R	14	18	
BOSTON	13	22	
NANTUCKET	1	1	
WORCESTER	17	22	
MICHIGAN			
ALPENA	18	18	
DETROIT	33	38	
DETROIT M WAYNE CO	28	29	
FLINT	13	13	
GRAND RAPIDS	21	21	
HOUGHTON LAKE	10	10	
LANSING	31	33	
MARQUETTE U	35	35	
MUSKEGON	25	25	
SAULT STE MARIE	3	3	
MINNESOTA			
DULUTH	11	11	
INTERNATIONAL FALLS	13	13	
MINNEAPOLIS	76	76	
ROCHESTER	39	39	
ST CLOUD	47	47	
MISSISSIPPI			
JACKSON	235	313	
MERIDIAN	197	264	
MISSOURI			
COLUMBIA	99	111	
KANSAS CITY	126	130	
ST JOSEPH	154	158	
ST LOUIS	113	122	
SPRINGFIELD	99	108	
MONTANA			
BILLINGS	29	29	
GLASGOW	20	20	
GREAT FALLS	15	15	
HAVRE	15	15	
HELENA	1	1	
KALISPELL	0	0	
MILES CITY	53	54	
MISSOULA	0	0	
NEBRASKA			
GRAND ISLAND	61	62	
LINCOLN U	116	116	
NORFOLK	69	69	
NEBRASKA			
NORTH PLATTE	58	58	
OMAHA	95	97	
SCOTTSBLUFF	46	46	
VALENTINE	80	80	
NEVADA			
ELKO	1	1	
ELY	1	1	
LAS VEGAS	390	465	
RENO	2	2	
WINNEMUCCA	2	2	
NEW HAMPSHIRE			
CONCORD	4	4	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	65	82	
ATLANTIC CITY U	38	38	
NEWARK	80	95	
TRENTON U	77	87	
NEW MEXICO			
ALBUQUERQUE	127	133	
CLAYTON	33	33	
ROSWELL	174	195	
NEW YORK			
ALBANY	23	25	
BINGHAMTON	30	30	
BUFFALO	1	1	
J.F. KENNEDY	48	49	
NEW YORK U	88	108	
NEW YORK LA GUARDIA	55	63	
ROCHESTER	18	18	
SYRACUSE	22	22	
NORTH CAROLINA			
ASHEVILLE	85	89	
CAPE HATTERAS R	89	111	
CHARLOTTE	143	165	
GREENSBORO	125	143	
RALEIGH	105	117	
WILMINGTON	152	205	
NORTH DAKOTA			
BISMARCK	39	39	
FARGO	39	39	
WILLISTON	23	23	
OHIO			
AKRON	36	39	
CINCINNATI OBS	108	119	
CLEVELAND	41	51	
COLUMBUS	45	48	
DAYTON	64	70	
MANSFIELD	63	73	
TOLEDO	43	50	
YOUNGSTOWN	26	27	
OKLAHOMA			
OKLAHOMA CITY	128	157	
TULSA	185	214	
OREGON			
ASTORIA	1	1	
BURNS U	4	4	
EUGENE	12	12	
MEACHAM	2	2	
MEDFORD	58	58	
PENDLETON	45	45	
PORTLAND	13	13	
SALEM	12	12	
SEXTON SUMMIT R	33	33	
PACIFIC AREA			
JOHNSTON	454	1900	
KOROR R	557	2559	
KWAJALEIN	532	2597	
MAJURO	519	2431	
PAGO PAGO	464	2436	
PONAPE R	506	2342	
TAGUAC GUAM R	479	2029	
TRUK MOEN ISLAND	525	2450	
WAKE	495	2127	
YAP R	517	2404	
PENNSYLVANIA			
ALLENTOWN	58	63	
ERIE	10	14	
HARRISBURG	71	74	
PHILADELPHIA	77	86	
PITTSBURGH	42	44	
PITTSBURGH U	81	88	
SCRANTON	34	41	
WILLIAMSPORT	50	50	
RHODE ISLAND			
BLOCK ISLAND	8	8	
PROVIDENCE	23	23	
SOUTH CAROLINA			
CHARLESTON	165	212	
CHARLESTON U	216	286	
COLUMBIA	191	277	
GNVLE-SPARTANBURG	133	152	
SOUTH DAKOTA			
ABERDEEN	48	48	
HURON	36	36	
RAPID CITY	35	35	
SIOUX FALLS	58	58	
TENNESSEE			
BRISTOL	60	60	
CHATTANOOGA	119	152	
KNOXVILLE	125	140	
MEMPHIS	240	288	
NASHVILLE	165	198	
OAK RIDGE R	129	152	
TEXAS			
ABILENE	190	278	
AMARILLO	147	177	
AUSTIN	276	446	
BROWNSVILLE	437	1038	
CORPUS CHRISTI	332	601	
DALLAS	286	392	
DEL RIO	330	574	
EL PASO	250	322	
FORT WORTH	228	304	
GALVESTON U	333	489	
HOUSTON	328	554	
LUBBOCK	160	196	
MIDLAND	170	236	
PORT ARTHUR	316	481	
SAN ANGELO	213	325	
SAN ANTONIO	273	430	
VICTORIA	313	560	
WACO	325	451	
WICHITA FALLS	206	263	
UTAH			
MILFORD	14	14	
SALT LAKE CITY	53	54	
WENDOVER	126	127	
VERMONT			
BURLINGTON	2	2	
VIRGINIA			
LYNCHBURG	94	103	
NORFOLK	125	167	
RICHMOND	90	111	
ROANOKE	86	88	
WALLOPS ISLAND	34	37	
WASHINGTON			
OLYMPIA	7	7	
QUILLAYUTE	[illegible]	2	
SEATTLE TACOMA	19	19	
SPOKANE	7	7	
STAMPEDE PASS R	0	0	
WALLA WALLA U	66	66	
YAKIMA	8	8	
WEST INDIES			
SAN JUAN P.R.	496	1959	
SWAN ISLAND	603	2406	
WEST VIRGINIA			
BECKLEY	32	36	
CHARLESTON	79	86	
ELKINS	18	18	
HUNTINGTON	73	81	
PARKERSBURG U	88	94	
WISCONSIN			
GREEN BAY	21	21	
LA CROSSE	66	66	
MADISON	25	25	
MILWAUKEE	24	24	
WYOMING			
CASPER	12	12	
CHEYENNE	14	14	
LANDER	13	13	
SHERIDAN	9	9	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

MAY 1969

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
labama	5	2	0	0	5					0	3	5	0	1	0	0	0									0	0	5	4
laska *																													
rizona										0	0	4	0																
rkansas						0	0	3	5					1	0	0	0												
alifornia *																													
olorado	3	3	0	0	4	0	0	3	3					1	0	0	0									1	2	7	C
onnecticut						0	0	3	0	0	1	4	0	0	0	4	0									0	0	3	0
elaware *																													
lorida	8	7	0	0	4	0	0	2	4	0	0	4	3	0	0	3	0									0	0	2	0
eorgia	4	3	0	0	4	0	0	3	4	0	0	4	0	1	0	0	0									0	0	5	5
awaii *																													
daho									5			2																	
llinois	1	1	0	0	1	0	0	1	3	0	0	5	0																
ndiana	5	1	0	18	5					0	0	5	4	1	3	0	0												
owa						0	0	4	0	0	0	5	0	0	0	5	0									0	0	4	0
ansas	6	5	0	0	5	0	0	7	6	0	2	5	5	0	1	4	0									0	0	5	5
entucky	3	2	0	15	6	0	0	?	?	0	10	°5	C	0	5	0	0												
ouisiana	1	1	0	0	0	0	0	0	4	0	11	6	0	0	0	4	0												
aine *																													
aryland										0	0	4	0																
assachusetts	1	1	0	0	3	0	0	4	4	0	7	5	4	0	2	5	0									0	0	4	0
ichigan										0	0	4	0																
innesota	1	1	0	0	0	0	0	3	0	0	0	4	0	0	0	4	0									0	0	5	6
ississippi	7	2	0	1	5	0	0	?	?	0	0	?	0	1	0	4	0									0	0	?	0
issouri										0	0	5	0	0	1	3	0												
ontana *																													
ebraska	3	3	0	0	4	0	0	4	4																				
evada *																													
ew Hampshire																										0	0	5	0
ew Jersey *																													
ew Mexico	5	4	0	0	?	0	0	?	?					2	0	?	0									0	1	4	0
ew York	1	1	0	1	5			4			2	4				5												°5	C
orth Carolina						0	0	0	6	0	3	4	0	2	3	4	0									0	0	4	5
orth Dakota										0	0	4	0																
hio	8	3	1	75	6					1	0	6		1	1	5												°6	C
klahoma	5	5	0	0	0	0	0	6	6	0	8	6	?	1	1	4	0									0	1	5	5
regon						0	0	4	4	0	0	4	3	0	0	4	3									0	0	4	4
acific Area *																													
ennsylvania								3			1	5				4												4	
uerto Rico	1	1	0	1	5																					7	0	°6	C
hode Island						0	0	2	0	0	0	3	0	0	0	4	0												
outh Carolina	1	1	0	0	5					0	0	4	0																
outh Dakota						0	0	0	4	0	0	5	0	0	1	4	0									0	0	4	4
ennessee						0	0	°5	C	0	0	5	0	0	0	4	0												
exas	65	14	3	2	5	0	1	7	7	0	4	5	3	0	0	5	0									4	0	7	4
tah	3	1	0	0	0					0	0	4	3																
ermont	1	1	0	1	4					0	0	5	0	0	0	3	0									0	0	5	5
. S. Virgin Is.																										1	0	5	0
irginia														2	0	0	0												
ashington *																													
est Virginia *																													
isconsin	4	2	0	0	4																					0	0	4	4
yoming	1	1	0	0	1	0	0	°1	C					0	2	3	0												

C Crop damage
° Includes crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MAY 1969

Elmer R. Nelson, Office of Hydrology

The most significant flooding during May was the receding snowmelt floods in the Red River of the North Basin, the Upper Mississippi Basin, and the Missouri Basin. All streams were back within their banks at the end of May, except the Souris River near Bantry and Westhope, N. Dak., and the James River at Columbia and Stratford, S. Dak.

A special report on the record to near record snowmelt floods was included in the April issue of this publication.

HUDSON BAY DRAINAGE

Red River of the North Basin.--The Sheyenne River at West Fargo, N. Dak., receded within its banks on May 6. The Souris River near Bantry and Westhope, N. Dak., continued in flood into June. A record crest occurred near Bantry, N. Dak., on May 4. The Red River of the North at Drayton and Pembina, N. Dak., continued in flood to May 15.

ST. LAWRENCE DRAINAGE

Lake Erie.--Heavy rains over northeastern Ohio on May 17-18 caused flash floods on the Chagrin River in the Cleveland, Ohio, area. The river crested at Willoughby, Ohio, at a stage of 16.83 ft. at 4:00 a.m. on the 19th, 0.1 ft. above the Jan. 1959 flood. The Cuyahoga River at Independence, Ohio, crested at a stage of 17.5 ft. early on the 19th. This was 1.5 ft. above bankfull stage. The storm rainfall causing this overflow averaged about 4 inches. Moderate to heavy property damage resulted.

Minor flooding occurred on the Sandusky River in Ohio on the 19th-21st from rainfall averaging 3.2 inches. Damage was light.

Rainfall on May 7-14, caused local flooding in western New York. The only report of serious flooding was along Tannery Brook in East Aurora, N. Y. Two feet of water covered sections of Main Street.

ATLANTIC SLOPE DRAINAGE

A major flood occurred on the St. John River at Fort Kent, Maine, on May 11. The crest of 25.36 ft. was slightly lower than the record crest of 25.8 ft. recorded in May 1961. Minor flooding occurred on other streams in Maine. Melting snow in northern Maine and along the Canadian border plus an inch of rain in 24 hours caused the rapid rise on the St. John. The flood damage at Fort Kent was estimated at $300,000. No injuries occurred, but 12 families were evacuated, 65 partially evacuated, 120 residences and stores had water in basements, and many streets and roads were flooded. Damage on the Upper Ammonoosuc at Groveton, N. H., was estimated at $400,000. Minor flooding on the Connecticut River at Hartford and Bodkin Rock, Conn., continued from Apr. 11 to May 2-3.

Flash flooding and landslides occurred on Pine Creek, Lymans Run and Little Kettle Creek in the vicinity of Galeton, Pa., from heavy rain on the evening of May 19. Gaines, Pa., reported 5.27 inches and Carter Camp, Pa., 4.93 inches. Damage was estimated to be confined to highways and swinging bridges as well as to a number of camps.

The Lumber River at Lumberton, N. C., receded within its banks on May 5, after being out of its banks 103 days.

The Santee River at Jamestown, S. C., receded within its banks on May 3 after cresting 7 ft. above flood stage on Apr. 27. Some swampland flooding occurred from Jamestown, S. C., to the coast for several days thereafter. Damage was limited to swamplands and lowlands along the river.

The Edisto River at Givhans Ferry, S. C., crested nearly 3 ft. above flood stage on the 26th. Approach roads to resort areas and campsites were inundated.

The Savannah River at Clyo, Ga., receded within its banks on May 29. Damage was estimated to be moderate and light to moderate upstream at Millhaven-Wade, Ga. Light flooding occurred on the Ogeechee River at Dover and Eden, Ga., during the latter part of the month.

Light flooding occurred on the Altamaha River at Charlotte, Ga., in the beginning of the month. The Satilla River near Atkinson, Ga., crested nearly 2 ft. above flood stage on May 31.

EAST GULF OF MEXICO DRAINAGE

Minor flooding occurred on the Apalachicola River at Blountstown, Fla., on the 21st-24th. The damage was estimated at $12,900.

General rains on the 15-20th caused minor flooding on the Choctawatchee and Cahaba Rivers in Alabama and Florida. Damage was negligible and the overflow was confined to woodlands and pasturelands.

Heavy rains on the 17th and 18th caused light overflows on the Black Warrior River in Alabama. Warnings were timely and no damage was reported. The Tombigbee River receded within its banks at Jackson, Ala., on May 3.

Flooding on the lower reaches of the Pearl River during the first week of May was confined to farms and timberlands in the immediate flood plain. Timber cutting operations were suspended until flooding subsided.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The snowmelt flood of 1969 continued into May with several locations along the Mississippi and Minnesota Rivers remaining above flood level until the middle of May.

The average river stages and flows for the Mississippi River, the St. Croix, and the Minnesota Rivers for May 1969 were the highest since May 1965. The average stage of the Minnesota River at Mankato, Minn., was the third highest of record. At St. Paul, Minn., the average stage of the Mississippi River was the 4th highest of record.

Flash flooding occurred along Black Hawk Creek at Hudson, Iowa, on the 3d and 4th from heavy local rains on the 2d and 3d. The North River at Norwalk, Iowa, exceeded flood stage by 4.7 ft. on the 22d. No damage resulted.

Missouri Basin.--Snowmelt runoff and some rain caused flooding on the Big Hole River at Divide and Melrose, Mont., on the 20th-24th. No damage was reported.

Locally heavy rains and snow along the eastern slope of the mountains in Colorado caused some flooding along tributaries of the South Platte River. Highway 295 above Morrison, Colo., on Turkey Creek was damaged.

One to 2-inch rains on the 22d over the eastern half of northern Kansas and southeast Nebraska caused minor overflows on tributary streams in the Kansas River Basin. Except for heavier overflow on Bow Creek in the Smoky Hill River Basin, damages were negligible from the light overflows.

Frequent heavy showers caused minor flooding on tributary streams in northern Missouri. These showers

caused rapid rises but flood stages were generally not reached until the last decade of the month. Some flash flooding occurred along minor streams.

Some light overflow occurred along the main stem of the Missouri River in the reach from Rulo, Nebr., to Lexington, Mo.

Ohio Basin.--Flash flooding occurred on Loyalhanna Creek in the Ligonier, Pa., area on the 20th. Unofficial rainfall amounts of 3.76 inches resulted in the washout of a temporary bridge across Loyalhanna Creek, disrupting traffic on Route 711. Several basements were flooded.

Rainfall averaging 3.2 inches on the 18th and 19th caused extensive flooding on the Scioto River in the reach from La Rue to Circleville, Ohio. Some secondary roads near Prospect, Ohio, and between Columbus and Circleville, Ohio, were under water for 3 to 4 days. A limited acreage of corn planted in the lowlands required replanting. Several families in the Wonderland addition of Columbus, Ohio, were evacuated for a few hours during the night of the 19th.

More than 2 inches of rain on the 18th and 19th caused light flooding on the Muscatatuck River at Austin, Ind. No damage resulted.

Heavy rain on the 17th and 18th caused a rapid rise on the Saline River at Harrisburg, Ill., to nearly 12 ft. above flood stage on the 20th. Flooding was confined to farm ground with some damage to growing crops.

Minor flooding occurred on the Tennessee River at Whitesburg, Ala., on May 20.

The Ohio River at Cairo, Ill., continued in flood from Apr. 14 to May 1. Flooding was confined to low farm ground with little or no damage.

White Basin.--The Cache River at Patterson, Ark., receded within its banks on May 8 and the White River at St. Charles and Clarendon, Ark., on May 9-11. No appreciable damage resulted from the flooding.

Arkansas Basin.--Some brief light flooding occurred on the Cottonwood and Little Arkansas Rivers in Kansas from local 2-inch rains on the 22d. Light to moderate flooding occurred on the Walnut River in the vicinity of and above Augusta, Kans.

Flash floods occurred along Cottonwood Creek south of Guthrie, Okla., and on the San Bois Creek west of Keoto, Okla., on May 7. The Cimarron River near Dover, Okla., crested 0.9 ft. above flood stage on the 8th. Red Rock Creek, west of Red Rock, Okla., was out of its banks for a brief period on May 16. Heavy rain (3.45 inches) on May 30 caused the Little Caney River to rise rapidly above flood stage on May 31. It continued in flood to June 4.

Some damage occurred due to surface drainage problems in Oklahoma City, Okla., on May 4 and in numerous other cities on May 4-7. Numerous creeks and small tributaries were flooded for brief periods due to local heavy thunderstorms.

Minor lowland flooding occurred on the North Canadian from near El Reno to Yukon, Okla., on May 6-10 and on the Little River at Tecumseh, Okla., on May 6-7. Damage was mostly to farm crops along the bottomland areas.

Red Basin.--Heavy rains on May 3-4 caused flooding in Hobart, Okla., due to inadequate surface drainage and flash flooding of Frisco Creek. Damage was estimated at $116,000.

Minor lowland flooding occurred on tributary streams in Oklahoma due to scattered thunderstorms. Brief flooding occurred on the Salt Fork of the Red River near Mangum, Okla., on May 14. Slight flooding occurred on the North Fork of the Red near Headrick, Okla., on May 14-15.

Beaver Creek at Waurika, Okla., was slightly above flood stage on May 5-7. Fifteen families were evacuated. This flooding was due to 1- to 2-inch rains over Beaver and Cow Creeks.

Atchafalaya Basin.--The Atchafalaya River at Morgan City, La., was at or above flood stage on May 4-18.

WEST GULF OF MEXICO DRAINAGE

Light flooding occurred on the Mermentau River at Mermentau, La., on May 8-11 and on the Calcasieu River at Hineston and Oakdale, La., on May 8-14. No damages resulted from the overflows.

Most of the Sabine River in northeast Texas has been above flood stage since the middle of March, except for a 2-week period, the last of April and the first of May.

During March, April, and May, more than 20 inches of rain fell over most of the Meches Basin with more than 26 inches near Nacogdoches. This is the 3d consecutive month of flooding in the Neches Basin.

Major flooding occurred in the Trinity and Upper Brazos Basins during May. Flash flooding was extensive in and south of Cleburne, Tex., and in the communities of Kennedale and Everman, Tex. Flash flooding occurred along Village Creek to the south of Fort Worth and along Mountain Creek to the south of Grand Prairie, Tex., on the night of the 6th and the morning of the 7th. The Upper Trinity at Dallas and Trinidad, Tex., was the highest since 1957.

Preliminary estimates of flood damage in the Trinity and Upper Brazos Basins was placed at $4.6 million. Numerous homes were damaged by flood waters in Dallas and Cleburne, Tex. Several business establishments suffered damage in Dallas. Several homes were evacuated near Mountain Creek in the southeast portion of Grand Prairie on the night of the 6th. Village Creek in the south portion of Tarrant County overflowed on the night of the 6th and forced several families to briefly evacuate their homes in Kennedale and Everman. Three persons were drowned in Mustang Creek near Rio Vista, Tex., on the night of the 6th. A woman was drowned in the high waters in Mesquite when her car stalled on the night of the 6th. Dallas and Johnson Counties were declared disaster areas.

Flooding continued on the San Jacinto at Lake Houston, Tex., from Dec. 1 into June. The excessive rains which began on the 4th brought new rises on the Navasota River near Easterly, Tex.

Heavy rain on the 2d and 4th caused minor flooding on the Navidad and Lavaca Rivers in Texas. Flooding was restricted to the lowlands along the rivers.

Several days with locally heavy rains in the Lower Nueces Basin caused flash flooding in many areas. Rainfall amounts up to 6 inches were reported on the 12th at Papalotte in the Texas Coastal Bend drainage. Damages were limited to highway and soil erosion.

Great Basin.--The Carson River near Stewart, Nev., crested on May 25 with a flow of 4,304 c.f.s. Some 3,000 to 4,000 acres of grassland on the west side of the Valley was flooded. The only damage was a few weeks delay of grass growth. Another 2,000 to 3,000 acres of alfalfa and grainland was flooded about 20 miles below Dayton, Nev. The Truckee River in Reno, Nev., reached a peak flow of 5,412 c.f.s. on May 13.

PACIFIC SLOPE DRAINAGE

The Merced River at Sentinel Bridge, Calif., was above flood stage on May 22-24. Some flooding occurred in the meadows in Yosemite Valley.

The flooding in the normally dry Tulare Lake Basin in California increased during May from 78,500 acres on May 1 to 86,000 acres on June 2. The elevation of the lake on June 2 was 190.74 ft. compared to 177.0 ft. when the lake is dry.

Snowmelt caused the San Joaquin River to rise above the danger level at Vernalis, Calif., on May 18 and continue above this level until the end of the month.

High tides continued to plague the Sacramento-San Joaquin Delta at various points during May. These high tides required speed restrictions on all boat traffic through the delta and temporarily interrupted all navigation. Pumping continued at Sherman Island with more than half the island still under water at the end of the month. The dry portion was being prepared for crops.

Light flooding occurred on the Big Wood River at Hailey, Idaho, on May 10-14. Damage was light.

Near-record warm weather in the Columbia Basin on May 5-13 produced above-average snowmelt runoff. Inflow to Grand Coulee reservoir rose from 205,000 c.f.s. on May 1 to 340,000 c.f.s. on May 25. The Upper Columbia and Lower Snake River rises plus tributary stream runoff caused the Lower Columbia at Vancouver, Wash., to rise above flood stage on the 13th and continue in flood to the 28th. The crest on the 16th was 1 ft. above flood stage. The Corps of Engineers estimated the flood damage at $83,000.

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	To–	Crest Stage	Crest Date
HUDSON BAY DRAINAGE	Ft.			Ft	
Red River of the North Basin					
heyenne: West Fargo, N. Dak.	16.5	Apr. 11	6	21.8	Apr. 17
ouris: Sherwood (nr), N. Dak.	18b	Apr. 9	1	24.7	Apr. 11
Foxholm (nr), N. Dak.	8b	Apr. 9	22	15.8	Apr. 23
Minot (abv), N. Dak.	15	Apr. 16	8	20.4	Apr. 19
Verendrye (nr), N. Dak.	17b	Apr. 28	1	17.05	Apr. 30
Bantry (nr), N. Dak.	7b	Apr. 11	June 14	13.8	4
Westhope (nr), N. Dak.	7b	Apr. 9	June 27	17.6	Apr. 19
ed River of the North: Wahpeton, N. Dak.	10	Apr. 8	1	16.35	Apr. 10
Fargo, N. Dak.	17	Apr. 8	14	37.3	Apr. 15
Halstad, Minn.	24	Apr. 11	3	38.25	Apr. 18
Grand Forks, N. Dak.	28	Apr. 11	8	45.7	Apr. 16
Oslo, Minn.	28	Apr. 12	9	36.9	Apr. 17
Drayton, N. Dak.	32	Apr. 14	15	41.4	Apr. 25
Pembina, N. Dak.	42	Apr. 16	15	49.7	Apr. 26
Emerson, N. Dak.	781.5	Apr. 18	14	787.6	Apr. 26
ST. LAWRENCE DRAINAGE					
Lake Erie					
andusky: Upper Sandusky, Ohio	13	19	20	13.3	19
Tiffin, Ohio	8	19	21	8.3	21
Fremont, Ohio	10	19	20	11.2	20
ATLANTIC SLOPE DRAINAGE					
errimack: Concord, N. H.	12	Apr. 15	1	14.3	Apr. 19
onnecticut: Hartford, Conn.	16	Apr. 11	2	23.2	Apr. 24
Bodkin Rock, Conn.	8	Apr. 11	3	14.4	Apr. 24
umber: Lumberton, N. C.	8	Jan. 23	5	8.5	Jan. 31
				8.8	Feb. 12-13
				9.8	Feb. 20
				10.8	Feb. 27
				11.2	Mar. 9
				10.2	Mar. 21
				10.0	Mar. 26
				10.25	Apr. 7
				10.1	Apr. 19
				10.9	Apr. 24
antee: Jamestown, S. C.	9	Apr. 23	3	16.0	Apr. 27
disto: Givhans Ferry, S. C.	10	23	1	12.9	26
avannah: Millhaven-Wade, Ga.	15	Apr. 21	8	#18.2	Apr. 25-26
Clyo, Ga.	11	Apr. 22	29	#16.8	Apr. 29-30
geechee: Dover, Ga.	7	22	26	#7.6	24
Eden, Ga.	9	22	31	#10.2	27
ltamaha: Charlotte, Ga.	15	Apr. 30	3	15.35	1
atilla: Atkinson (nr), Ga.	13	30	1	14.9	31
EAST GULF OF MEXICO DRAINAGE					
palachicola: Blountstown, Fla.	15	21	24	16.9	24
hoctawhatchee: Newton, Ala.	19	15	16	21.7	16
		19	20	21.0	19
Caryville, Fla.	12	21	23	12.6	22
ahaba: Centerville, Ala.	23	19	19	#25.0	19
lack Warrior: Oliver L&D, Tuscaloosa, Ala.	47	19	19	51.4	19
Warrior L&D, Ala.	30	21	24	34.0	22
ombigbee: Jackson L&D, Ala.	43	Apr. 14	3	53.7	Apr. 24-25
earl: Monticello, Miss.	19	Apr. 14	2	26.8	Apr. 24
Columbia, Miss.	17	Apr. 15	2	21.95	Apr. 24
Bogalusa, La.	15	Apr. 12	4	19.9	Apr. 29
Pearl River, La.	12	Apr. 15	8	15.55	2
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
innesota: Montevideo, Minn.	14	Apr. 9	11	21.9	Apr. 13
Jordan, Minn.	20	Mar. 27	16	32.8	Apr. 14
Chaska, Minn.	18	Mar. 29	12	32.4	Apr. 14
MISSISSIPPI SYSTEM	Ft.			Ft	
Minnesota: Savage, Minn.	698	Mar. 30	17	716.9	Apr. 15
Mendota, Minn.	699	Apr. 7	7	714.7	Apr. 15
Black Hawk Creek: Hudson, Iowa	12	3	4	13.8	3
West Fork Des Moines: Humbolt, Iowa	8	Apr. 5	2	15.4	Apr. 4
North: Norwalk, Iowa	14	22	22	18.7	22
Illinois: Havana, Ill.	14	Apr. 20	2	15.3	Apr. 25
Beardstown, Ill.	18	Apr. 19	6	17.0	Apr. [illegible]
Meredosia, Ill.	426	Apr. 1	18	434.5	Apr. 25
Big Muddy: Murphysboro, Ill.	16	Apr. 10	7	23.7	Apr. 23
Mississippi: Libby, Minn.	13	Apr. 14	11	16.5	Apr. 20
Aitkin, Minn.	15	Apr. 14	1	17.3	Apr. 23
Fort Ripley, Minn.	10	Apr. 9	2	13.1	Apr. 13
Hastings, Minn.	15	Apr. 10	2	24.0	Apr. 16
Wabasha, Minn.	12	Apr. 10	3	17.6	Apr. 17
Guttenberg, Iowa	15	Apr. 14	3	19.9	Apr. 22
Cassville, Wis.	17	Apr. 14	4	20.5	Apr. 23
Dubuque, Iowa	17	Apr. 14	5	23.1	Apr. 23
Clinton, Iowa	16	Apr. 17	7	21.25	Apr. 25
LeClaire, Iowa	12	Apr. 18	6	14.8	Apr. 26
Moline, Ill.	13.5	Apr. 18	6	19.2	Apr. 26-27
Davenport, Iowa	15	Apr. 18	6	19.3	Apr. 27
Muscatine, Iowa	16	Apr. 18	7	21.2	Apr. 26
Keithsburg, Ill.	12	Apr. 11	16	17.2	Apr. 26
Burlington, Iowa	15	Apr. 18	10	18.4	Apr. 30
Keokuk, Iowa	16	Apr. 19	5	17.85	Apr. 27
Gregory Landing, Mo.	15	Apr. 18	10	18.3	Apr. 27
Quincy, Ill.	17	Apr. 18	10	20.2	Apr. 29
Hannibal, Mo.	16	Apr. 11	14	20.45	1
Louisiana, Mo.	15	Apr. 15	15	19.2	Apr. 21
Clarksville, Mo.	25	Apr. 15	16	29.5	Apr. 22
Winfield, Mo.	26	Apr. 19	15	30.0	Apr. 22
Grafton, Ill.	18	Apr. 17	14	22.9	Apr. 22
Alton, Ill.	21	Apr. 19	8	26.2	Apr. 22
St. Louis, Mo.	30	1	3	30.9	1
Chester, Ill.	27	Apr. 20	7	31.25	Apr. 23
Cape Girardeau, Mo.	32	Apr. 20	7	36.1	Apr. 24
Missouri Basin					
Big Hole: Divide, Mont.	6.5	20	24	7.3	20,21
Melrose, Mont.	6	21	23	6.3	21
James: Columbia, S. Dak.	11	Apr. 9	July 27	16.4	Apr. 11
				17.1	Apr. 23
Stratford, S. Dak.	14	Apr. 11	Aug. 29	18.2	Apr. 19
Ashton, S. Dak.	13	Apr. 7	27	21.2	Apr. 13
				20.6	Apr. 24
Redfield, S. Dak.	20	Apr. 6	5	24.9	Apr. 13
Huron, S. Dak.	11	Apr. 6	20	16.7	Apr. 13
				15.2	Apr. 25
Forestburg, S. Dak.	12	Apr. 4	25	17.2	Apr. 9
Mitchell, S. Dak.				18.3	Apr. 11
Scotland (nr), S. Dak.	13	Apr. 2	31	18.55	Apr. 13
Little Platte: Smithville, Mo.	24	22	22	24.4	22
Platte: Agency, Mo.	20	9	9	20.4	9
		22	23	20.8	23
Frenchman Creek: Culbertson, Nebr.	8	21	21	8.15	21
Bow Creek: Stockton (nr), Kans.	9	20	21	13.6	20
South Fork Solomon: Damar, Kans.	7	20	21	9.2	20-21
Portis, Kans.	15	22	22	18.0	22
Lyon Creek: Woodbine (nr), Kans.	17	22	22	18.0	22

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	Above flood stages -dates To–	Crest * Stage	Crest * Date
MISSISSIPPI SYSTEM	Ft			Ft	
Lyon Creek: Mentor, Kans.	17	22 25	22 25	16.6 18.1	22 25
Turkey Creek: Wilber, Nebr.	11	22	23	11.7	22
Black Vermillion: Frankfort, Kans.	19	8 22	8 22	23.85 25.1	8 22
Big Blue: Barneston, Nebr.	18	22	22	18.[illegible]	22
Soldier Creek: Delia (nr), Kans.	17	8 22	8 22	17.65 18.8	8 22
Stranger Creek: Easton, Kans.	1[illegible]	22	22	15.0	22
Grand: Chillicothe, Mo.	24	8	8	24.2	8
Sumner, Mo.	26	8 22	11 24	29.75 29.1	9 23
Brunswick, Mo.	12	9 23	11 23	13.7 14.1	10 23
Chariton: Prairie Hill, Mo.	15	8	8	15.4	8
Blackwater: Valley City, Mo.	20	21	23	25.8	22
Osage: Schell City, Mo.	25	Apr. 29	2	27.55	Apr. 30
Missouri: Rulo, Nebr.	17	22	22	17.4	22
St. Joseph, Mo.	17	22	22	18.2	22
Lexington, Mo.	22	24	24	22.0	24
Waverly, Mo.	18	23	24	19.5	23
Hermann, Mo.	21	Apr. 29	2	25.0	Apr. 30
St. Charles, Mo.	25	Apr. 30	2	27.6	Apr. 30
Ohio Basin					
Alum Creek: Columbus, Ohio	10	20	20	10.2	20
Scioto: La Rue, Ohio	11	19	20	12.2	19
Prospect, Ohio	10	19	22	12.3	21
Circleville, Ohio	14	20	22	17.15	21
Muscatatuck: Austin, Ind.	T16	19	20	16.5	19
Saline: Harrisburg, Ill.	13	18	23	24.9	20
Tennessee: Whitesburg, Ala.	560	20	20	560.1	20
Ohio: Cairo, Ill.	40	Apr. 14	1	44.8	Apr. 20
White Basin					
Cache: Patterson, Ark.	7	Mar. 24	8	9.3	Apr. 15
White: Clarendon, Ark.	26	Dec. 27	11	29.0 32.0 28.4	Jan. 7-9 Feb. 7 Apr. 19
St. Charles, Ark.	25	Mar. 25	9	26.2	Apr. 22
Arkansas Basin					
Little Arkansas: Sedgwick, Kans.	18	22	23	#21.8	22
Whitewater: Towanda, Kans.	22	22	24	24.1	22
Walnut: El Dorado, Kans.	18	22	22	#19.9	22
Augusta, Kans.	23	22	23	#30.1	23
Cimarron: Dover, Okla.	17	8	9	17.9	8
Little Caney: Copan, Okla.	21	31	June 4	22.5	June 2
Cottonwood: Plymouth, Kans.	28	25	26	29.5	25
Emporia, Kans.	20	Apr. 27	1	25.4	Apr. 28
North Canadian: Yukon, Okla.	11	6	10	13.4	7
Little: Tecumseh, Okla.	11	6	7	13.8	7
Red Basin					
Salt Fork Red: Mangum, Okla.	9	4 7 14	5 7 14	9.8 9.2 9.4	4 7 14
North Fork Red: Headrick, Okla.	12	4 14	8 15	15.85 12.3	5 14
Beaver Creek: Waurika, Okla.	870	5	8	873.95	7
Washita: Carnegie, Okla.	18	5	7	20.2	6
Blue: Blue, Okla.	21	[illegible] 18	9 20	27.9 26.5	8 19

River and station	Flood stage	Above flood stages -dates From–	Above flood stages -dates To–	Crest * Stage	Crest * Date
MISSISSIPPI SYSTEM	Ft.			Ft	
Clear Boggy: Caney, Okla.	19	Apr. 27 17	5 21	23.1 23.1	Apr. 27 18
Muddy Boggy: Farris, Okla.	36	18	19	38.8	18
Kiamichi: Belzoni, Okla.	28	8 18	9 G	29.0 30.8	9 18
Sulphur: Hagansport, Tex.	38	5 15 24	13 22 29	47.2 45.6 44.6	8 18 26
Naples, Tex.	22	9	29	31.7	11
Cypress: Jefferson, Tex.	18	18	19	18.0	18
WEST GULF OF MEXICO DRAINAGE					
Mermentau: Mermentau, La.	5	8	11	5.7	10
Calcasieu: Hineston, La.	12	8	14	15.4	10
Oakdale, La.	12	12	12	12.4	12
Sabine: Emory, Tex.	12	6	28	16.8	8
Mineola, Tex.	14	7	June 2	19.5	9
Quitman, Tex.	16	8	11	20.7	8
Gladewater, Tex.	26	11	June 3	36.2	14
Longview, Tex.	25	14	June 5	32.9	17
Tatum, Tex.	25	19	22	25.7	20
Logansport, La.	28	10 27	13 29	28.2 28.0	28 28
Bon Wier, Tex.	17	8	17	21.3	13
Deweyville, Tex.	14	Mar. 24	4	#15.3 15.2	Mar. 26 5
Neches: Alto (nr), Tex.	16	6	14	18.8	9
Rockland, Tex.	22	7	15	27.6	10
Weiss Bluff, Tex.	15	9	19	16.8	11
Beaumont, Tex.	5	Mar. 22	26	6.6 6.5 9.9	Mar. 24-25 Apr. 17-18 12
West Fork Trinity: Grand Prairie, Tex.	24	7	9	25.0	8
Elm Fork Trinity: Carrollton, Tex.	6	7	7	7.5	7
Trinity: Dallas, Tex.	30	6	10	40.6	8
Rosser, Tex.	26	7	14	35.9	9
Trinidad, Tex.	28	6	31	44.4	8
Long Lake, Tex.	35	8	31	46.9	12
Midway, Tex.	40	15	25	45.1	17
Riverside, Tex.	40	21	22	40.15	22
Liberty, Tex.	24	7	1/	28.7	27
Moss Bluff, Tex.	4	Feb. 21	1/	7.2 7.8 8.1 8.2	Feb. 28 Mar. 24 Apr. 21-22 28-30
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	1/	45.3 44.8 46.7 46.2 45.9	Dec. 3 Jan. 17-19 Feb. 23 Mar. 19 Apr. 16
Clear Fork Brazos: Fort Griffin, Tex.	25	8	8	29.2	8
Navasota: Easterly (nr), Tex.	14	9	11	14.6	11
Brazos: South Bend, Tex.	21	7	8	21.3	7
Navidad: Ganado, Tex.	21	3	8	27.4	7
Lavaca: Edna, Tex.	21	4	6	23.0	4
PACIFIC SLOPE DRAINAGE					
San Joaquin: Vernalis, Calif.	29	18	1/	30.0	30
Big Wood: Hailey, Idaho	4.5	10	14	4.8	10
Columbia: Vancouver, Wash.	16	13	28	17.0	16

T Tentative
* Provisional
\# Highest stage observed
b Bankfull stage
__ Exceeded previous maximum stage of record
1/ Continued at end of month
G River gage inoperative

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	30	86	10.5	6.5	21	1.3
1000	30	142			20	1.1
950	30	569	9.3	2.1	24	3.2
900	30	1,016	7.7	-.5	26	4.7
850	30	1,485	5.2	-2.4	28	8.0
800	30	1,979	2.7	-5.8	28	10.5
750	30	2,498	.8	-10.6	28	11.6
700	30	3,051	-1.7	-14.3	28	13.5
650	30	3,635	-4.7	-17.6	28	15.2
600	30	4,263	-8.3	-21.8	28	15.9
550	30	4,928	-12.2	-26.4	28	16.4
500	30	5,656	-16.7	-31.2	28	19.4
450	30	6,432	-22.2	-36.1	28	20.6
400	30	7,295	-28.4	-40.8	27	21.3
350	30	8,237	-35.5	-46.2	27	21.8
300	30	9,293	-43.1	-50.7	28	24.3
250	30	10,498	-51.2		28	25.9
200	29	11,936	-57.6		28	26.5
175	29	12,778	-57.1		28	24.8
150	29	13,755	-56.2		28	21.7
125	29	14,914	-56.0		28	18.5
100	29	16,331	-56.5		28	14.9
80	29	17,747	-56.3		28	10.2
70	29	18,595	-56.4		28	8.0
60	29	19,575	-55.5		28	5.2
50	28	20,735	-55.2		30	2.7
40	28	22,167	-53.4		06	.7
30	26	24,032	-51.6		10	2.9
25	25	25,216	-50.5		08	3.6
20	25	25,678	-48.6		08	3.4
15	22	28,594	-44.6		07	4.8
10	13	31,378	-37.2			
7						
5						

ALBUQUERQUE, N. MEX. 837 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	1,619	12.3	1.2	10	1.7
1000	31	99				
950	31	538				
900	31	1,006				
850	31	1,492				
800	31	2,004	13.6	-2.5	17	1.0
750	31	2,546	10.6	-5.5	27	2.0
700	31	3,115	6.8	-8.9	29	3.7
650	31	3,717	2.1	-12.2	28	3.7
600	31	4,359	-3.3	-14.8	27	3.0
550	31	5,034	-8.8	-18.4	24	3.9
500	31	5,772	-14.3	-25.4	25	4.7
450	31	6,559	-19.9	-33.1	26	4.7
400	31	7,427	-26.2	-40.6	26	4.6
350	31	8,379	-33.6	-45.8	27	4.9
300	31	9,442	-41.7	-52.2	27	5.4
250	31	10,656	-50.0		26	7.1
200	31	12,088	-57.2		26	10.5
175	31	12,931	-57.6		26	13.0
150	31	13,904	-57.5		26	13.8
125	31	15,054	-58.5		26	12.6
100	31	16,447	-61.6		27	11.2
80	31	17,826	-62.8		27	7.7
70	31	18,650	-62.7		28	5.2
60	31	19,601	-62.3		30	3.8
50	31	20,732	-60.0		33	1.8
40	31	22,137	-56.7		05	1.7
30	30	23,980	-53.0		06	1.8
25	29	25,159	-51.2		08	2.2
20	28	26,616	-48.6		09	1.7
15	26	28,519	-44.1		31	.3
10	15	31,237	-38.6		28	3.2
7	8	33,718	-33.3			
5						

AMARILLO, TEXAS 890 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	1,095	12.7	9.1	20	[illegible]
1000	31	100				
950	31	539				
900	31	1,005				
850	31	1,483	15.3	6.7	22	9.2
800	31	1,996	13.5	2.0	23	7.9
750	31	2,536	10.2	-2.0	25	6.4
700	31	3,107	6.3	-5.8	27	5.7
650	31	3,707	2.0	-9.4	27	5.7
600	31	4,351	-2.9	-13.3	27	5.2
550	31	5,027	-8.2	-18.1	27	5.2
500	31	5,767	-13.5	-25.0	28	5.3
450	31	6,553	-18.9	-32.1	27	5.6
400	31	7,428	-25.3	-38.5	26	6.9
350	31	8,382	-32.8	-44.5	25	7.7
300	31	9,447	-41.2	-49.4	25	9.7
250	31	10,662	-49.8		25	11.7
200	31	12,094	-57.5		25	14.2
175	31	12,935	-58.4		26	15.6
150	31	13,906	-57.6		27	15.7
125	31	15,054	-59.0		27	14.9
100	31	16,445	-61.4		27	12.1
80	31	17,822	-63.0		28	8.7
70	31	18,645	-62.6		29	6.7
60	30	19,595	-61.9		31	3.5
50	30	20,728	-59.6		34	1.5
40	30	22,135	-56.5		04	1.6
30	30	23,975	-53.2		08	2.1
25	30	25,156	-50.9		07	1.5
20	29	26,608	-48.5		05	.9
15	27	28,513	-44.5		02	1.0
10	15	31,270	-38.6			
7						
5						

* ANCHORAGE, ALASKA 100[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	45	6.9	1.3	15	2.1
1000	31	103			14	2.3
950	31	527	5.2	-1.3	15	1.8
900	31	963	2.5	-3.9	13	2.2
850	31	1,422	-.3	-6.6	14	4.5
800	31	1,905	-3.5	-8.0	14	6.0
750	31	2,413	-7.0	-10.2	14	7.3
700	31	2,947	-10.2	-15.7	15	7.3
650	31	3,512	-13.5	-20.2	17	7.0
600	31	4,119	-17.2	-24.3	17	5.7
550	31	4,764	-21.5	-28.4	17	5.3
500	31	5,463	-26.0	-32.9	18	5.9
450	31	6,211	-31.1	-37.1	18	5.7
400	31	7,043	-36.9	-42.2	19	6.1
350	31	7,954	-43.2	-45.2	20	7.1
300	31	8,979	-48.6		20	6.3
250	31	10,166	-52.1		21	6.6
200	31	11,609	-51.9		22	5.3
175	31	12,476	-50.6		21	4.9
150	31	13,483	-49.8		22	3.9
125	31	14,677	-49.5		22	2.8
100	31	16,139	-49.5		20	2.3
80	31	17,600	-49.6		19	1.4
70	30	18,470	-49.8		17	1.8
60	30	19,478	-50.1		15	1.6
50	30	20,669	-50.1		13	1.9
40	30	22,127	-49.9		11	2.5
30	30	24,009	-49.5		10	4.3
25	29	25,200	-49.0		10	5.2
20	29	26,669	-47.6		10	5.9
15	28	28,576	-45.4		09	7.9
10	22	31,317	-39.8		09	9.0
7	12	33,656	-35.3			
5						

* ANNETTE, ALASKA 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	37	8.6	[illegible]	[illegible]	1.2
1000	31	143	[illegible]	[illegible]	[illegible]	2.2
950	31	564	[illegible]	.7	15	4.8
900	31	1,010	4.4	-1.5	15	5.8
850	31	1,473	1.7	[illegible]	[illegible]	6.4
800	31	1,960	-1.2	[illegible]	[illegible]	6.0
750	31	2,470	-3.9	-12.8	[illegible]	[illegible]
700	31	[illegible]	-6.8	-16.4	21	6.1
650	31	[illegible]	[illegible]	-20.5	21	7.1
600	31	4,203	[illegible]	-24.5	22	7.3
550	31	4,856	-17.6	-27.7	23	[illegible]
500	31	[illegible]	-21.9	-32.0	24	9.5
450	31	[illegible]	-26.8	-35.9	24	11.9
400	31	7,179	-32.5	-40.2	25	11.4
350	31	[illegible]	-39.3	-43.8	25	10.1
300	31	9,146	-46.7		25	11.1
250	31	10,338	-52.7		26	9.9
200	31	[illegible]	-55.5		24	9.4
175	31	[illegible]	-54.5		24	9.1
150	31	13,613	-52.4		24	8.2
125	30	14,789	-52.4		25	7.3
100	30	16,232	-52.7		26	6.1
80	30	17,674	-52.7		26	4.7
70	30	18,535	-53.0		26	4.0
60	30	19,529	-52.9		28	2.4
50	30	20,706	-52.7		30	1.7
40	30	22,148	-52.3		07	1.6
30	29	24,009	-51.4		08	3.1
25	29	25,196	-50.2		08	4.4
20	28	26,668	-48.4		08	5.3
15	25	28,586	-45.4		09	5.6
10	24	31,325	-40.0		08	7.3
7	22	33,798	-34.8		08	7.8
5	21	36,077	-32.0			

ATHENS, GEORGIA 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	246	15.4	12.8	04	1.0
1000	31	149				
950	31	588	17.3	11.5	16	1.3
900	31	1,047	15.1	7.7	17	1.1
850	31	1,530	12.0	5.1	21	.9
800	31	2,035	8.7	.9	23	1.2
750	31	2,569	5.7	-3.6	25	2.0
700	31	3,129	2.6	-8.4	27	2.8
650	31	3,724	-.8	-12.4	27	3.6
600	31	4,361	-4.2	-18.4	26	5.0
550	31	5,038	-8.1	-24.1	27	4.9
500	31	5,777	-13.0	-28.8	28	6.1
450	31	6,566	-18.1	-34.8	27	8.1
400	31	7,442	-24.3	-39.6	27	8.9
350	31	8,401	-31.7	-46.9	27	10.3
300	31	9,473	-40.2	-52.5	27	11.1
250	31	10,692	-49.1		28	13.4
200	31	12,127	-57.3		28	19.1
175	30	12,965	-59.1		27	21.6
150	30	13,932	-58.8		27	23.5
125	30	15,072	-60.6		27	20.9
100	30	16,453	-63.0		27	17.8
80	30	17,821	-63.8		28	13.0
70	30	18,640	-63.1		29	8.0
60	30	19,591	-61.6		31	3.9
50	30	20,726	-59.3		32	1.3
40	30	22,132	-56.5		07	2.1
30	30	23,971	-53.1		07	2.5
25	30	25,151	-51.1		08	3.1
20	28	26,610	-48.3		08	2.5
15	26	28,518	-44.3		08	.3
10	21	31,291	-37.3		27	1.0
7	18	33,768	-32.2			
5	5	36,178	-26.6			

BARROW, ALASKA 1022 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	8	-7.1	-8.0	07	3.8
1000	31	174	-7.4	-8.6	08	4.0
950	31	578	-5.8	-9.6	08	3.5
900	31	999	-5.4	-11.0	07	2.6
850	31	1,447	-6.0	-13.6	07	2.1
800	31	1,921	-7.4	-16.5	04	.9
750	31	2,422	-9.7	-19.3	35	1.0
700	31	2,952	-12.7	-22.2	32	1.6
650	31	3,511	-16.1	-26.0	32	2.0
600	31	4,112	-19.8	-29.3	32	2.6
550	31	4,750	-23.8	-32.4	33	3.4
500	31	5,442	-28.3	-36.5	32	4.1
450	31	6,185	-33.3	-40.5	32	4.5
400	31	7,008	-39.1	-44.7	33	5.5
350	31	7,910	-45.6		33	6.2
300	31	8,924	-51.2		33	7.1
250	31	10,102	-53.0		32	7.2
200	31	11,550	-49.5		31	5.3
175	31	12,428	-48.3		31	4.6
150	31	13,443	-48.2		32	3.2
125	30	14,643	-48.3		32	2.7
100	30	16,113	-47.9		33	1.3
80	29	17,582	-47.6		35	1.0
70	29	18,464	-47.4		03	.5
60	25	19,488	-47.2		04	1.1
50	24	20,692	-46.9		06	2.1
40	17	22,165	-46.4		10	2.7
30						
25						
20						
15						
10						
7						
5						

BARTER IS., ALASKA 1021 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	26	15	-5.6	-6.9	08	1.6
1000	26	180	-6.4	-7.5	08	2.1
950	26	583	-4.9	-8.9	08	1.2
900	26	1,009	-3.4	-10.1	31	.3
850	26	1,460	-5.2	-12.3	29	1.2
800	26	1,934	-7.7	-14.9	30	2.3
750	26	2,431	-10.5	-18.4	31	2.7
700	26	2,962	-13.4	-21.3	31	3.0
650	26	3,518	-16.3	-25.0	31	3.5
600	26	4,121	-19.8	-29.3	32	4.0
550	26	4,757	-23.8	-32.9	32	5.1
500	26	5,452	-28.5	-36.9	32	6.4
450	25	6,192	-33.8	-42.3	32	7.2
400	25	7,017	-39.6	-45.6	32	7.9
350	25	7,919	-45.2		32	8.8
300	25	8,935	-50.3		32	10.2
250	25	10,119	-51.3		31	10.0
200	25	11,580	-47.8		31	8.0
175	25	12,462	-47.2		31	7.1
150	25	13,483	-47.2		31	6.5
125	25	14,688	-47.1		31	5.1
100	24	16,167	-46.7		32	3.9
80	24	17,645	-47.1		33	2.5
70	24	18,529	-47.0		33	2.5
60	24	19,550	-47.1		36	2.4
50	24	20,759	-46.5		03	2.3
40	24	22,241	-46.2		06	3.3
30	23	24,149	-45.9		07	4.1
25	22	25,362	-45.2		07	4.5
20	20	26,858	-44.2		08	5.1
15	19	28,803	-41.6		08	7.3
10	17	31,588	-36.0		08	8.0
7	8	34,147	-30.0			
5						

BETHEL, ALASKA 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	39	4.0	.9	05	.6
1000	31	80			23	.4
950	31	498	4.4	-3.7	10	3.6
900	31	937	1.2	-5.9	12	4.9
850	31	1,394	-2.0	-7.8	13	5.1
800	31	1,874	-4.9	-10.5	13	5.9
750	31	2,379	-8.1	-14.5	13	6.1
700	31	2,913	-11.1	-18.0	12	5.6
650	31	3,477	-14.6	-20.7	12	6.2
600	31	4,081	-18.2	-25.1	12	7.0
550	31	4,723	-21.9	-28.9	12	7.3
500	31	5,423	-26.3	-34.5	12	7.4
450	31	6,174	-31.3	-39.3	11	7.0
400	31	7,004	-37.0	-42.3	12	6.3
350	31	7,914	-43.4	-45.5	13	6.1
300	31	8,938	-49.3		14	4.4
250	31	10,123	-52.4		17	4.4
200	31	11,567	-51.0		19	3.5
175	31	12,439	-49.4		16	2.2
150	31	13,450	-49.1		17	1.5
125	31	14,646	-49.1		16	1.5
100	31	16,110	-49.3		14	1.5
80	31	17,572	-49.4		13	2.2
70	30	18,447	-50.0		13	1.9
60	30	19,454	-50.3		12	2.5
50	28	20,649	-50.4		12	2.9
40	27	22,105	-50.4		10	4.1
30	24	23,991	-49.5		10	4.5
25	24	25,186	-49.2		10	5.7
20	22	26,652	-48.0		09	6.1
15	22	28,561	-45.2		08	8.2
10	19	31,297	-39.8		09	9.3
7						
5						

* BISMARCK, N. DAK. 955 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	503	7.5	3.7	35	1.4
1000	31	120				
950	31	548	6.4	1.1	36	2.0
900	31	994	9.5	.4	30	2.5
850	31	1,467	7.7	-2.8	30	4.7
800	31	1,964	4.9	-5.3	30	6.3
750	31	2,485	1.4	-7.4	30	7.5
700	31	3,040	-1.9	-10.8	29	9.3
650	31	3,622	-5.4	-15.9	29	11.2
600	31	4,250	-9.1	-21.7	29	12.4
550	31	4,912	-13.4	-25.4	29	14.5
500	31	5,638	-18.0	[illegible]	29	16.3
450	31	6,413	-23.3	-36.6	29	19.3
400	31	7,270	-29.4	-41.8	29	21.2
350	31	8,209	-36.7	-46.7	29	23.6
300	31	9,259	-44.4		28	24.4
250	31	10,457	-52.9		28	25.8
200	31	11,874	-58.3		28	23.6
175	31	12,716	-57.3		28	21.7
150	31	13,693	-55.9		28	18.7
125	31	14,856	-55.2		28	15.9
100	31	16,276	-56.2		28	12.7
80	31	17,693	-56.3		30	9.9
70	30	18,543	-55.9		30	7.7
60	30	19,524	-55.6		30	5.8
50	29	20,686	-55.4		31	4.1
40	28	22,118	-53.4		01	2.8
30	28	23,977	-51.6		06	2.9
25	28	25,163	-50.5		07	3.1
20	28	26,624	-48.6		08	4.8
15	27	28,528	-45.0		09	5.3
10	25	31,264	-39.7		09	4.6
7	17	33,739	-34.7		07	3.3
5	7	36,153	-28.3			

BOISE, IDAHO 915 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	867	10.4	2.1	18	1.3
1000	31	115				
950	31	548				
900	31	1,003	13.0	1.6	25	.6
850	31	1,484	13.0	-1.3	32	2.4
800	31	1,991	9.6	-4.2	32	2.6
750	31	2,519	5.7	-6.2	29	3.2
700	31	3,084	1.9	-9.5	27	4.5
650	31	3,675	-2.1	-14.8	27	6.3
600	31	4,309	-6.3	-19.6	26	7.5
550	31	4,976	-10.6	-23.9	25	9.0
500	31	5,711	-15.5	-29.1	25	9.6
450	31	6,491	-21.5	-33.4	25	10.4
400	31	7,355	-27.9	-40.5	25	11.6
350	31	8,300	-35.3	-46.0	25	12.5
300	31	9,355	-43.4		25	13.3
250	31	10,558	-52.3		27	12.9
200	31	11,974	-59.6		27	13.4
175	31	12,808	-59.5		27	12.5
150	31	13,777	-57.5		27	11.9
125	31	14,930	-57.4		27	11.1
100	31	16,336	-58.3		27	9.3
80	31	17,740	-58.4		27	7.2
70	31	18,579	-58.6		28	5.7
60	31	19,547	-58.7		29	4.2
50	30	20,696	-58.0		31	2.5
40	30	22,107	-56.5		02	1.7
30	30	23,942	-54.1		07	2.6
25	30	25,117	-52.3		07	3.1
20	29	26,570	-49.6		07	3.2
15	26	28,458	-45.5		08	4.5
10	17	31,190	-38.5		10	5.1
7						
5						

BOOTHVILLE, LA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	1	20.9	19.7	09	.5
1000	31	124	21.8	18.9	10	1.3
950	31	570	19.7	14.3	13	2.4
900	31	1,034	17.4	9.2	14	2.4
850	31	1,521	14.7	5.7	15	1.1
800	31	2,031	11.8	2.3	23	1.0
750	31	2,573	8.5	-1.0	26	1.9
700	31	3,137	5.4	-5.6	27	3.6
650	31	3,736	2.1	-11.3	28	5.4
600	31	4,381	-1.9	-15.6	28	6.6
550	31	5,057	-6.1	-21.0	28	7.2
500	31	5,808	-10.8	-25.7	28	8.5
450	31	6,607	-16.3	-31.2	28	8.8
400	31	7,486	-22.4	-36.8	27	10.0
350	31	8,453	-29.4	-42.8	27	12.0
300	31	9,536	-37.6	-49.4	27	14.9
250	31	10,772	-45.7		27	19.1
200	31	12,231	-53.6		27	26.4
175	31	13,085	-56.0		27	28.4
150	31	14,059	-58.9		27	27.4
125	31	15,192	-62.7		27	22.5
100	31	16,556	-65.9		27	16.1
80	30	17,907	-67.2		28	8.8
70	30	18,714	-66.5		31	5.1
60	30	19,652	-63.9		35	2.4
50	30	20,781	-60.3		05	2.4
40	30	22,182	-57.1		07	3.7
30	30	24,023	-52.5		09	5.9
25	29	25,213	-49.8		09	4.4
20	29	26,682	-46.8		09	3.3
15	25	28,608	-42.5		01	.4
10	17	31,366	-38.0			
7	5	33,852	-32.2			
5						

* BROWNSVILLE, TEXAS 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	7	21.7	19.7	12	1.3
1000	31	104	22.7	20.4	13	3.0
950	31	550	20.3	17.0	15	6.8
900	31	1,017	18.6	11.6	16	5.9
850	31	1,506	16.6	5.8	18	3.2
800	31	2,021	14.4	.5	20	2.3
750	31	2,565	11.7	-4.6	22	2.4
700	31	3,137	8.2	-9.4	26	3.1
650	31	3,741	4.3	-11.5	28	4.1
600	31	4,390	-.3	-15.0	28	6.4
550	31	5,075	-5.3	-19.9	27	9.0
500	31	5,822	-10.7	-25.0	27	10.5
450	31	6,622	-16.1	-30.2	27	13.8
400	31	7,502	-21.9	-37.8	27	16.7
350	31	8,472	-28.7	-43.7	27	22.1
300	31	9,558	-36.4	-50.2	27	26.5
250	31	10,801	-44.1		27	36.2
200	30	12,266	-52.5		27	42.3
175	30	13,120	-56.8		27	39.9
150	30	14,087	-61.1		26	33.7
125	30	15,206	-65.6		27	26.6
100	30	16,548	-69.7		27	15.1
80	30	17,873	-70.5		28	3.1
70	30	18,668	-69.2		05	2.8
60	30	19,598	-65.2		07	6.6
50	30	20,717	-62.2		08	6.9
40	30	22,109	-58.2		08	8.1
30	28	23,941	-53.8		08	7.7
25	28	25,122	-50.4		09	8.1
20	28	26,590	-47.2		08	7.2
15	27	28,510	-43.4		09	4.6
10	24	31,270	-38.1		07	3.6
7	21	33,750	-32.7		16	2.7
5	10	36,127	-28.3			

BUFFALO, N. Y. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	218	8.7	4.9	20	1.4
1000	31	142				
950	31	569	10.0	2.0	24	2.9
900	31	1,016	8.2	.5	26	5.1
850	31	1,486	5.9	-3.5	27	7.6
800	31	1,980	3.5	-6.5	28	9.0
750	31	2,503	.9	-10.6	28	10.1
700	31	3,054	-1.7	-14.0	28	11.8
650	31	3,641	-4.8	-16.9	28	13.0
600	31	4,266	-8.6	-20.9	28	13.9
550	31	4,933	-12.7	-25.6	28	15.6
500	31	5,657	-17.3	-30.4	28	16.7
450	31	6,433	-22.9	-35.7	27	17.4
400	31	7,291	-29.1	-41.7	28	17.4
350	31	8,232	-36.1	-46.6	28	19.4
300	31	9,285	-43.5	-53.1	28	20.4
250	31	10,490	-51.0		28	22.3
200	31	11,918	-57.5		28	23.9
175	31	12,761	-57.6		28	21.0
150	31	13,736	-56.3		28	19.6
125	31	14,896	-56.0		27	16.3
100	31	16,314	-56.8		28	13.2
80	31	17,726	-56.7		28	9.5
70	31	18,572	-56.5		28	6.8
60	31	19,550	-56.1		28	4.6
50	29	20,715	-55.1		27	2.1
40	28	22,147	-53.1		10	.9
30	27	24,009	-51.2		11	1.6
25	27	25,197	-50.1		11	2.4
20	23	26,665	-47.9		08	3.8
15	19	28,593	-44.2		07	4.3
10	8	31,428	-36.2			
7						
5						

CAPE HATTERAS, N. C. 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M p s
SURFACE	31	4	17.1	14.5	05	.8
1000	31	155	17.9	12.1	26	.4
950	31	593	16.5	7.2	26	1.6
900	31	1,053	14.1	4.2	26	1.6
850	31	1,533	11.4	[illegible]	28	2.5
800	31	2,038	8.9	-3.9	27	3.3
750	31	2,571	6.0	-7.6	27	3.6
700	31	3,132	3.0	-11.6	26	4.7
650	31	3,724	-.5	-15.5	27	5.7
600	31	4,365	-4.2	-20.9	27	6.9
550	31	5,037	-7.9	-25.1	26	7.9
500	31	5,782	-12.6	-28.8	26	8.8
450	31	6,574	-18.0	-33.0	25	10.0
400	31	7,450	-24.0	-38.4	26	10.3
350	31	8,411	-31.0	-44.7	25	12.3
300	31	9,486	-39.3	-49.3	25	14.6
250	31	10,710	-48.5		26	15.6
200	31	12,147	-57.3		27	18.6
175	31	12,987	-59.0		27	19.9
150	31	13,954	-59.0		27	21.0
125	30	15,099	-59.4		27	19.1
100	30	16,488	-61.8		28	15.7
80	30	17,868	-61.9		28	10.3
70	30	18,696	-61.0		29	7.4
60	30	19,657	-59.8		29	4.1
50	29	20,800	-57.7		31	1.4
40	26	22,211	-55.3		06	2.1
30	26	24,062	-51.9		08	2.9
25	25	25,247	-50.1		08	2.9
20	20	26,701	-47.7		08	2.1
15	18	28,615	-43.6		09	1.4
10	16	31,383	-35.9		30	1.9
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MAY 1969

* CARIBOU, MAINE — 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	191	5.8	3.4	28	2.2
1000	31	123				
950	31	545	3.8	-2.1	28	4.1
900	31	980	2.2	-3.3	29	6.6
850	31	1,440	.0	-5.4	29	8.4
800	31	1,925	-1.8	-8.4	29	9.1
750	31	2,443	-4.2	-12.4	28	10.0
700	31	2,979	-6.6	-15.0	28	11.4
650	31	3,561	-9.4	-19.1	28	12.8
600	31	4,171	-12.6	-23.7	28	14.6
550	31	4,835	-16.1	-29.0	27	16.3
500	31	5,544	-20.9	-33.9	27	17.2
450	31	6,318	-26.1	-38.7	28	19.3
400	31	7,157	-31.7	-43.5	27	20.9
350	31	8,089	-37.8	-45.7	27	24.4
300	31	9,137	-44.4		28	25.3
250	31	10,344	-49.6		28	25.4
200	31	11,791	-53.3		28	24.2
175	31	12,650	-53.2		27	23.0
150	31	13,645	-52.0		27	18.8
125	31	14,826	-52.4		27	13.9
100	31	16,266	-52.9		27	11.0
80	31	17,704	-53.5		27	7.4
70	31	18,563	-53.6		26	6.3
60	30	19,552	-53.0		26	3.5
50	30	20,728	-52.7		25	1.5
40	30	22,170	-52.0		13	.9
30	29	24,035	-50.8		09	2.8
25	28	25,227	-49.9		09	3.1
20	26	26,685	-48.3		09	4.8
15	26	28,595	-44.7		08	6.5
10	25	31,341	-38.2		10	5.3
7	13	33,794	-32.0			
5						
4						

CHARLESTON, S. C. — 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	13	16.5	14.8	01	.8
1000	31	151	18.4	14.9	07	1.1
950	31	589	17.7	10.1	15	1.2
900	31	1,052	15.0	6.3	12	.9
850	31	1,534	12.1	2.2	11	.9
800	31	2,040	9.6	-1.7	06	.9
750	31	2,570	6.5	-6.1	26	.7
700	31	3,137	3.8	-11.8	27	2.5
650	31	3,730	.3	-13.9	26	3.7
600	31	4,373	-3.5	-17.5	27	4.2
550	31	5,050	-7.6	-23.7	26	4.7
500	31	5,792	-12.2	-27.8	27	5.3
450	31	6,585	-17.7	-33.0	27	6.5
400	31	7,462	-23.7	-38.0	27	7.2
350	31	8,424	-30.7	-44.3	27	8.9
300	31	9,500	-38.9	-50.8	26	10.0
250	31	10,726	-48.2		26	12.3
200	31	12,168	-56.2		27	17.4
175	31	13,013	-58.2		27	20.8
150	31	13,982	-58.7		27	21.9
125	31	15,122	-60.8		27	20.6
100	31	16,502	-63.5		28	15.2
80	31	17,868	-64.1		28	10.5
70	31	18,686	-63.7		28	6.6
60	31	19,636	-61.8		30	3.8
50	31	20,771	-59.6		35	1.9
40	31	22,177	-56.6		07	2.9
30	31	24,019	-52.5		09	3.6
25	31	25,203	-50.3		08	2.6
20	31	26,668	-47.9		08	2.0
15	27	28,588	-43.6		05	.8
10	16	31,359	-36.5		26	2.3

CHIHUAHUA, MEXICO — 855 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,428	15.0	4.6	22	.5
1000	31	79				
950	31	521				
900	31	989				
850	31	1,482	16.3	4.9	23	.3
800	31	1,999	15.9	1.5	25	.4
750	31	2,539	12.2	-1.4	26	1.3
700	31	3,117	7.9	-4.5	25	1.6
650	31	3,720	3.4	-8.1	23	2.5
600	31	4,367	-1.8	-12.0	23	4.0
550	31	5,045	-7.4	-17.7	24	6.3
500	31	5,788	-12.6	-25.7	25	8.9
450	31	6,578	-17.9	-32.9	25	10.9
400	31	7,455	-24.5	-39.1	26	13.2
350	31	8,414	-31.6	-45.7	26	15.2
300	31	9,486	-39.2	-50.8	26	18.5
250	31	10,715	-46.9		27	20.4
200	28	12,170	-54.2		27	25.1
175	28	13,022	-56.3		27	24.2
150	28	13,994	-59.1		27	22.9
125	28	15,128	-62.1		27	20.9
100	27	16,492	-65.4		27	15.4
80	26	17,842	-67.3		27	8.6
70	26	18,650	-66.0		27	5.5
60	25	19,592	-64.4		28	2.3
50	24	20,716	-61.1		30	1.0
40	22	22,113	-57.6		05	.9
30	21	23,941	-54.1		06	.9
25	17	25,125	-51.1		07	.5
20	15	26,574	-48.5		26	.5
15	12	28,490	-44.0			

* COLD BAY, ALASKA — 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	3.8	1.0	18	3.2
1000	31	58			16	4.2
950	31	469	1.0	-1.2	16	2.8
900	31	906	-1.5	-3.6	16	2.6
850	31	1,360	-3.6	-6.7	16	2.8
800	31	1,837	-5.4	-9.5	16	2.9
750	31	2,338	-7.7	-12.8	17	2.9
700	31	2,876	-10.7	-15.6	18	2.5
650	31	3,437	-13.7	-20.3	18	2.7
600	31	4,048	-17.1	-24.9	19	2.8
550	31	4,689	-20.5	-28.0	21	3.0
500	31	5,395	-25.0	-32.8	22	2.2
450	31	6,145	-29.8	-37.6	24	2.3
400	31	6,983	-35.3	-42.2	24	3.0
350	31	7,901	-41.6	-45.0	23	3.4
300	31	8,932	-47.3		22	4.3
250	31	10,128	-50.3		24	6.0
200	31	11,582	-50.2		25	5.9
175	31	12,456	-49.0		25	5.0
150	31	13,469	-48.8		25	4.1
125	31	14,664	-49.3		23	2.8
100	31	16,125	-49.6		24	2.3
80	31	17,585	-49.9		21	2.2
70	30	18,457	-50.4		20	2.2
60	30	19,462	-50.8		18	1.9
50	29	20,646	-51.2		16	1.8
40	29	22,096	-51.3		13	2.4
30	28	23,968	-50.8		11	3.5
25	28	25,157	-50.1		10	3.9
20	28	26,618	-49.1		09	5.4
15	26	28,533	-46.3		09	5.8
10	26	31,254	-41.6		09	6.9
7	21	33,708	-37.3		07	7.4
5	16	36,087	-34.0		08	10.1
4	11	37,708	-30.9			

COLUMBIA, MO. — 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	238	13.7	11.0	15	1.1
1000	31	127				
950	31	561	15.3	9.7	22	3.7
900	31	1,020	13.7	6.2	24	5.3
850	31	1,500	11.4	3.2	25	6.0
800	31	2,005	8.3	-.1	26	6.3
750	31	2,532	5.3	-4.6	26	6.4
700	31	3,096	1.8	-8.6	26	5.9
650	31	3,685	-1.7	-13.8	26	6.9
600	31	4,324	-5.4	-19.1	27	7.8
550	31	4,994	-9.4	-23.5	27	8.9
500	31	5,733	-14.3	-29.2	27	9.4
450	31	6,517	-19.8	-34.5	27	9.8
400	31	7,390	-25.9	-39.9	28	10.6
350	31	8,343	-33.0	-45.9	28	12.1
300	31	9,409	-41.0	-50.2	28	14.0
250	31	10,623	-50.3		28	16.6
200	31	12,049	-59.1		28	17.4
175	31	12,882	-60.9		28	17.5
150	31	13,844	-59.0		27	17.5
125	31	14,988	-58.7		27	16.2
100	31	16,385	-60.3		28	13.7
80	31	17,772	-61.1		28	10.0
70	31	18,602	-60.9		29	7.7
60	31	19,562	-60.1		29	5.5
50	31	20,703	-58.7		31	2.7
40	31	22,112	-56.2		34	1.2
30	30	23,949	-53.5		04	1.6
25	28	25,127	-51.8		06	1.2
20	23	26,596	-49.4		06	1.1
15	17	28,496	-45.6		04	1.4
10	5	31,262	-39.9			

DAYTON, OHIO — 982 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	297	12.1	8.5	14	.7
1000	31	144				
950	31	579	14.1	6.2	23	3.2
900	31	1,032	12.2	4.6	26	5.6
850	31	1,509	9.6	2.1	27	7.4
800	31	2,011	6.9	-2.5	27	7.6
750	31	2,535	3.9	-6.6	27	8.0
700	31	3,097	.5	-9.7	27	8.6
650	31	3,685	-3.0	-14.2	27	9.6
600	31	4,318	-6.9	-19.8	28	10.0
550	31	4,985	-10.8	-26.1	27	10.5
500	31	5,719	-15.3	-31.6	28	10.9
450	31	6,499	-20.7	-36.1	28	11.7
400	31	7,367	-27.0	-41.7	28	12.2
350	31	8,316	-34.2	-47.4	28	12.9
300	31	9,376	-42.0	-52.6	28	13.6
250	31	10,589	-50.1		28	15.9
200	31	12,020	-57.7		28	19.4
175	31	12,859	-59.0		28	19.5
150	31	13,828	-58.1		28	18.2
125	31	14,978	-58.3		27	17.2
100	31	16,382	-58.7		27	15.9
80	31	17,781	-59.3		28	11.3
70	31	18,618	-59.1		29	8.3
60	31	19,587	-58.3		29	4.5
50	31	20,738	-56.8		29	2.1
40	30	22,156	-54.7		02	.8
30	28	24,008	-52.2		08	1.6
25	27	25,192	-50.5		09	2.3
20	24	26,647	-48.6		09	2.5
15	14	28,520	-44.3		07	1.2
10	9	31,295	-37.3			
7						

DEL RIO, TEXAS — 976 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	314	19.4	16.7	11	3.2
1000	31	108				
950	31	550	18.8	15.5	14	5.9
900	31	1,015	17.3	12.1	16	8.1
850	31	1,502	15.5	8.1	17	6.6
800	31	2,015	13.3	2.9	17	4.7
750	31	2,554	10.7	-3.3	19	2.4
700	31	3,127	7.3	-8.4	24	2.1
650	31	3,728	3.1	-13.2	28	3.4
600	31	4,376	-1.7	-17.6	28	5.2
550	31	5,054	-6.7	-21.2	29	7.9
500	31	5,800	-11.9	-27.0	28	9.3
450	30	6,590	-17.0	-32.2	27	10.2
400	30	7,473	-23.5	-38.8	27	12.2
350	30	8,435	-30.9	-44.4	27	13.4
300	30	9,511	-39.0	-50.4	26	14.3
250	30	10,739	-47.0		26	21.3
200	30	12,193	-54.0		26	26.3
175	30	13,045	-56.1		27	28.1
150	30	14,020	-58.6		27	25.5
125	30	15,156	-62.2		26	22.5
100	30	16,522	-65.6		27	14.8
80	30	17,873	-66.8		27	7.5
70	30	18,682	-65.5		31	4.3
60	30	19,625	-63.6		03	2.0
50	30	20,751	-60.4		07	2.3
40	30	22,154	-56.9		08	4.3
30	30	23,991	-53.4		08	5.2
25	29	25,170	-50.6		08	4.2
20	27	26,638	-47.2		08	3.3
15	26	28,558	-42.6		08	1.0
10	25	31,328	-37.2		35	1.0
7	18	33,825	-31.2		26	3.8

DENVER, COLO. — 838 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,611	9.2	4.6	17	.9
1000	31	109				
950	31	544				
900	31	1,003				
850	31	1,486				
800	31	1,991	10.6	.3	31	1.6
750	31	2,526	8.7	-3.8	32	2.9
700	31	3,095	5.4	-7.3	30	3.7
650	31	3,691	1.2	-10.4	29	4.8
600	31	4,334	-3.7	-13.8	29	6.2
550	31	5,005	-9.2	-18.6	29	7.2
500	31	5,744	-14.6	-25.3	28	7.9
450	31	6,530	-20.3	-32.6	28	7.7
400	31	7,396	-27.0	-39.3	28	8.0
350	31	8,344	-34.3	-46.4	28	8.8
300	31	9,404	-42.8		28	9.2
250	31	10,609	-52.1		27	9.8
200	31	12,025	-59.2		26	13.1
175	31	12,861	-59.6		27	14.0
150	30	13,826	-58.3		27	13.3
125	30	14,974	-58.2		28	12.0
100	29	16,369	-59.3		28	10.9
80	28	17,768	-60.0		29	7.6
70	28	18,600	-60.4		29	5.4
60	28	19,563	-59.7		30	4.0
50	28	20,707	-57.7		34	2.1
40	28	22,122	-55.7		03	1.9
30	27	23,967	-52.9		06	2.4
25	27	25,148	-50.9		08	2.5
20	26	26,606	-48.8		07	2.2
15	22	28,521	-44.3		08	3.3
10	15	31,265	-38.2		09	1.3

DODGE CITY, KANS. — 923 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	791	13.2	11.6	13	1.0
1000	31	110				
950	31	543				
900	31	1,004	13.4	10.2	19	2.7
850	31	1,486	13.8	7.5	21	4.0
800	31	1,996	11.9	3.5	24	4.3
750	31	2,530	8.6	-.5	25	4.9
700	31	3,102	5.0	-4.7	26	4.0
650	31	3,698	.8	-9.2	26	5.3
600	31	4,341	-3.8	-13.9	27	5.6
550	30	5,019	-8.8	-18.9	27	5.4
500	30	5,756	-13.7	-25.1	27	5.8
450	30	6,544	-19.2	-30.4	27	6.1
400	30	7,417	-25.4	-37.3	26	7.5
350	30	8,372	-33.0	-43.4	25	7.0
300	29	9,441	-41.4	-50.5	24	9.0
250	28	10,658	-50.6		24	11.7
200	28	12,085	-58.5		25	14.7
175	28	12,921	-59.6		26	13.9
150	28	13,887	-59.0		27	14.6
125	28	15,030	-59.2		27	13.9
100	28	16,424	-61.0		27	11.5
80	28	17,809	-61.6		28	9.0
70	28	18,636	-61.7		29	6.5
60	28	19,593	-60.7		30	4.1
50	27	20,731	-59.4		33	2.1
40	27	22,137	-56.5		03	1.5
30	27	23,977	-53.3		07	2.4
25	26	25,155	-51.6		08	3.0
20	26	26,611	-49.0		07	3.0
15	17	28,523	-44.3		06	2.5
10	11	31,307	-37.4			
7	5	33,834	-31.9			

EL PASO, TEXAS — 880 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,193	14.3	1.5	21	.5
1000	31	91				
950	31	533				
900	31	1,001				
850	31	1,486	17.6	1.7	20	.7
800	31	2,003	15.5	-1.6	23	1.3
750	31	2,545	11.9	-4.9	26	2.9
700	31	3,120	7.3	-8.1	27	3.9
650	31	3,722	2.2	-11.2	26	3.7
600	31	4,366	-3.1	-15.1	24	3.9
550	31	5,040	-8.7	-19.4	24	4.0
500	31	5,780	-14.1	-24.8	24	5.9
450	31	6,566	-20.0	-33.2	25	6.9
400	31	7,435	-26.4	-40.3	26	7.6
350	31	8,386	-33.6	-46.6	26	9.1
300	31	9,450	-41.5	-51.3	26	11.4
250	31	10,667	-49.0		26	13.3
200	31	12,109	-55.7		26	17.9
175	31	12,956	-57.2		26	20.0
150	31	13,931	-57.5		26	20.2
125	31	15,076	-60.2		26	17.1
100	31	16,456	-63.8		26	13.3
80	31	17,819	-65.0		27	7.6
70	30	18,632	-64.9		29	4.9
60	30	19,576	-63.5		33	1.7
50	28	20,698	-61.3		02	1.5
40	25	22,091	-57.8		03	1.5
30	24	23,917	-53.9		07	3.3
25	23	25,090	-51.9		07	3.4
20	22	26,549	-48.9		09	1.7
15	22	28,457	-44.8		01	.7
10	20	31,204	-38.3		29	2.5
7	8	33,587	-35.2			

ELY, NEV. — 808 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,908	6.0	-3.3	20	1.5
1000	31	119				
950	31	550				
900	31	1,007				
850	31	1,489				
800	31	1,991	9.2	-1.9	21	1.3
750	31	2,522	9.1	-4.5	32	.1
700	31	3,096	5.4	-7.8	25	1.9
650	31	3,689	.9	-11.0	24	2.9
600	31	4,335	-4.1	-15.0	24	3.9
550	31	5,004	-9.2	-21.2	24	4.2
500	31	5,746	-14.1	-27.3	25	4.8
450	31	6,526	-19.8	-33.1	25	5.5
400	31	7,400	-26.5	-39.2	25	6.1
350	31	8,350	-34.2	-45.7	26	6.2
300	31	9,410	-42.9	-49.4	27	6.7
250	31	10,615	-51.9		28	8.1
200	31	12,036	-59.1		27	10.7
175	31	12,871	-59.7		28	11.4
150	31	13,839	-58.1		27	11.4
125	31	14,989	-58.1		27	11.7
100	31	16,389	-59.5		27	10.0
80	31	17,782	-60.3		26	6.1
70	31	18,613	-60.9		27	4.7
60	31	19,571	-60.4		30	2.5
50	31	20,709	-59.1		32	1.5
40	31	22,114	-57.3		05	1.7
30	31	23,944	-54.3		04	1.8
25	30	25,121	-52.2		04	2.3
20	30	26,573	-49.2		06	2.7
15	28	28,481	-44.7		06	2.5
10	24	31,234	-38.1		10	3.1
7	18	33,715	-32.7		10	3.7
5	5	36,118	-31.2			

EMPALME, MEXICO — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	12	17.6	11.8	02	1.4
1000	31	103	20.9	13.3	02	1.1
950	31	545	23.2	4.7	21	.5
900	31	1,018	21.2	1.1	15	1.0
850	31	1,510	18.4	-1.2	16	3.1
800	31	2,025	15.2	-5.6	17	4.8
750	31	2,565	11.7	-9.3	18	5.6
700	31	3,140	8.0	-13.1	19	5.9
650	31	3,742	3.5	-16.6	20	6.1
600	31	4,391	-1.2	-20.7	21	6.3
550	31	5,072	-6.3	-25.3	22	6.1
500	31	5,817	-11.7	-29.9	24	6.7
450	31	6,611	-17.5	-34.9	25	10.2
400	31	7,488	-23.8	-39.9	26	13.0
350	31	8,448	-31.1	-46.1	26	16.4
300	31	9,524	-38.6	-52.7	26	19.6
250	31	10,755	-46.6		26	23.8
200	31	12,209	-53.9		26	25.9
175	29	13,063	-56.3		26	26.5
150	29	14,035	-59.1		26	25.0
125	29	15,168	-62.8		26	20.0
100	29	16,532	-66.5		26	12.2
80	29	17,874	-67.9		27	5.5
70	29	18,679	-66.5		33	2.0
60	29	19,616	-64.6		06	3.9
50	27	20,741	-61.2		09	3.4
40	27	22,138	-57.9		11	4.1
30	27	23,968	-53.7		08	5.4
25	25	25,146	-50.9		08	5.5
20	24	26,610	-47.4		08	3.1
15	19	28,515	-43.4		09	3.4
10	9	31,260	-36.8			

* FAIRBANKS, ALASKA — 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	135	5.4	-1.8	01	2.1
1000	30	110			02	1.2
950	30	533	5.9	-4.6	08	2.3
900	30	971	3.1	-7.0	10	2.2
850	30	1,431	-.2	-8.7	09	2.2
800	30	1,914	-3.7	-10.8	11	1.4
750	30	2,422	-7.1	-13.8	12	.5
700	30	2,956	-10.9	-17.6	21	.6
650	30	3,521	-14.5	-22.5	29	.4
600	30	4,124	-18.4	-26.8	27	1.4
550	30	4,767	-22.6	-31.3	27	2.2
500	30	5,462	-27.4	-34.9	24	2.6
450	30	6,210	-32.5	-39.5	24	3.8
400	30	7,036	-38.3	-43.3	24	4.3
350	30	7,942	-44.5	-44.8	25	5.3
300	30	8,961	-50.3		26	7.3
250	30	10,142	-52.7		27	7.5
200	30	11,586	-51.2		27	5.9
175	30	12,456	-50.0		26	4.8
150	30	13,465	-49.2		26	3.4
125	30	14,660	-49.3		26	2.3
100	30	16,122	-49.3		25	1.4
80	30	17,587	-48.8		27	.9
70	30	18,463	-49.3		06	.2
60	30	19,473	-49.3		09	.7
50	30	20,668	-49.1		08	1.4
40	30	22,133	-48.9		09	2.9
30	29	24,025	-48.3		09	4.8
25	28	25,228	-47.7		09	5.5
20	27	26,706	-46.5		09	6.3
15	23	28,639	-43.4		09	8.4
10	17	31,401	-38.7		08	9.2
7	5	33,809	-36.2			

FLINT, MICH. — 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	236	8.4	4.9	16	1.1
1000	31	140				
950	31	566	10.3	1.9	24	3.0
900	31	1,016	9.0	.9	27	4.3
850	31	1,489	6.7	-2.4	27	6.4
800	31	1,985	3.9	-5.3	28	8.5
750	31	2,504	1.4	-8.8	27	9.5
700	31	3,061	-1.4	-12.3	28	10.5
650	31	3,646	-4.7	-15.2	28	11.9
600	31	4,275	-8.2	-20.4	28	13.3
550	31	4,940	-12.5	-25.0	28	14.0
500	31	5,668	-17.1	-31.0	28	15.3
450	31	6,441	-22.6	-37.4	28	15.6
400	31	7,305	-28.8	-43.0	28	17.4
350	31	8,247	-35.8	-48.0	28	19.2
300	31	9,301	-43.4	-50.3	28	21.1
250	31	10,506	-51.0		28	23.1
200	31	11,933	-57.4		28	23.2
175	31	12,773	-58.1		28	22.9
150	31	13,747	-56.5		28	19.4
125	31	14,905	-56.4		28	17.5
100	31	16,319	-56.9		28	14.5
80	31	17,731	-57.3		28	10.1
70	31	18,575	-56.9		28	7.9
60	31	19,553	-56.5		29	4.4
50	30	20,709	-55.9		28	2.5
40	29	22,137	-53.9		03	.7
30	28	23,996	-52.1		10	2.7
25	25	25,191	-51.1		08	3.1
20	22	26,661	-48.4		08	4.0
15	20	28,583	-44.2		08	5.3
10	17	31,347	-37.7		08	3.0

FORT WORTH, TEXAS — 994 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	180	17.7	16.0	19	.7
1000	31	124				
950	31	566	18.4	13.7	20	4.7
900	31	1,028	16.9	10.9	21	5.2
850	31	1,514	14.3	7.5	21	4.1
800	31	2,024	11.5	2.8	22	2.4
750	31	2,561	8.4	-1.5	25	2.4
700	31	3,128	4.9	-6.4	27	3.1
650	31	3,727	.7	-10.5	28	3.4
600	31	4,368	-3.4	-14.9	28	3.7
550	31	5,045	-8.2	-20.2	27	5.0
500	31	5,785	-12.7	-26.5	27	5.6
450	31	6,576	-18.1	-32.7	26	5.3
400	31	7,451	-24.3	-39.1	27	6.2
350	31	8,411	-31.4	-44.9	27	7.2
300	31	9,484	-39.8	-50.1	27	7.9
250	31	10,705	-49.0		27	11.4
200	31	12,141	-57.3		26	17.0
175	31	12,982	-58.6		27	20.4
150	31	13,952	-58.2		27	20.6
125	31	15,093	-60.9		27	17.7
100	31	16,470	-63.7		27	13.0
80	31	17,832	-65.1		28	9.9
70	30	18,650	-64.8		29	6.9
60	30	19,593	-63.4		32	3.7
50	30	20,721	-60.0		03	1.8
40	28	22,124	-57.5		06	2.5
30	26	23,951	-53.4		08	3.7
25	25	25,126	-51.2		08	3.7
20	24	26,587	-48.1		08	2.3
15	19	28,503	-44.6		05	.8
10	10	31,256	-38.2			

* See reference note at end of table

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT. 934 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	696	6.2	.2	06	1.5
1000	31	128				
950	31	556				
900	31	1,001	10.3	.5	34	2.0
850	31	1,476	8.3	-2.0	31	4.8
800	31	1,974	5.2	-5.4	30	6.4
750	31	2,499	1.6	-7.5	30	7.2
700	31	3,051	-1.9	-12.0	29	8.1
650	31	3,634	-5.6	-15.5	29	9.5
600	31	4,260	-9.7	-18.9	29	11.6
550	31	4,921	-13.6	-23.9	29	13.5
500	31	5,646	-18.1	-28.8	29	14.6
450	31	6,417	-23.4	-33.5	29	16.6
400	31	7,274	-29.7	-39.7	28	17.9
350	31	8,212	-37.1	-45.6	28	20.3
300	31	9,260	-45.1		29	22.3
250	31	10,454	-53.6		28	23.3
200	31	11,870	-58.5		28	22.4
175	31	12,712	-56.7		28	20.7
150	31	13,694	-54.7		28	17.9
125	31	14,861	-54.8		28	15.9
100	31	16,285	-55.4		29	12.3
80	31	17,707	-55.7		30	9.4
70	30	18,559	-55.6		30	6.8
60	30	19,542	-55.1		31	5.1
50	30	20,705	-55.0		32	3.8
40	30	22,134	-53.8		34	2.4
30	30	23,990	-51.8		06	3.5
25	28	25,172	-50.5		08	4.0
20	27	26,631	-48.4		08	6.3
15	26	28,539	-44.7		09	6.7
10	22	31,303	-37.4		09	6.2
7	11	33,762	-32.2			
5						

GRAND JUNCTION, COLO. 850 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	1,472	12.9	-1.2	12	3.1
1000	31	80				
950	31	517				
900	31	987				
850	31	1,471			13	3.5
800	31	1,984	14.7	-2.5	15	2.8
750	31	2,520	11.4	-5.3	24	1.6
700	31	3,098	7.4	-8.5	28	2.8
650	31	3,696	2.3	-11.1	27	3.9
600	31	4,344	-3.2	-13.7	26	4.8
550	31	5,019	-8.9	-17.1	26	5.5
500	31	5,757	-14.3	-24.7	26	6.6
450	31	6,543	-19.9	-33.0	26	6.9
400	31	7,412	-26.5	-39.4	27	6.8
350	31	8,362	-33.8	-46.0	27	7.9
300	31	9,423	-42.5	-52.7	27	8.7
250	31	10,629	-51.9		27	9.6
200	31	12,048	-58.9		26	12.1
175	31	12,885	-59.2		27	12.6
150	31	13,853	-57.9		27	13.2
125	31	15,003	-57.9		27	12.3
100	31	16,404	-59.7		27	9.9
80	31	17,795	-61.0		28	7.3
70	31	18,624	-60.8		29	5.2
60	31	19,582	-60.7		30	3.5
50	31	20,721	-59.0		34	2.0
40	31	22,128	-56.5		02	1.4
30	29	23,973	-53.3		06	2.6
25	25	25,143	-51.2		07	2.1
20	24	26,599	-48.8		07	1.8
15	20	28,489	-44.8		05	3.0
10	14	31,217	-38.6		12	1.7
7	5	33,690	-32.2			
5						

* GREAT FALLS, MONT. 888 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	1,118	7.3	-.3	22	2.2
1000	31	126				
950	31	560				
900	31	1,013				
850	31	1,483	9.1	-2.6	25	3.1
800	31	1,983	6.1	-4.6	28	2.9
750	31	2,509	2.4	-6.7	29	4.0
700	31	3,063	-1.5	-8.8	28	5.6
650	31	3,651	-4.9	-13.7	27	7.1
600	31	4,276	-8.6	-18.5	27	9.5
550	31	4,945	-12.7	-23.7	27	12.2
500	31	5,667	-17.4	-28.9	27	12.6
450	31	6,446	-23.1	-34.0	28	13.7
400	31	7,301	-29.3	-39.3	28	16.1
350	31	8,240	-36.4	-45.2	27	17.1
300	31	9,290	-44.5		27	18.4
250	31	10,487	-53.1		28	21.1
200	31	11,903	-58.6		28	19.9
175	31	12,742	-57.6		28	18.3
150	31	13,720	-55.6		27	16.8
125	31	14,883	-55.3		28	14.2
100	31	16,303	-55.7		28	11.7
80	29	17,721	-56.1		28	8.8
70	29	18,571	-55.8		29	7.4
60	29	19,552	-55.8		30	5.6
50	29	20,715	-55.1		32	2.9
40	29	22,143	-54.3		36	2.2
30	28	23,992	-52.3		06	3.6
25	27	25,172	-50.7		07	4.0
20	27	26,633	-48.7		07	5.5
15	24	28,525	-45.1		08	4.2
10	19	31,247	-39.5		07	5.7
7	13	33,690	-33.3		09	3.6
5	9	36,074	-27.8			

GREEN BAY, WIS. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	210	7.5	4.7	34	.7
1000	31	133				
950	31	562	9.8	1.7	28	1.5
900	31	1,006	8.6	.0	28	3.4
850	31	1,477	6.2	-1.0	27	5.5
800	31	1,972	3.2	-4.3	27	7.2
750	31	2,488	.3	-9.6	28	8.7
700	31	3,044	-2.4	-14.4	28	10.0
650	31	3,623	-5.4	-17.4	28	11.3
600	31	4,254	-9.0	-21.0	28	13.2
550	31	4,915	-13.1	-25.1	28	14.1
500	31	5,643	-17.3	-30.7	28	15.3
450	31	6,415	-23.2	-36.5	28	16.7
400	31	7,275	-29.3	-42.5	28	18.[illegible]
350	31	8,216	-36.2	-47.0	28	21.0
300	31	9,268	-44.0		28	23.9
250	31	10,471	-51.7		28	24.2
200	31	11,896	-57.8		28	25.4
175	31	12,737	-57.9		29	22.9
150	31	13,714	-55.9		28	19.9
125	31	14,875	-56.0		28	16.5
100	31	16,292	-56.4		29	13.5
80	31	17,706	-56.5		28	11.5
70	31	18,554	-56.4		29	8.8
60	31	19,533	-55.9		29	5.7
50	31	20,696	-54.9		30	3.1
40	31	22,127	-53.4		35	1.4
30	31	23,985	-52.1		09	2.2
25	31	25,169	-50.9		08	3.0
20	31	26,628	-48.9		08	3.8
15	30	28,538	-45.1		08	4.6
10	20	31,260	-38.8		06	4.5
7	8	33,697	-33.9			
5						

GREENSBORO, N. C. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	273	14.4	11.6	22	.6
1000	31	158				
950	31	595	16.2	8.7	23	1.5
900	31	1,053	14.1	5.8	25	1.8
850	31	1,534	11.4	2.6	27	2.6
800	31	2,038	8.4	-.8	28	3.9
750	31	2,565	5.4	-5.8	28	4.3
700	31	3,130	2.0	-10.5	27	4.1
650	31	3,723	-1.5	-14.4	26	5.1
600	31	4,358	-5.2	-18.8	26	5.9
550	31	5,038	-9.3	-24.[illegible]	26	6.2
500	31	5,769	-13.3	-30.2	26	6.8
450	31	6,559	-18.5	-35.3	27	8.1
400	31	7,430	-25.0	-41.2	27	9.0
350	31	8,386	-32.1	-47.1	27	10.5
300	31	9,457	-40.0	-50.7	27	11.9
250	31	10,677	-49.0		27	13.2
200	31	12,112	-57.4		28	14.2
175	31	12,951	-59.4		28	16.4
150	31	13,918	-58.4		28	17.0
125	31	15,062	-59.3		28	17.8
100	31	16,453	-61.4		28	15.4
80	31	17,838	-61.3		29	10.3
70	31	18,567	-60.8		29	6.8
60	30	19,633	-59.9		29	4.2
50	30	20,777	-57.7		32	1.7
40	30	22,192	-55.6		07	1.8
30	30	24,039	-52.4		09	2.5
25	30	25,223	-50.4		09	2.2
20	28	26,682	-47.8		08	1.9
15	24	28,594	-44.1		08	1.4
10	11	31,361	-38.1			
7						
5						

* GUAM, MARIANA IS. 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	111	25.7	23.3	09	4.4
1000	31	106				
950	31	558	23.2	21.7	09	9.6
900	31	1,030	20.8	17.2	09	10.3
850	31	1,523	18.2	13.1	09	8.4
800	31	2,041	15.8	7.8	09	7.4
750	31	2,589	13.2	1.6	09	7.0
700	31	3,164	10.1	-3.5	09	5.8
650	31	3,778	6.7	-6.9	07	4.5
600	31	4,430	3.5	-13.0	07	3.7
550	31	5,128	-.3	-17.9	07	3.3
500	31	5,886	-4.8	-22.7	07	2.4
450	31	6,701	-9.6	-26.9	07	1.8
400	31	7,606	-15.3	-31.5	33	1.5
350	31	8,601	-22.2	-37.5	30	2.8
300	31	9,715	-30.4	-44.8	28	4.5
250	31	10,984	-40.3	-52.7	27	8.3
200	31	12,464	-52.5		27	10.4
175	31	13,312	-59.4		26	10.2
150	31	14,259	-66.8		27	9.1
125	30	15,399	-74.5		28	6.7
100	30	16,617	-79.4		35	1.8
80	30	17,884	-78.4		08	5.9
70	29	18,654	-75.1		09	7.9
60	29	19,561	-69.6		09	8.4
50	29	20,666	-63.6		09	9.9
40	29	22,050	-59.4		08	10.0
30	29	23,880	-53.2		08	6.5
25	29	25,065	-49.9		08	5.3
20	29	26,535	-46.9		07	4.0
15	27	28,461	-43.5		06	4.9
10	24	31,201	-41.0		08	5.9
7	23	33,636	-38.9		09	9.5
5	14	35,956	-35.4			

HILO, HAWAII 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	11	20.8	18.1	24	2.3
1000	31	146	21.0	18.3	24	1.6
950	31	591	17.9	16.1	10	1.4
900	31	1,051	14.8	13.2	09	2.1
850	31	1,534	12.1	10.2	09	1.8
800	31	2,041	10.9	4.2	12	1.1
750	31	2,584	9.4	-3.6	17	1.4
700	31	3,149	8.0	-10.0	22	1.3
650	31	3,756	5.3	-14.6	25	2.0
600	31	4,407	1.7	-18.7	26	3.2
550	31	5,097	-2.7	-22.3	26	4.1
500	31	5,851	-7.9	-26.5	26	5.3
450	31	6,655	-13.9	-30.3	27	7.8
400	31	7,546	-20.2	-35.0	27	11.6
350	31	8,522	-27.1	-40.9	27	15.9
300	31	9,617	-34.5	-47.2	26	20.0
250	31	10,868	-43.4		27	23.9
200	31	12,335	-54.0		27	23.5
175	31	13,180	-59.9		27	24.0
150	31	14,130	-65.6		26	20.1
125	31	15,223	-71.0		27	14.1
100	31	16,535	-73.2		27	8.2
80	31	17,848	-71.6		27	.3
70	31	18,639	-69.6		10	3.0
60	31	19,568	-65.5		09	6.4
50	30	20,687	-62.1		09	8.4
40	29	22,074	-59.3		09	10.4
30	29	23,897	-54.2		09	10.5
25	29	25,073	-51.5		09	8.7
20	27	26,535	-47.4		10	6.8
15	25	28,456	-43.7		09	4.3
10	19	31,210	-40.4		09	4.8
7	7	33,643	-35.8			
5						

HUNTINGTON W. VA. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	246	11.7	9.7	14	.6
1000	31	152				
950	31	587	15.1	8.4	23	2.1
900	31	1,043	13.5	5.8	26	4.5
850	31	1,522	10.5	3.4	27	6.7
800	31	2,025	7.4	.1	27	7.2
750	31	2,549	4.2	-5.6	27	7.7
700	31	3,112	.9	-9.5	27	7.7
650	31	3,700	-2.6	-13.5	27	7.8
600	31	4,335	-6.3	-18.5	27	8.5
550	31	5,002	-10.2	-25.5	27	9.6
500	31	5,739	-14.7	-31.1	27	10.1
450	31	6,520	-20.0	-35.8	27	9.9
400	31	7,392	-26.3	-41.1	28	11.9
350	31	8,345	-33.3	-47.1	27	13.1
300	31	9,409	-41.1	-53.2	28	15.5
250	31	10,626	-49.3		28	16.4
200	30	12,066	-57.4		28	17.4
175	30	12,906	-59.1		28	17.5
150	30	13,872	-58.5		28	16.7
125	30	15,021	-57.9		28	16.7
100	30	16,422	-59.6		28	14.3
80	30	17,817	-59.9		28	10.0
70	30	18,652	-59.3		29	7.2
60	30	19,619	-58.5		29	4.7
50	30	20,770	-56.9		31	2.3
40	29	22,188	-54.9		04	1.4
30	28	24,038	-52.0		08	1.8
25	26	25,223	-50.3		10	1.7
20	22	26,700	-47.6		09	1.8
15	14	28,632	-43.1		07	2.0
10						
7						
5						

* INTERNATIONAL FALLS, MINN. 97[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	28	360	4.2	.6	20	.6
1000	28	118				
950	28	539	6.6	1.1	22	1.8
900	28	982	6.1	-.9	25	4.8
850	28	1,449	3.5	-4.3	28	6.3
800	28	1,939	.6	-8.6	29	7.9
750	28	2,451	-2.4	-11.9	29	8.9
700	28	2,999	-5.8	-14.6	29	10.6
650	28	3,570	-8.9	-18.6	29	12.5
600	28	4,192	-12.5	-22.4	29	13.6
550	28	4,845	-16.6	-27.7	29	15.1
500	28	5,563	-21.0	-32.5	29	16.2
450	28	6,329	-26.3	-37.6	29	18.4
400	28	7,176	-32.1	-43.1	29	20.2
350	28	8,106	-38.8	-46.6	28	21.7
300	28	9,147	-46.3		28	25.2
250	28	10,342	-51.9		28	28.5
200	28	11,776	-54.6		28	25.9
175	28	12,631	-53.6		28	23.4
150	28	13,624	-52.8		28	18.8
125	28	14,799	-53.5		29	15.8
100	28	16,232	-54.4		28	13.0
80	28	17,663	-54.1		29	9.3
70	28	18,520	-54.0		30	7.6
60	28	19,511	-53.6		30	5.9
50	28	20,684	-53.4		31	3.4
40	27	22,122	-52.1		01	1.9
30	27	23,992	-50.5		08	1.3
25	27	25,183	-49.7		08	3.2
20	27	26,648	-48.0		09	4.5
15	27	28,560	-44.6		08	4.4
10	27	31,304	-39.2		09	4.4
7	23	33,770	-33.9		09	3.0
5	8	36,163	-29.5			

JACKSON, MISS. 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	100	16.1	15.0	10	.9
1000	31	133	17.0	14.6	11	1.1
950	31	577	18.4	11.5	15	2.6
900	31	1,036	16.0	8.3	18	3.3
850	31	1,521	13.6	4.4	18	2.3
800	31	2,029	10.6	.8	22	1.4
750	31	2,559	7.6	-4.6	25	1.3
700	31	3,130	4.2	-8.4	28	1.3
650	31	3,725	.5	-13.1	28	2.3
600	31	4,367	-3.2	-18.7	28	4.0
550	31	5,045	-7.3	-23.6	27	5.1
500	31	5,788	-11.7	-28.2	26	6.2
450	31	6,581	-17.2	-32.4	27	7.1
400	31	7,460	-23.4	-39.1	27	7.8
350	31	8,423	-30.7	-45.4	27	9.1
300	31	9,498	-39.3	-51.8	27	10.7
250	31	10,722	-48.2		27	13.4
200	31	12,164	-56.2		27	19.2
175	31	13,009	-57.8		27	22.0
150	31	13,980	-58.6		27	22.3
125	31	15,120	-61.1		27	20.6
100	31	16,498	-63.8		27	16.9
80	31	17,861	-65.3		28	10.9
70	31	18,674	-65.0		29	6.9
60	31	19,618	-63.2		31	3.7
50	31	20,748	-60.1		35	1.5
40	31	22,149	-57.3		05	1.9
30	30	23,980	-53.4		07	2.1
25	30	25,160	-51.0		06	2.0
20	29	26,617	-48.9		07	1.9
15	26	28,532	-43.9		04	.6
10	15	31,297	-38.1		26	2.1
7	8	33,757	-34.0			
5						

JOHN F. KENNEDY INT. AP NY 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	30	5	13.7	6.1	25	1.8
1000	30	153	12.8	5.0	25	2.7
950	30	585	12.6	2.6	26	5.4
900	30	1,037	10.4	1.3	27	7.3
850	30	1,510	8.1	-1.6	27	8.6
800	30	2,009	5.6	-5.1	27	10.0
750	30	2,533	2.9	-10.1	28	11.7
700	30	3,090	-.1	-14.2	28	12.8
650	30	3,675	-3.1	-17.1	28	14.4
600	30	4,310	-6.5	-20.9	28	15.3
550	30	4,976	-10.8	-24.8	28	16.5
500	30	5,711	-15.5	-29.2	28	17.7
450	30	6,492	-21.1	-34.2	28	19.5
400	30	7,358	-27.0	-40.1	27	20.8
350	30	8,307	-34.0	-46.3	27	21.7
300	30	9,369	-42.0	-49.4	28	24.4
250	30	10,580	-50.7		28	25.5
200	30	12,009	-57.9		28	25.9
175	30	12,849	-58.3		28	23.8
150	30	13,821	-57.7		28	22.7
125	30	14,973	-57.6		27	19.9
100	29	16,375	-58.1		28	14.7
80	29	17,781	-57.8		28	10.7
70	29	18,624	-57.4		28	6.7
60	28	19,603	-56.7		28	3.9
50	28	20,764	-55.3		26	1.4
40	28	22,192	-53.8		10	1.7
30	26	24,049	-52.0		08	2.7
25	25	25,233	-49.9		08	3.2
20	22	26,695	-48.0		08	4.1
15	17	28,597	-43.7		08	2.0
10	9	31,326	-36.9			
7						

JOHNSTON IS., PACIFIC AREA 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	3	25.0	21.1	07	7.0
1000	31	134	23.9	20.5	07	7.6
950	31	582	20.2	18.2	08	8.6
900	31	1,047	17.2	13.7	08	8.0
850	31	1,534	14.4	10.2	08	6.2
800	31	2,046	13.4	1.1	09	3.9
750	31	2,588	11.5	-5.9	08	2.3
700	31	3,161	8.9	-11.3	01	1.1
650	31	3,767	6.0	-14.4	32	1.4
600	31	4,422	2.4	-17.5	28	1.9
550	31	5,113	-2.1	-21.7	26	2.5
500	31	5,870	-6.8	-26.2	26	3.9
450	31	6,677	-12.3	-29.8	26	5.1
400	31	7,575	-17.9	-34.7	27	7.8
350	31	8,561	-24.3	-40.1	28	11.5
300	31	9,667	-31.9	-46.8	27	15.0
250	31	10,929	-41.5	-54.0	27	20.5
200	31	12,406	-52.8		27	25.3
175	31	13,255	-59.4		27	24.8
150	31	14,204	-66.2		27	23.0
125	31	15,292	-72.4		27	18.7
100	29	16,593	-75.5		27	11.6
80	28	17,888	-74.3		29	3.3
70	28	18,670	-71.7		08	1.9
60	28	19,590	-67.1		09	6.9
50	28	20,703	-62.3		09	9.7
40	28	22,093	-58.4		09	10.9
30	28	23,920	-53.6		09	9.2
25	28	25,100	-50.3		09	7.7
20	28	26,568	-46.6		08	6.8
15	28	28,491	-42.9		09	6.8
10	18	31,241	-39.1		10	5.6
7	8	33,686	-35.6			

KEY WEST, FLA. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	19	3	25.2	21.0	11	1.7
1000	19	110	24.5	20.5		
950	19	553	21.5	18.1		
900	19	1,026	18.8	14.7		
850	19	1,516	16.0	11.0		
800	19	2,030	13.3	5.6		
750	19	2,565	10.1	.9		
700	19	3,141	6.8	-3.2		
650	19	3,745	3.5	-6.6		
600	19	4,393	-.5	-12.5		
550	19	5,076	-4.4	-19.8		
500	19	5,829	-9.4	-22.1		
450	19	6,627	-14.8	-27.5		
400	19	7,518	-20.9	-32.6		
350	19	8,492	-27.7	-37.5		
300	19	9,584	-34.8	-46.6		
250	19	10,835	-43.5			
200	18	12,304	-52.3			
175	18	13,158	-57.5			
150	18	14,119	-62.6			
125	18	15,231	-67.1			
100	18	16,562	-71.2			
80	18	17,878	-71.4			
70	18	18,669	-69.4			
60	18	19,597	-65.7			
50	18	20,712	-62.6			
40	17	22,102	-58.9			
30	16	23,928	-53.5			
25	16	25,108	-50.8			
20	15	26,575	-46.9			
15	15	28,497	-43.0			
10	15	31,257	-38.6			
7	12	33,743	-35.1			

KING SALMON, ALASKA 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	15	3.6	-.7	11	1.7
1000	31	68			15	1.6
950	31	482	3.0	-2.0	13	4.1
900	31	922	.8	-3.9	12	5.3
850	31	1,380	-1.9	-7.1	12	5.3
800	31	1,860	-4.4	-10.3	13	6.0
750	31	2,365	-7.1	-14.4	14	6.2
700	31	2,902	-10.5	-17.5	15	5.6
650	31	3,467	-13.9	-21.0	14	5.2
600	31	4,073	-17.6	-25.1	13	5.3
550	31	4,714	-21.5	-30.7	14	5.6
500	31	5,416	-26.1	-34.7	15	5.6
450	31	6,166	-31.1	-38.9	14	5.3
400	31	6,997	-36.8	-42.5	15	5.5
350	31	7,911	-42.3	-45.6	15	5.1
300	31	8,941	-47.3		17	4.5
250	31	10,137	-50.6		18	5.8
200	31	11,589	-50.8		19	4.1
175	31	12,462	-49.3		19	4.1
150	31	13,474	-48.9		19	3.4
125	31	14,671	-48.9		19	2.4
100	31	16,136	-48.9		18	2.1
80	30	17,601	-49.0		17	1.9
70	29	18,483	-49.4		17	2.2
60	28	19,489	-50.0		16	1.5
50	28	20,680	-50.5		13	1.9
40	28	22,136	-50.2		10	2.2
30	27	24,015	-49.7		10	3.7
25	26	25,212	-49.0		09	5.0
20	25	26,688	-47.2		09	5.9
15	22	28,616	-44.4		08	7.1
10	8	31,427	-38.9			
7						

* KOROR, CAROLINE IS. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed (mps)
SURFACE	31	30	28.3	25.0	09	2.7
1000	31	94	27.3	23.6	09	2.9
950	31	542	23.7	20.0	09	5.1
900	31	1,018	21.0	16.3	10	5.5
850	31	1,512	18.6	13.0	10	5.0
800	31	2,030	16.1	9.5	10	4.9
750	31	2,571	13.3	5.9	10	5.4
700	31	3,155	10.4	1.9	09	5.3
650	31	3,766	7.2	-1.7	09	5.4
600	31	4,423	3.6	-6.4	09	5.3
550	31	5,117	-.2	-10.4	09	5.2
500	31	5,881	-4.3	-15.5	09	4.5
450	31	6,702	-8.7	-21.5	09	4.4
400	31	7,609	-14.5	-27.9	08	4.5
350	31	8,607	-21.2	-34.9	09	4.5
300	31	9,726	-29.4	-43.5	10	4.7
250	31	11,000	-39.6	-52.9	12	4.0
200	31	12,485	-52.0		14	3.0
175	31	13,335	-59.1		18	2.6
150	31	14,284	-66.7		25	2.8
125	31	15,364	-74.0		27	3.3
100	31	16,645	-79.5		03	2.8
80	30	17,915	-77.4		08	6.9
70	30	18,689	-72.8		08	8.0
60	30	19,604	-68.0		08	8.1
50	30	20,715	-62.0		09	6.1
40	29	22,114	-56.6		06	2.7
30	28	23,964	-51.4		29	2.0
25	27	25,159	-48.2		26	3.7
20	25	26,637	-45.5		25	5.1
15	23	28,571	-41.7		24	4.1
10	22	31,336	-38.8		20	1.7
7	11	33,787	-35.6			

* See reference note at end of table

RAWINSONDE DATA

Average monthly values

KOTZEBUE, ALASKA 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	5	.5	-4.9	07	1.1
1000	26	122	3.5	-5.0	08	2.8
950	26	535	3.3	-5.8	11	3.1
900	26	975	.7	-8.0	12	2.9
850	26	1,431	-2.1	-10.2	13	3.0
800	26	1,910	-5.1	-13.2	14	2.8
750	26	2,414	-8.2	-16.9	13	2.8
700	26	2,947	-11.4	-21.2	14	3.0
650	26	3,509	-15.1	-25.5	14	2.9
600	26	4,113	-19.1	-30.3	15	3.0
550	26	4,750	-23.0	-33.5	17	2.5
500	26	5,448	-27.6	-37.0	19	2.3
450	26	6,197	-32.7	-41.0	19	1.7
400	26	7,021	-37.8	-42.4	23	3.3
350	26	7,929	-44.0	-43.9	25	4.2
300	26	8,948	-50.3		25	4.5
250	26	10,127	-53.7		25	4.4
200	26	11,563	-52.0		23	2.1
175	26	12,432	-49.9		23	2.0
150	26	13,442	-49.2		21	1.2
125	26	14,637	-49.2		15	.5
100	26	16,103	-48.7		12	.9
80	26	17,570	-48.7		13	.8
70	26	18,448	-48.9		12	1.2
60	26	19,460	-49.2		10	1.0
50	26	20,655	-49.2		11	2.4
40	26	22,121	-48.8		10	2.8
30	25	24,008	-48.3		09	5.1
25	24	25,204	-47.8		09	4.8
20	23	26,677	-47.0		09	6.1
15	22	28,583	-44.6		09	7.7
10	18	31,334	-39.9		08	8.6
7	7	33,844	-36.7			
5						
4						

KWAJALEIN, MARSHALL IS. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	28.6	25.8	08	8.1
1000	31	100	26.2	23.0	08	8.9
950	31	552	22.9	20.1	07	11.0
900	31	1,023	20.3	16.7	08	10.8
850	31	1,516	18.2	12.9	09	9.9
800	31	2,035	15.9	9.7	09	8.9
750	31	2,582	13.3	6.0	09	8.4
700	31	3,160	10.4	2.7	09	7.0
650	31	3,774	6.9	-2.0	09	5.3
600	31	4,429	3.3	-5.3	09	3.9
550	31	5,130	-.7	-9.5	09	2.7
500	31	5,886	-4.8	-14.2	09	1.4
450	31	6,709	-9.2	-20.9	07	.6
400	31	7,610	-14.9	-26.2	36	.4
350	31	8,608	-21.3	-34.2	22	2.0
300	31	9,726	-29.9	-43.2	22	3.5
250	31	10,998	-40.3	-50.5	22	6.2
200	31	12,477	-53.1	-61.9	23	7.9
175	31	13,324	-60.0	-67.9	24	8.2
150	30	14,269	-67.5		25	9.3
125	30	15,345	-75.5		26	10.6
100	29	16,622	-79.4		26	6.9
80	27	17,892	-77.2		11	2.8
70	26	18,666	-73.7		09	5.0
60	24	19,577	-68.3		08	6.3
50	24	20,683	-63.4		08	7.2
40	21	22,077	-57.4		06	4.6
30	20	23,918	-52.3		34	1.2
25	20	25,105	-49.5		31	2.2
20	19	26,577	-46.4		32	.8
15	18	28,502	-43.8		34	2.9
10	13	31,257	-41.0		10	4.2
7	7	33,703	-38.9			

LAKE CHARLES, LA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	19.0	17.8	05	1.0
1000	31	123	20.6	17.8	10	1.0
950	31	565	18.9	14.2	16	3.6
900	31	1,029	16.3	11.1	16	3.9
850	31	1,515	14.2	6.8	18	3.0
800	31	2,024	11.3	1.3	20	2.6
750	31	2,557	8.1	-3.1	23	2.8
700	31	3,127	5.1	-8.6	25	2.9
650	31	3,725	1.5	-13.5	26	3.7
600	31	4,369	-2.5	-18.1	27	4.7
550	31	5,047	-6.7	-24.4	27	6.4
500	31	5,792	-11.6	-28.3	28	6.7
450	31	6,586	-16.8	-34.8	27	8.6
400	31	7,466	-23.2	-39.9	27	10.9
350	30	8,430	-30.5	-45.6	27	13.0
300	30	9,508	-38.5	-51.2	27	14.2
250	30	10,737	-47.0		27	17.6
200	30	12,188	-55.1		27	25.4
175	30	13,037	-56.8		27	27.0
150	30	14,011	-58.7		27	25.8
125	30	15,146	-62.5		27	22.0
100	30	16,514	-65.4		27	15.2
80	30	17,865	-67.1		28	9.6
70	30	18,673	-65.9		30	5.8
60	30	19,612	-64.1		33	2.4
50	30	20,737	-60.7		05	2.2
40	30	22,138	-57.5		08	3.2
30	30	23,972	-53.6		08	3.9
25	29	25,151	-50.9		08	3.4
20	29	26,615	-47.7		08	2.4
15	28	28,531	-43.5		07	1.5
10	19	31,263	-38.0		27	2.6
7	8	33,691	-33.6			

LANDER, WYO. 829 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,696	7.9	-.1	25	1.4
1000	31	117				
950	31	549				
900	31	1,007				
850	31	1,488				
800	31	1,992	8.8	-2.4	30	1.6
750	31	2,524	6.7	-4.8	31	1.6
700	31	3,088	3.3	-8.3	28	3.6
650	31	3,679	-.8	-12.3	28	6.2
600	31	4,320	-5.2	-18.9	28	8.7
550	31	4,990	-10.1	-23.8	27	9.9
500	31	5,726	-15.4	-29.3	27	10.7
450	31	6,505	-21.0	-36.2	27	10.9
400	31	7,374	-27.8	-42.6	27	11.3
350	31	8,319	-35.1	-48.0	27	13.0
300	31	9,375	-43.4		27	14.1
250	31	10,578	-52.4		27	14.9
200	31	11,992	-60.0		27	16.1
175	31	12,825	-59.7		27	15.1
150	31	13,793	-57.8		27	15.3
125	31	14,943	-57.7		27	13.3
100	31	16,349	-58.3		28	11.3
80	31	17,753	-58.8		28	9.5
70	31	18,592	-58.7		29	6.4
60	30	19,560	-58.8		30	3.9
50	29	20,709	-58.0		32	2.6
40	29	22,123	-55.9		01	1.7
30	29	23,965	-53.4		06	3.0
25	29	25,144	-51.4		07	3.9
20	28	26,602	-48.9		07	4.8
15	24	28,502	-45.2		08	4.3
10	20	31,251	-38.2		08	3.8
7	10	33,737	-33.3			
5	5	36,151	-29.5			

• LIHUE KAUAI, HAWAII 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	36	22.2	18.3	04	2.7
1000	31	153	22.0	18.3	04	3.9
950	31	594	18.7	16.5	06	5.7
900	31	1,060	15.5	13.4	06	5.1
850	31	1,544	12.9	8.5	06	4.3
800	31	2,052	11.1	.1	07	2.8
750	31	2,588	9.3	-6.8	09	1.4
700	31	3,159	7.1	-10.3	06	.6
650	31	3,762	5.1	-16.0	28	.7
600	31	4,415	1.9	-19.8	28	2.2
550	31	5,106	-2.5	-24.2	27	3.6
500	31	5,861	-7.7	-27.8	26	4.2
450	31	6,667	-13.8	-31.4	27	5.3
400	31	7,556	-20.5	-37.2	27	7.3
350	31	8,529	-27.6	-43.2	27	9.5
300	31	9,621	-35.3	-49.7	27	13.5
250	31	10,867	-43.8		27	18.4
200	31	12,331	-54.2		27	22.4
175	31	13,176	-59.6		27	23.5
150	31	14,128	-65.0		27	23.0
125	30	15,228	-69.2		27	19.0
100	28	16,552	-71.7		27	13.0
80	28	17,870	-70.6		26	7.6
70	28	18,667	-67.9		25	2.4
60	28	19,599	-64.9		10	2.5
50	28	20,719	-61.7		09	6.5
40	28	22,110	-58.8		09	8.6
30	28	23,931	-54.8		09	10.2
25	28	25,106	-51.5		09	9.8
20	28	26,566	-48.0		09	7.9
15	28	28,477	-44.9		09	5.3
10	26	31,215	-41.2		08	4.6
7	22	33,652	-36.9		09	6.4
5	12	35,999	-33.0			
4	6	37,566	-28.5			

LITTLE ROCK, ARK. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	79	15.3	14.1	36	.2
1000	31	129	16.1	14.0	07	.1
950	31	571	18.3	12.6	21	3.0
900	31	1,031	15.7	9.3	22	3.8
850	31	1,515	12.9	4.9	21	2.8
800	31	2,022	10.0	.6	22	2.3
750	31	2,553	6.8	-3.7	23	2.6
700	31	3,120	3.4	-7.9	28	3.0
650	31	3,713	-.2	-12.6	28	3.0
600	31	4,354	-4.1	-17.5	26	3.0
550	31	5,025	-8.1	-22.4	27	4.4
500	31	5,771	-12.7	-28.4	27	4.2
450	31	6,557	-18.1	-33.6	27	6.1
400	31	7,438	-24.4	-38.3	28	7.4
350	31	8,398	-31.3	-44.5	28	7.8
300	31	9,472	-39.6	-51.0	28	7.8
250	31	10,694	-48.9		28	9.1
200	31	12,130	-57.2		27	13.2
175	31	12,971	-58.9		27	16.3
150	31	13,940	-57.9		28	18.0
125	31	15,087	-59.2		28	17.1
100	31	16,476	-62.3		28	14.1
80	30	17,853	-62.5		29	9.6
70	30	18,677	-62.7		29	6.9
60	30	19,629	-61.4		30	4.3
50	30	20,767	-59.1		34	2.0
40	29	22,178	-56.5		05	2.4
30	28	24,013	-53.4		08	3.3
25	26	25,193	-51.2		09	2.9
20	24	26,658	-48.4		07	2.6
15	24	28,568	-44.6		06	1.3
10	19	31,281	-38.8		28	1.0
7	7	33,773	-33.4			
5						

MCGRATH, ALASKA 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	103	5.6	-1.9	05	.6
1000	31	87			19	.1
950	31	507	6.2	-2.9	08	2.8
900	31	949	3.7	-5.4	09	4.2
850	31	1,411	.3	-7.5	10	3.6
800	31	1,893	-3.6	-9.8	10	3.4
750	31	2,395	-7.1	-13.5	12	3.6
700	31	2,935	-10.5	-16.9	12	3.0
650	31	3,495	-14.4	-20.9	13	3.1
600	31	4,104	-18.3	-25.0	13	2.7
550	31	4,742	-22.3	-29.3	11	2.7
500	31	5,444	-26.6	-33.9	11	2.0
450	31	6,193	-31.6	-38.0	12	1.6
400	31	7,022	-37.4	-41.2	11	.9
350	31	7,931	-43.6	-42.9	15	1.1
300	31	8,954	-49.1		19	1.5
250	31	10,138	-52.4		21	3.1
200	30	11,582	-51.6		21	3.9
175	30	12,452	-49.9		21	3.0
150	29	13,455	-48.8		21	1.6
125	29	14,652	-48.9		19	1.8
100	29	16,117	-48.9		18	1.7
80	29	17,582	-49.0		15	1.2
70	29	18,459	-49.2		14	1.2
60	29	19,469	-49.5		13	1.9
50	29	20,663	-49.6		10	2.1
40	28	22,134	-49.4		10	3.1
30	27	24,020	-48.6		09	5.0
25	27	25,220	-47.9		09	5.3
20	27	26,695	-46.9		09	6.3
15	27	28,615	-43.7		09	7.2
10	20	31,404	-37.9		08	8.5

• MAJURO, MARSHALL IS. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	29.0	25.2	07	5.3
1000	31	100	27.5	22.4	07	6.1
950	31	550	23.9	19.0	08	9.2
900	31	1,026	21.1	15.4	09	9.9
850	31	1,520	18.6	11.5	09	9.9
800	31	2,039	16.2	7.8	09	9.1
750	31	2,587	14.0	3.3	10	8.1
700	31	3,166	11.0	.0	10	6.6
650	31	3,780	7.6	-3.3	10	5.6
600	31	4,437	3.8	-7.4	09	4.9
550	31	5,130	-.2	-12.1	10	4.3
500	31	5,898	-4.3	-16.4	09	3.0
450	31	6,711	-8.6	-21.9	09	2.2
400	31	7,628	-14.0	-27.8	10	2.0
350	31	8,628	-20.7	-33.9	13	1.8
300	31	9,751	-28.9	-42.4	18	3.6
250	31	11,030	-38.8	-52.2	18	5.3
200	31	12,522	-50.9		20	5.4
175	31	13,377	-58.0		22	5.4
150	31	14,331	-65.7		23	7.4
125	31	15,417	-73.6		27	8.5
100	30	16,700	-79.2		27	5.8
80	30	17,972	-76.4		10	2.8
70	30	18,747	-72.9		09	6.1
60	30	19,662	-67.8		09	6.3
50	30	20,773	-62.4		09	5.6
40	29	22,172	-56.4		14	2.1
30	28	24,021	-50.8		26	2.5
25	28	25,217	-47.5		27	4.4
20	28	26,702	-44.2		26	5.8
15	24	28,642	-41.6		26	4.9
10	22	31,427	-37.2		18	1.2

• MEDFORD, OREG. 970 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	401	9.9	6.7	26	.3
1000	31	143				
950	31	579	11.7	6.3	29	.7
900	31	1,026	11.3	4.5	31	.4
850	31	1,502	9.4	.6	11	.5
800	31	2,003	7.0	-4.6	14	.6
750	31	2,530	4.0	-8.5	25	1.0
700	31	3,088	.5	-12.9	26	2.9
650	31	3,678	-3.1	-17.2	26	4.3
600	31	4,308	-6.8	-21.0	26	5.5
550	31	4,979	-11.2	-26.6	26	5.6
500	31	5,707	-16.0	-30.6	27	6.8
450	31	6,485	-21.6	-36.5	26	8.1
400	31	7,350	-27.8	-42.6	27	9.5
350	31	8,296	-34.8	-47.3	26	11.2
300	31	9,354	-42.6	-54.4	26	12.5
250	31	10,562	-50.9		27	13.5
200	31	11,988	-58.3		27	13.9
175	31	12,826	-59.0		27	14.4
150	31	13,797	-57.1		27	12.9
125	31	14,951	-57.4		26	11.7
100	31	16,359	-57.7		26	9.8
80	31	17,767	-58.2		26	5.5
70	31	18,608	-58.4		26	4.4
60	31	19,578	-58.4		26	2.4
50	31	20,725	-58.1		29	.8
40	31	22,136	-56.6		05	1.9
30	31	23,971	-54.3		06	2.7
25	31	25,143	-52.7		07	3.1
20	30	26,588	-50.2		07	3.8
15	30	28,484	-45.9		07	4.1
10	26	31,248	-38.8		08	5.5
7	20	33,724	-32.5		10	4.8
5	8	36,187	-26.4			

MERIDA, MEXICO 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	22.9	21.8	10	2.8
1000	31	109	23.9	22.7	10	4.3
950	31	560	22.8	19.9	13	8.4
900	31	1,030	21.6	13.2	13	7.0
850	31	1,526	19.5	9.2	12	3.7
800	31	2,045	16.2	6.6	17	1.0
750	31	2,591	12.7	3.5	25	1.7
700	31	3,168	9.5	-2.7	25	2.4
650	31	3,778	6.0	-9.5	28	3.4
600	31	4,431	2.2	-15.1	28	5.3
550	31	5,121	-2.2	-18.7	28	6.6
500	31	5,880	-6.7	-24.1	28	8.4
450	31	6,689	-12.0	-27.6	28	11.2
400	31	7,588	-17.3	-33.7	27	14.2
350	31	8,576	-23.6	-40.3	27	18.2
300	31	9,687	-31.1	-46.1	27	23.8
250	31	10,954	-40.5	-54.2	27	25.8
200	28	12,435	-51.6		27	26.9
175	27	13,290	-57.6		27	25.4
150	26	14,247	-64.1		27	19.5
125	26	15,348	-69.4		27	16.1
100	25	16,664	-73.4		28	8.7
80	25	17,965	-73.8		04	1.9
70	24	18,755	-69.5		07	5.9
60	24	19,687	-63.8		08	9.3
50	22	20,812	-60.1		08	9.7
40	22	22,217	-56.7		09	11.1
30	22	24,059	-52.1		09	9.7
25	22	25,247	-48.8		10	7.9
20	21	26,731	-44.1		09	7.4
15	20	28,680	-40.3		09	6.4
10	12	31,445	-37.3			
7	5	33,932	-33.8			

MIAMI, FLA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	23.8	20.4	08	1.7
1000	31	121	23.8	20.4	08	3.0
950	31	572	20.8	18.5	10	4.9
900	31	1,036	18.0	14.7	11	3.6
850	31	1,525	15.6	9.8	11	1.8
800	31	2,038	12.9	5.5	33	.1
750	31	2,579	10.2	1.0	29	1.4
700	31	3,150	6.9	-3.0	27	2.7
650	31	3,753	3.5	-7.2	27	4.5
600	31	4,402	-.3	-12.2	28	6.2
550	31	5,089	-4.2	-17.4	28	7.9
500	31	5,840	-8.7	-22.8	27	9.8
450	31	6,646	-14.2	-27.4	27	11.7
400	31	7,533	-20.2	-32.8	27	12.9
350	31	8,508	-27.2	-39.4	27	16.6
300	31	9,602	-34.6	-47.1	27	20.1
250	31	10,854	-42.9	-54.4	27	25.2
200	30	12,332	-51.7		28	29.8
175	30	13,188	-56.4		28	30.3
150	30	14,155	-61.4		28	29.6
125	29	15,274	-66.0		28	22.5
100	29	16,613	-69.6		28	13.6
80	29	17,940	-69.6		30	5.5
70	29	18,740	-67.5		35	3.2
60	29	19,674	-64.4		05	3.8
50	29	20,797	-60.8		07	5.3
40	29	22,197	-56.8		08	7.0
30	27	24,034	-52.3		09	6.3
25	25	25,221	-49.0		09	6.4
20	24	26,693	-45.2		09	5.6
15	22	28,628	-41.2		11	2.9
10	20	31,417	-36.1		08	1.8
7	10	33,890	-32.6			

MIDLAND, TEXAS 915 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	874	14.9	12.1	12	2.2
1000	31	109				
950	31	548				
900	31	1,011	16.3	12.0	15	4.2
850	31	1,498	16.1	7.0	18	7.1
800	31	2,012	14.4	.7	19	4.2
750	31	2,554	11.3	-4.5	22	1.5
700	31	3,127	7.2	-7.3	29	1.7
650	31	3,733	2.6	-10.6	30	2.9
600	31	4,374	-2.4	-15.3	29	4.5
550	31	5,055	-7.8	-19.5	29	5.3
500	31	5,792	-13.1	-25.6	27	5.4
450	31	6,583	-18.6	-32.7	26	6.5
400	31	7,455	-24.9	-40.0	25	7.2
350	31	8,412	-32.2	-45.7	25	8.8
300	31	9,481	-40.3	-49.6	25	10.6
250	31	10,701	-48.8		25	12.8
200	31	12,142	-55.8		26	16.7
175	31	12,989	-57.0		26	19.6
150	31	13,963	-58.3		26	20.1
125	31	15,106	-60.4		27	18.2
100	31	16,485	-63.7		27	12.2
80	31	17,846	-65.3		27	8.6
70	31	18,659	-64.9		29	6.3
60	31	19,604	-63.1		33	2.0
50	31	20,734	-60.5		04	1.5
40	31	22,136	-56.9		08	3.0
30	31	23,975	-53.1		08	2.3
25	30	25,156	-51.2		08	2.7
20	29	26,616	-47.6		08	1.7
15	27	28,536	-43.4		01	.5
10	21	31,277	-37.4		27	2.2
7	13	33,721	-32.8			

MONTERREY, MEXICO 967 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	423	20.9	19.0	12	1.1
1000	31	127				
950	31	574	20.4	18.4	12	2.4
900	31	1,040	18.2	15.6	13	4.3
850	31	1,529	16.7	9.5	14	4.3
800	31	2,044	14.7	2.7	14	3.6
750	31	2,588	12.0	-3.7	19	1.6
700	31	3,163	8.5	-9.2	25	3.1
650	31	3,772	4.3	-13.7	27	5.2
600	31	4,416	-.5	-17.3	27	7.4
550	31	5,105	-5.3	-23.8	27	9.0
500	31	5,847	-10.7	-28.5	26	9.7
450	31	6,647	-16.1	-34.6	27	11.6
400	31	7,527	-22.0	-39.6	26	15.8
350	31	8,495	-29.3	-45.1	26	20.5
300	31	9,578	-37.1	-51.8	26	23.4
250	31	10,818	-44.8		26	31.2
200	31	12,282	-53.0		26	35.6
175	31	13,134	-57.2		26	33.4
150	31	14,100	-61.0		26	27.3
125	31	15,220	-65.7		26	20.3
100	31	16,560	-70.0		26	13.1
80	31	17,886	-70.6		27	3.9
70	31	18,683	-68.2		36	1.5
60	31	19,616	-64.6		07	4.8
50	29	20,737	-61.5		08	6.0
40	27	22,133	-57.6		08	5.7
30	24	23,964	-53.5		08	6.1
25	24	25,147	-49.7		08	5.8
20	24	26,619	-46.4		08	5.1
15	20	28,556	-42.2		08	3.4

MONTGOMERY, ALA. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	57	16.7	15.6	06	.7
1000	31	141	18.0	15.3	09	1.4
950	31	581	18.6	12.1	14	2.8
900	31	1,045	16.2	9.4	16	3.0
850	31	1,529	13.1	6.2	18	2.4
800	31	2,037	10.1	2.0	22	1.7
750	31	2,569	7.1	-3.0	24	1.9
700	31	3,135	3.5	-7.2	27	1.9
650	30	3,731	.1	-12.1	30	3.0
600	30	4,371	-3.6	-18.0	29	4.0
550	30	5,046	-7.4	-24.3	28	6.0
500	30	5,791	-11.9	-29.9	29	6.8
450	30	6,583	-17.3	-35.1	29	7.2
400	30	7,463	-23.5	-39.7	28	8.5
350	30	8,424	-30.8	-46.1	28	9.8
300	30	9,501	-38.8	-52.8	28	11.2
250	30	10,727	-48.0		28	13.9
200	30	12,158	-56.4		28	18.5
175	30	13,013	-57.5		28	20.4
150	30	13,984	-58.5		27	22.5
125	30	15,125	-60.4		27	21.9
100	29	16,502	-63.4		27	16.9
80	29	17,868	-64.8		28	10.9
70	29	18,682	-64.9		29	6.9
60	29	19,629	-62.4		29	3.9
50	29	20,760	-60.1		03	1.7
40	29	22,163	-56.9		06	2.0
30	29	24,003	-52.9		08	4.3
25	28	25,186	-50.1		10	3.3
20	26	26,655	-47.7		09	2.2
15	23	28,564	-43.2		06	.8
10	21	31,326	-37.5		27	1.5
7	10	33,749	-33.1			

• NANTUCKET, MASS. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	25	14	11.8	8.8	27	1.5
1000	25	157	11.5	5.6	25	3.6
950	25	583	11.0	.5	27	6.8
900	25	1,036	8.5	-1.5	27	6.9
850	25	1,507	6.4	-3.7	27	8.0
800	25	2,002	4.3	-8.1	28	10.0
750	25	2,527	2.0	-12.8	27	11.3
700	25	3,079	-.7	-16.5	27	12.3
650	25	3,663	-3.9	-20.5	27	15.1
600	25	4,295	-7.4	-25.0	27	17.6
550	25	4,960	-11.3	-27.8	27	16.9
500	25	5,692	-15.8	-31.7	27	17.8
450	25	6,472	-20.8	-36.1	27	19.1
400	25	7,340	-26.4	-40.9	27	20.2
350	25	8,291	-33.5	-46.8	27	21.9
300	25	9,355	-41.6	-50.2	27	25.7
250	25	10,568	-50.4		27	25.8
200	25	11,996	-57.6		27	25.5
175	25	12,837	-58.6		27	24.2
150	25	13,806	-58.0		27	22.4
125	25	14,956	-57.4		27	19.4
100	25	16,364	-58.2		27	14.8
80	25	17,770	-57.7		27	10.0
70	25	18,613	-57.2		27	8.0
60	25	19,590	-56.5		27	5.5
50	25	20,749	-55.6		27	2.7
40	24	22,169	-54.3		23	.5
30	23	24,026	-52.4		07	1.1
25	23	25,209	-50.8		08	2.6
20	23	26,670	-48.5		07	2.8
15	22	28,580	-44.4		07	4.3
10	17	31,306	-38.9		08	1.6
7	8	33,725	-33.6			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

NASHVILLE, TENN. 997 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	180	14.8	13.0	10	.2
1000	31	151				
950	31	592	16.5	10.0	20	2.8
900	31	1,046	14.2	6.4	24	2.7
850	31	1,526	11.3	2.8	25	3.0
800	31	2,030	8.1	-.6	26	3.2
750	31	2,559	4.8	-4.5	26	3.1
700	31	3,120	1.7	-8.7	28	4.0
650	31	3,708	-1.8	-13.4	28	4.9
600	31	4,346	-5.4	-18.5	28	6.0
550	31	5,016	-9.1	-24.3	27	7.2
500	31	5,755	-13.6	-29.1	28	7.4
450	31	6,544	-18.9	-34.5	27	8.0
400	31	7,416	-25.0	-40.5	28	10.4
350	30	8,373	-32.1	-46.8	27	10.9
300	30	9,443	-40.5	-52.2	28	12.0
250	30	10,560	-49.5		28	13.5
200	30	12,094	-57.5		28	15.3
175	30	12,931	-59.7		28	16.7
150	30	13,896	-59.0		27	18.7
125	29	15,040	-59.5		28	17.6
100	29	16,431	-61.2		28	15.3
80	27	17,815	-62.3		28	11.1
70	27	18,639	-62.1		29	7.5
60	27	19,595	-60.9		30	4.0
50	27	20,734	-58.6		32	1.4
40	27	22,143	-56.3		05	1.1
30	27	23,986	-53.1		10	1.7
25	27	25,166	-51.1		08	1.7
20	27	26,627	-48.4		05	2.4
15	25	28,540	-44.2		11	1.4
10	22	31,299	-37.6		25	.8
7	12	33,843	-31.8			

*** NOME, ALASKA 1011 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	3.8	-3.5	04	2.9
1000	31	94			06	3.2
950	31	511	4.9	-5.4	10	5.4
900	31	952	2.1	-7.8	11	4.5
850	31	1,411	-1.0	-10.4	12	4.2
800	31	1,892	-4.2	-13.7	13	4.1
750	31	2,393	-7.3	-17.1	12	4.4
700	31	2,933	-10.5	-20.5	12	4.3
650	31	3,493	-13.9	-24.2	13	5.0
600	31	4,104	-17.5	-28.1	13	5.1
550	31	4,749	-21.4	-31.1	12	4.9
500	31	5,448	-25.6	-35.7	13	4.2
450	31	6,200	-30.7	-38.7	13	4.3
400	31	7,032	-36.6	-42.1	12	4.3
350	31	7,944	-42.9	-45.1	12	3.9
300	31	8,969	-49.3		13	2.7
250	31	10,150	-53.7		14	3.2
200	31	11,587	-51.5		16	1.7
175	31	12,459	-49.3		14	1.3
150	31	13,470	-49.1		11	1.2
125	31	14,666	-49.2		13	1.5
100	31	16,129	-49.0		11	1.5
80	31	17,594	-49.0		13	1.7
70	31	18,471	-49.1		12	1.9
60	31	19,482	-49.3		11	2.4
50	31	20,677	-49.1		10	3.3
40	31	22,141	-48.9		10	3.6
30	29	24,040	-48.4		10	4.8
25	29	25,242	-47.9		10	4.8
20	27	26,724	-46.6		09	5.8
15	26	28,647	-44.0		09	6.8
10	22	31,397	-39.1		08	8.7
7	13	33,838	-35.6			

NORTH PLATTE, NEBR. 917 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	847	10.3	8.2	13	.4
1000	31	113				
950	31	545				
900	31	999	11.5	7.6	18	1.2
850	31	1,478	11.3	4.7	23	2.4
800	31	1,984	10.1	-.7	25	2.8
750	31	2,519	7.1	-3.2	27	3.2
700	31	3,083	3.5	-6.8	28	4.2
650	31	3,676	-.5	-10.6	28	6.7
600	30	4,316	-5.1	-15.0	29	8.1
550	30	4,986	-9.9	-20.8	29	9.8
500	30	5,722	-14.7	-27.9	28	10.6
450	30	6,509	-20.1	-34.2	29	10.8
400	30	7,375	-26.5	-39.0	28	12.1
350	30	8,325	-33.9	-45.9	28	12.1
300	30	9,388	-42.4	-53.3	27	13.0
250	30	10,595	-51.8		27	14.9
200	30	12,012	-60.0		27	18.5
175	30	12,844	-60.2		27	17.9
150	30	13,810	-58.0		28	16.8
125	30	14,960	-58.0		28	15.0
100	30	16,362	-59.2		28	13.5
80	30	17,759	-59.6		29	9.7
70	30	18,593	-59.7		29	7.5
60	30	19,558	-59.1		31	5.0
50	30	20,704	-57.8		33	2.7
40	30	22,119	-55.6		01	1.7
30	29	23,961	-52.8		05	2.1
25	28	25,137	-51.3		07	2.9
20	27	26,589	-49.1		09	2.8
15	25	28,490	-45.1		09	3.2
10	21	31,231	-38.5		08	1.1
7	14	33,692	-33.5			

OAKLAND, CALIF. 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	6	11.8	9.5	25	1.2
1000	31	124	11.3	8.7	25	1.6
950	31	556	11.2	5.8	29	3.1
900	31	1,007	13.6	-.1	31	3.7
850	31	1,488	12.9	-4.4	32	3.3
800	31	1,995	10.5	-8.9	31	1.9
750	31	2,525	7.9	-12.4	29	2.1
700	31	3,096	4.5	-16.5	28	2.3
650	31	3,690	.5	-18.5	27	2.8
600	31	4,333	-3.8	-21.9	26	3.3
550	31	5,005	-8.4	-27.6	25	4.6
500	31	5,747	-13.4	-32.0	26	5.6
450	31	6,535	-19.2	-36.2	27	7.0
400	31	7,407	-26.0	-41.4	27	8.1
350	31	8,360	-33.5	-47.5	28	9.1
300	31	9,423	-41.8	-51.5	28	9.8
250	31	10,635	-50.8		29	11.1
200	31	12,060	-58.6		29	12.9
175	31	12,898	-59.1		28	12.6
150	31	13,866	-58.3		27	13.5
125	31	15,013	-58.6		27	11.9
100	31	16,410	-60.3		26	9.6
80	31	17,800	-60.4		26	7.1
70	31	18,630	-60.8		25	4.6
60	31	19,590	-60.1		27	2.0
50	31	20,728	-59.6		26	.4
40	30	22,127	-57.8		06	1.5
30	28	23,953	-55.0		06	2.3
25	28	25,123	-53.0		06	2.4
20	28	26,570	-50.1		06	2.5
15	26	28,467	-45.4		06	2.6
10	21	31,241	-37.2		08	2.9
7	9	33,755	-31.5			

OMAHA, NEBR. 967 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	403	12.4	9.9	[illegible]	.8
1000	31	123				
950	31	554	12.8	[illegible]	[illegible]	.8
900	31	[illegible]	12.1	5.9	23	2.1
850	31	1,487	9.9	3.5	25	2.7
800	31	1,989	7.3	[illegible]	[illegible]	3.9
750	31	2,516	4.6	[illegible]	27	5.3
700	31	3,078	1.5	-9.3	28	6.1
650	31	3,669	-2.4	-12.6	28	8.0
600	30	[illegible]	-6.4	-19.4	29	9.0
550	30	4,972	-10.6	-24.4	29	9.9
500	30	5,705	-15.3	-29.3	29	10.7
450	30	6,487	-20.7	-35.5	28	11.4
400	30	7,357	-26.9	-40.3	28	13.3
350	30	8,305	-34.2	-46.5	28	15.0
300	30	9,365	-42.7	-51.2	28	16.3
250	30	10,571	-51.5		27	18.2
200	30	11,991	-59.6		27	20.0
175	30	12,823	-60.3		27	19.1
150	30	13,790	-57.8		28	17.3
125	30	14,938	-58.4		28	15.0
100	30	16,339	-59.0		28	13.2
80	30	17,736	-59.9		29	10.7
70	29	18,570	-59.3		29	8.2
60	29	19,537	-58.8		30	5.1
50	29	20,684	-57.7		32	2.9
40	27	22,103	-55.6		02	1.9
30	26	23,944	-53.3		07	2.4
25	24	25,120	-51.7		07	3.0
20	24	26,575	-49.3		08	2.9
15	19	28,466	-45.6		08	2.4
10	13	31,216	-38.6		06	3.1
7	7	33,617	-34.3			

+ PAGO PAGO, AMERICAN SAMOA 1012 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	28.0	23.3	12	5.7
1000	31	111	26.6	20.6	12	6.6
950	31	560	22.5	17.4	11	8.6
900	31	1,031	18.8	14.7	11	7.3
850	31	1,521	16.3	10.1	10	5.3
800	31	2,036	15.0	4.2	06	1.7
750	31	2,577	13.8	-1.4	34	.3
700	31	3,160	11.0	-5.5	26	1.0
650	31	3,771	7.6	-8.6	26	2.8
600	31	4,430	4.0	-12.3	26	3.0
550	31	5,125	.2	-17.1	27	3.1
500	31	5,891	-4.1	-22.1	26	2.6
450	31	6,706	-9.1	-27.7	24	3.6
400	31	7,617	-14.8	-32.1	25	5.1
350	31	8,615	-21.4	-38.2	25	6.7
300	31	9,733	-29.8	-45.6	25	8.2
250	31	11,005	-39.9	-53.8	26	10.5
200	31	12,491	-51.9		26	13.0
175	31	13,343	-58.8		26	12.3
150	31	14,294	-66.1		26	11.4
125	30	15,377	-73.5		25	12.3
100	30	16,663	-78.9		25	8.3
80	30	17,937	-76.1		26	3.8
70	30	18,714	-72.3		25	2.1
60	30	19,633	-66.8		06	.5
50	30	20,747	-62.4		03	2.3
40	30	22,139	-57.9		36	1.3
30	29	23,983	-51.2		29	3.2
25	29	25,175	-48.6		28	4.6
20	29	26,655	-45.2		28	7.0
15	28	28,590	-41.7		28	9.5
10	22	31,360	-36.8		26	8.5
7	8	33,842	-34.3			
5						

*** PEORIA, ILL. 992 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	200	11.1	8.4	11	.5
1000	31	134				
950	31	568	14.1	7.6	23	3.1
900	31	1,021	12.5	4.9	24	3.8
850	31	1,499	9.8	2.1	26	4.9
800	31	2,001	7.2	-2.2	26	6.7
750	31	2,529	4.2	-6.4	26	6.8
700	31	3,088	.9	-9.8	26	7.5
650	31	3,678	-2.4	-14.4	26	8.3
600	31	4,311	-6.3	-19.6	27	9.1
550	31	4,979	-10.4	-25.5	27	10.0
500	31	5,713	-14.9	-30.8	27	11.3
450	31	6,495	-20.4	-36.3	28	11.6
400	31	7,363	-26.9	-40.6	28	12.9
350	31	8,313	-33.7	-46.6	28	14.8
300	31	9,377	-41.4	-50.3	28	16.8
250	31	10,591	-50.2		28	17.9
200	31	12,020	-58.4		28	20.8
175	31	12,856	-59.8		28	19.8
150	30	13,816	-57.7		28	18.5
125	30	14,968	-57.5		28	17.1
100	30	16,374	-58.5		28	13.2
80	29	17,771	-59.1		28	9.9
70	29	18,608	-58.9		29	7.6
60	29	19,578	-57.8		29	5.1
50	29	20,729	-57.1		31	2.6
40	29	22,147	-54.7		01	.9
30	29	23,998	-52.1		09	1.7
25	29	25,182	-50.5		08	2.3
20	29	26,644	-48.5		08	2.2
15	29	28,553	-44.3		07	1.7
10	28	31,311	-37.4		08	2.3
7	23	33,806	-31.9		09	3.8
5	10	36,235	-25.3			

*** PITTSBURGH, PA. 975 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	359	11.3	7.7	25	1.0
1000	31	146				
950	31	578	13.2	5.3	25	3.2
900	31	1,031	11.6	1.9	27	6.0
850	31	1,507	8.8	-.4	28	7.7
800	31	2,006	6.1	-4.9	27	8.6
750	31	2,532	3.2	-7.6	27	9.7
700	31	3,088	.0	-10.2	28	10.0
650	31	3,675	-3.6	-15.0	27	11.1
600	31	4,307	-7.2	-20.1	27	12.3
550	31	4,975	-11.0	-25.0	27	12.6
500	31	5,706	-15.6	-29.8	27	13.5
450	31	6,486	-20.9	-35.9	27	14.3
400	31	7,355	-26.8	-41.0	28	15.6
350	31	8,305	-34.0	-46.4	28	16.6
300	31	9,367	-41.6	-50.3	28	17.4
250	31	10,583	-49.7		28	19.1
200	31	12,016	-57.5		28	21.1
175	31	12,855	-58.9		28	21.9
150	31	13,826	-57.4		28	20.1
125	31	14,980	-56.8		28	16.9
100	31	16,391	-57.9		28	14.3
80	30	17,792	-58.5		28	10.9
70	30	18,633	-57.8		29	8.3
60	30	19,607	-57.1		29	5.0
50	30	20,765	-55.8		28	2.8
40	30	22,192	-53.9		33	.8
30	29	24,050	-51.7		07	.7
25	29	25,236	-50.4		08	1.2
20	29	26,699	-48.2		07	1.7
15	29	28,608	-44.5		08	2.7
10	28	31,366	-37.6		08	2.9
7	23	33,879	-31.9		09	3.0
5	8	36,220	-28.2			

+ PONAPE, CAROLINE IS. 1005 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	39	28.1	24.6	07	3.5
1000	31	88	27.4	23.2	08	4.5
950	31	535	23.6	19.0	08	8.6
900	31	1,011	20.7	15.6	09	10.0
850	31	1,505	18.3	12.1	09	9.5
800	31	2,023	16.3	8.0	09	8.0
750	31	2,571	13.7	3.5	09	7.3
700	31	3,149	10.7	-.5	10	6.5
650	31	3,762	7.2	-3.4	10	5.9
600	31	4,419	3.5	-6.9	11	5.2
550	31	5,114	-.3	-10.3	11	4.2
500	31	5,878	-4.3	-16.1	11	4.0
450	31	6,699	-8.7	-21.7	11	2.8
400	31	7,608	-14.0	-27.8	11	1.9
350	31	8,609	-20.6	-35.0	13	1.6
300	31	9,731	-28.9	-43.2	15	1.5
250	31	11,008	-39.2	-52.8	19	2.0
200	31	12,496	-51.6		23	3.4
175	31	13,349	-58.8		25	4.8
150	30	14,300	-66.3		26	5.6
125	30	15,383	-74.2		28	7.0
100	30	16,664	-79.3		28	4.1
80	30	17,935	-76.6		08	4.6
70	30	18,709	-73.4		09	6.8
60	30	19,623	-68.0		10	6.9
50	30	20,732	-62.4		10	5.1
40	29	22,130	-56.7		08	1.7
30	29	23,973	-52.0		28	2.1
25	27	25,156	-49.0		25	5.1
20	26	26,633	-45.2		26	6.1
15	24	28,559	-43.0		25	3.7
10	20	31,325	-38.3		24	1.9
7	12	33,776	-35.6			

PORTLAND, MAINE 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	20	9.1	2.8	28	1.3
1000	31	139	8.9	.8	30	2.0
950	31	561	8.5	.0	28	4.9
900	31	1,010	6.7	-2.7	28	6.1
850	31	1,477	4.2	-5.2	28	8.1
800	31	1,968	1.6	-8.3	28	9.4
750	31	2,483	-.5	-13.1	28	10.6
700	31	3,035	-3.2	-17.1	28	12.7
650	31	3,613	-6.1	-20.7	28	15.4
600	31	4,242	-9.4	-23.4	28	16.8
550	31	4,902	-13.4	-26.9	28	18.4
500	31	5,628	-18.1	-31.5	28	19.7
450	31	6,398	-23.2	-36.0	28	21.5
400	31	7,259	-29.1	-41.1	28	22.8
350	31	8,201	-35.8	-46.1	27	25.4
300	31	9,256	-43.3	-50.8	28	29.2
250	31	10,462	-51.0		28	29.5
200	31	11,896	-55.8		28	28.7
175	31	12,745	-56.2		27	24.9
150	31	13,725	-55.5		27	22.0
125	31	14,890	-55.1		27	18.4
100	31	16,313	-55.5		27	13.3
80	31	17,733	-55.9		27	9.0
70	31	18,584	-55.6		27	5.9
60	31	19,567	-55.1		26	3.9
50	31	20,733	-54.5		23	1.3
40	30	22,164	-53.4		13	.8
30	26	24,027	-51.6		09	1.4
25	26	25,212	-50.6		09	2.0
20	24	26,677	-48.6		08	2.8
15	21	28,589	-44.4		08	3.6
10	15	31,389	-36.2		11	4.6
7	8	33,835	-32.3			

*** QUILLAYUTE, WASH. 1011 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	58	7.6	6.3	10	1.0
1000	31	144	9.0	6.3	10	.6
950	31	568	9.1	2.6	17	1.7
900	31	1,017	7.9	-1.6	20	2.4
850	31	1,487	6.1	-5.1	22	3.3
800	31	1,982	3.7	-8.8	23	3.7
750	31	2,505	1.0	-13.7	24	4.3
700	31	3,056	-1.8	-16.7	25	5.2
650	31	3,636	-5.2	-19.3	25	6.0
600	31	4,266	-9.0	-21.7	25	6.6
550	31	4,925	-13.2	-25.1	25	8.1
500	31	5,654	-17.9	-29.1	25	9.0
450	31	6,428	-23.2	-34.3	26	9.5
400	31	7,286	-29.5	-39.2	26	10.7
350	31	8,225	-36.6	-44.5	26	11.5
300	31	9,274	-44.6		26	12.9
250	31	10,472	-52.7		27	14.5
200	31	11,887	-58.9		27	16.5
175	31	12,727	-58.1		27	15.1
150	31	13,704	-55.4		26	13.0
125	31	14,867	-55.4		26	12.3
100	31	16,289	-56.1		27	9.3
80	31	17,708	-56.1		27	6.9
70	31	18,557	-56.2		27	5.9
60	30	19,535	-56.4		28	4.4
50	30	20,692	-56.4		30	2.6
40	30	22,112	-55.5		01	1.8
30	28	23,949	-54.1		07	3.1
25	28	25,122	-52.9		08	3.9
20	27	26,577	-50.6		08	4.3
15	25	28,476	-46.7		07	5.4
10	19	31,222	-40.6		07	7.0
7	14	33,670	-34.5		08	6.1
5	5	36,025	-29.6			
4						

RAPID CITY, S. DAK. 904 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	966	7.2	2.7	33	2.5
1000	31	124				
950	31	553				
900	31	1,002	7.9	1.2	33	3.0
850	31	1,479	10.7	.9	30	3.4
800	31	1,982	8.6	-2.5	31	4.8
750	31	2,507	5.4	-5.1	31	5.9
700	31	3,074	1.9	-8.2	30	6.7
650	31	3,663	-1.6	-13.1	29	8.5
600	31	4,301	-6.0	-17.3	29	10.7
550	31	4,966	-10.8	-20.5	29	12.3
500	31	5,702	-16.0	-26.3	29	13.8
450	31	6,483	-21.4	-33.1	29	14.7
400	31	7,347	-27.7	-39.1	29	16.0
350	30	8,291	-34.9	-45.1	28	15.9
300	30	9,349	-43.1		28	16.1
250	30	10,553	-52.2		28	18.4
200	30	11,969	-59.6		28	19.0
175	30	12,803	-59.3		27	18.8
150	29	13,782	-56.7		28	17.6
125	29	14,937	-57.0		28	16.1
100	29	16,347	-57.7		28	14.2
80	29	17,755	-57.7		29	10.1
70	29	18,596	-58.1		29	8.3
60	29	19,566	-57.9		30	6.1
50	29	20,719	-56.5		32	3.3
40	29	22,139	-55.0		35	2.3
30	27	23,986	-52.5		06	2.9
25	27	25,167	-51.2		07	4.3
20	26	26,622	-49.0		08	5.0
15	25	28,526	-45.2		08	5.2
10	21	31,280	-38.1		09	3.5
7	10	33,757	-33.0			

ST CLOUD, MINN. 977 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	316	9.3	5.8	18	.6
1000	31	118				
950	31	548	10.8	4.2	23	1.6
900	31	996	10.3	2.2	27	5.2
850	31	1,471	8.2	-3.3	28	6.7
800	31	1,969	5.2	-7.1	28	6.8
750	31	2,489	1.7	-9.1	28	8.0
700	31	3,045	-1.9	-11.9	28	9.6
650	31	3,627	-5.4	-16.6	28	10.8
600	31	4,255	-9.0	-21.7	28	13.6
550	31	4,917	-12.7	-26.6	28	15.1
500	31	5,646	-17.3	-32.2	28	17.0
450	31	6,420	-22.8	-37.2	28	18.4
400	31	7,281	-29.1	-43.0	28	20.3
350	31	8,221	-36.2	-48.7	28	21.6
300	31	9,273	-44.1		28	23.3
250	31	10,476	-51.5		28	25.1
200	31	11,902	-57.8		28	26.0
175	31	12,742	-58.0		28	24.2
150	31	13,720	-55.5		28	20.0
125	31	14,882	-55.4		29	16.8
100	31	16,304	-56.4		29	13.5
80	31	17,720	-56.0		29	10.7
70	31	18,569	-55.8		29	7.9
60	31	19,551	-55.5		29	5.4
50	31	20,714	-54.9		31	3.7
40	31	22,147	-52.8		03	2.0
30	29	24,006	-51.0		08	2.4
25	28	25,194	-49.9		09	2.4
20	26	26,663	-47.8		08	3.5
15	22	28,598	-44.1		10	4.0
10	9	31,265	-39.5			

*** ST PAUL IS., ALASKA 1005 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	10	1.5	.5	04	1.3
1000	31	53			11	1.7
950	31	470	1.0	-1.9	11	3.1
900	31	900	-1.1	-4.6	12	3.8
850	31	1,354	-3.0	-7.2	11	4.1
800	31	1,833	-5.4	-10.4	11	4.1
750	31	2,340	-8.1	-13.9	12	4.5
700	31	2,871	-10.8	-18.3	12	4.5
650	31	3,440	-13.7	-21.2	13	4.3
600	31	4,043	-17.1	-25.8	14	3.4
550	31	4,695	-20.8	-30.0	14	3.4
500	31	5,390	-25.1	-34.1	14	3.8
450	31	6,149	-30.0	-38.4	15	3.7
400	31	6,979	-35.8	-43.2	15	3.9
350	31	7,896	-42.2	-46.0	16	3.3
300	31	8,924	-48.8		17	4.1
250	31	10,112	-51.2		18	3.7
200	31	11,567	-49.3		23	3.3
175	31	12,444	-48.4		24	2.3
150	31	13,459	-48.4		24	2.1
125	31	14,656	-49.0		26	1.5
100	31	16,119	-49.5		23	1.5
80	31	17,579	-49.6		15	1.5
70	31	18,453	-49.8		15	1.3
60	31	19,459	-50.4		13	2.1
50	30	20,644	-50.9		12	2.7
40	30	22,096	-50.9		12	2.6
30	30	23,970	-50.5		10	3.9
25	30	25,161	-49.7		10	4.6
20	30	26,625	-48.5		09	6.0
15	30	28,529	-46.0		09	5.8
10	27	31,233	-41.8		09	6.0
7	25	33,679	-36.9		08	6.6
5	19	36,052	-32.3		09	7.6
4	7	37,540	-32.2			

SALEM, OREG. 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	61	9.3	6.9	24	.3
1000	31	142	10.2	7.0	30	.4
950	31	569	10.8	4.5	35	.9
900	31	1,021	10.0	.9	23	.9
850	31	1,494	8.1	-2.3	24	2.4
800	31	1,992	5.4	-5.3	24	3.5
750	31	2,512	2.5	-8.5	25	4.2
700	31	3,070	-1.2	-12.7	25	5.5
650	31	3,653	-4.4	-15.5	25	6.3
600	31	4,284	-7.9	-19.3	26	6.4
550	31	4,949	-11.9	-24.4	26	6.7
500	31	5,678	-16.8	-29.6	27	6.9
450	31	6,453	-22.5	-34.3	27	7.4
400	31	7,314	-28.9	-39.7	27	8.0
350	31	8,255	-36.1	-44.7	27	9.7
300	31	9,307	-43.9		27	10.4
250	31	10,509	-51.8		27	11.9
200	31	11,931	-58.3		27	15.1
175	31	12,770	-58.4		27	13.4
150	31	13,745	-56.4		26	12.3
125	31	14,902	-56.7		26	11.7
100	31	16,316	-56.7		26	9.3
80	31	17,729	-57.3		26	6.9
70	31	18,573	-57.1		26	4.8
60	31	19,548	-57.4		27	3.2
50	31	20,701	-57.2		29	1.3
40	31	22,115	-56.3		02	1.6
30	31	23,952	-54.1		06	2.6
25	29	25,126	-52.6		08	3.9
20	28	26,573	-50.0		08	4.1
15	25	28,486	-45.7		08	5.0
10	15	31,232	-38.3		07	6.1
7	6	33,659	-34.3			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

MAY 1969

SALT LAKE CITY, UTAH — 870 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,288	11.2	2.3	14	1.8
1000	31	100				
950	31	541				
900	31	1,002				
850	31	1,481	15.6	.8	15	2.4
800	31	1,993	13.3	-2.9	18	1.4
750	31	2,532	9.5	-6.0	27	.7
700	31	3,100	5.3	-8.9	29	2.6
650	31	3,699	.9	-11.4	26	3.3
600	31	4,338	-4.1	-15.2	26	5.2
550	31	5,015	-9.2	-20.8	25	7.0
500	31	5,748	-14.6	-27.5	25	7.9
450	31	6,535	-20.1	-34.2	26	8.1
400	31	7,400	-26.7	-40.2	26	8.5
350	31	8,350	-34.4	-45.9	26	8.9
300	31	9,408	-43.0	-50.6	26	9.8
250	31	10,612	-52.3		26	10.4
200	31	12,028	-59.5		27	11.7
175	31	12,863	-59.6		27	12.9
150	31	13,831	-57.8		27	13.2
125	31	14,982	-58.1		27	11.7
100	31	16,387	-59.0		27	10.3
80	31	17,783	-59.9		27	7.5
70	31	18,616	-59.8		28	5.5
60	31	19,580	-59.6		30	3.6
50	31	20,722	-58.6		33	2.4
40	30	22,129	-56.3		03	1.6
30	28	23,962	-53.9		04	2.5
25	28	25,137	-52.2		06	2.6
20	27	26,589	-49.3		06	3.4
15	27	26,492	-45.2		08	3.4
10	25	31,240	-38.2		07	4.0
7	17	33,722	-32.8			
5						
4						

SAN DIEGO, CALIF. — 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	124	14.1	11.8	20	.7
1000	31	108				
950	31	540	12.0	10.0	31	.3
900	31	994	14.1	-1.1	31	1.6
850	31	1,478	14.7	-5.4	29	2.5
800	31	1,988	12.9	-7.8	27	2.8
750	31	2,524	9.9	-10.4	26	2.9
700	31	3,097	6.5	-13.4	24	2.0
650	31	3,700	2.6	-16.8	24	2.4
600	31	4,343	-1.9	-20.4	25	2.8
550	31	5,020	-6.6	-24.7	26	4.0
500	31	5,767	-12.0	-29.4	26	4.1
450	31	6,556	-18.2	-34.7	27	4.7
400	31	7,434	-25.1	-40.9	28	4.6
350	31	8,389	-32.7	-47.0	29	5.7
300	31	9,455	-41.3	-51.8	29	7.5
250	31	10,670	-49.9		29	9.6
200	31	12,105	-56.4		28	14.7
175	31	12,949	-57.5		27	14.7
150	31	13,923	-57.9		27	16.5
125	31	15,067	-59.7		27	15.3
100	31	16,456	-61.8		27	11.4
80	31	17,830	-63.5		27	6.0
70	30	18,654	-63.4		27	3.5
60	30	19,602	-62.9		30	.7
50	30	20,730	-60.6		07	1.6
40	30	22,128	-57.7		07	2.4
30	29	23,957	-53.9		06	3.2
25	28	25,139	-50.9		07	3.5
20	27	26,604	-48.0		07	2.5
15	26	28,521	-43.1		06	2.4
10	23	31,292	-37.7		32	1.5
7	17	33,789	-32.4		21	1.1
5						
4						

SAN JUAN, P. R. — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	6	25.4	22.1	14	1.5
1000	31	122	25.0	20.9	13	3.4
950	31	570	22.7	17.7	13	5.6
900	31	1,042	19.9	14.6	13	6.1
850	31	1,533	17.1	11.2	14	5.6
800	31	2,048	14.9	5.9	14	4.4
750	31	2,591	12.5	1.4	15	3.8
700	31	3,168	9.3	-2.8	17	2.5
650	31	3,774	5.8	-7.2	20	2.4
600	31	4,430	2.0	-10.9	23	3.4
550	31	5,119	-2.0	-15.2	24	4.5
500	31	5,879	-6.1	-21.0	25	5.4
450	31	6,689	-10.9	-27.0	25	6.5
400	31	7,591	-16.6	-31.9	26	7.3
350	31	8,580	-23.7	-38.7	26	9.3
300	31	9,688	-32.1	-46.3	26	10.5
250	31	10,948	-41.9		28	13.5
200	31	12,421	-53.4		29	17.7
175	30	13,266	-59.7		29	20.2
150	30	14,215	-66.1		29	19.1
125	30	15,305	-71.4		30	14.7
100	29	16,607	-75.4		29	8.7
80	29	17,899	-74.7		01	2.6
70	29	18,681	-71.0		06	5.8
60	29	19,604	-66.3		08	8.7
50	29	20,723	-61.3		09	11.4
40	29	22,119	-57.9		09	11.8
30	28	23,950	-53.4		09	10.5
25	27	25,134	-49.7		10	8.4
20	27	26,608	-45.3		09	7.5
15	23	28,545	-40.8		09	5.6
10	19	31,322	-37.4		09	4.6
7						
5						
4						

SAN NICOLAS, CALIF. — 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	174	11.6	10.4	31	4.7
1000	31	107				
950	31	540	13.6	4.6	32	4.9
900	31	997	16.0	-2.2	31	4.4
850	31	1,482	15.2	-5.2	31	4.6
800	31	1,992	12.9	-9.0	30	3.8
750	31	2,530	9.8	-13.7	30	3.3
700	31	3,099	6.2	-16.7	29	3.0
650	31	3,702	2.4	-19.3	28	3.2
600	31	4,342	-2.3	-22.8	27	3.8
550	31	5,027	-7.2	-25.5	27	4.1
500	31	5,762	-12.3	-31.9	27	5.0
450	31	6,558	-18.3	-37.0	27	5.8
400	31	7,426	-25.1	-43.7	28	6.6
350	31	8,381	-33.0	-49.4	28	7.6
300	31	9,446	-41.5	-56.1	28	8.6
250	31	10,657	-50.8	-63.4	28	9.9
200	31	12,084	-57.8	-68.3	27	13.7
175	31	12,925	-58.3	-68.1	27	15.1
150	31	13,895	-58.4		27	15.8
125	31	15,036	-60.2		26	14.4
100	31	16,420	-62.4		26	10.7
80	31	17,792	-63.8		26	5.2
70	31	18,611	-63.5		25	2.9
60	31	19,560	-62.7		01	.5
50	31	20,687	-61.0		08	1.4
40	31	22,082	-58.5		06	1.4
30	31	23,907	-55.1		06	3.5
25	31	25,079	-52.4		07	3.6
20	31	26,531	-49.2		06	2.5
15	31	28,435	-44.8		02	1.2
10	30	31,179	-39.1		29	1.1
7	27	33,636	-33.8		25	4.1
5	15	35,983	-29.7			
4	5	37,522	-26.0			

* SAULT STE MARIE, MICH. — 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	221	4.5	1.2	04	.6
1000	31	136				
950	31	557	6.8	.2	23	1.0
900	31	1,001	6.4	-1.9	27	3.6
850	31	1,468	3.9	-5.5	28	5.3
800	31	1,958	1.2	-7.2	29	6.5
750	31	2,474	-1.6	-11.6	28	7.7
700	31	3,023	-4.3	-14.6	28	10.5
650	31	3,604	-7.1	-18.5	28	12.5
600	31	4,225	-10.3	-21.7	28	13.9
550	31	4,888	-14.3	-25.2	28	15.4
500	31	5,609	-18.6	-30.1	28	17.4
450	31	6,384	-23.8	-35.2	28	19.2
400	31	7,237	-30.0	-40.0	28	20.9
350	31	8,175	-37.0	-45.5	28	22.3
300	31	9,223	-44.8		28	24.4
250	31	10,423	-51.8		28	26.8
200	31	11,851	-56.6		28	27.2
175	31	12,700	-55.5		28	22.5
150	31	13,685	-54.2		28	19.6
125	31	14,857	-53.8		28	16.3
100	31	16,289	-54.5		28	12.1
80	31	17,716	-54.6		28	9.6
70	31	18,571	-54.6		28	7.3
60	31	19,559	-54.1		29	4.5
50	31	20,731	-53.2		29	2.6
40	31	22,172	-51.9		35	1.0
30	30	24,043	-50.7		08	2.4
25	30	25,233	-49.6		08	3.0
20	30	26,700	-47.9		09	4.1
15	28	28,608	-44.2		08	5.1
10	26	31,367	-38.2		09	6.1
7	19	33,837	-31.8		09	6.4
5						
4						

* SHEMYA, ALASKA — 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	38	2.5	-.2	26	4.4
1000	31	61			27	2.9
950	31	468	-.3	-2.3	26	4.5
900	31	904	-2.8	-4.2	26	5.3
850	31	1,355	-5.1	-7.4	28	5.4
800	31	1,830	-7.1	-12.6	27	5.5
750	31	2,332	-9.2	-15.5	27	6.8
700	31	2,863	-11.5	-19.2	27	7.4
650	31	3,425	-14.3	-23.0	27	8.9
600	31	4,032	-17.4	-26.0	27	10.4
550	31	4,676	-21.0	-31.0	27	12.3
500	31	5,379	-25.2	-35.3	27	13.7
450	31	6,134	-30.2	-41.2	27	14.5
400	31	6,967	-35.7	-45.3	27	16.7
350	31	7,885	-41.3	-43.2	28	19.0
300	31	8,919	-46.2		27	21.9
250	31	10,123	-48.9		27	18.2
200	31	11,589	-49.0		27	16.2
175	31	12,465	-48.9		28	14.9
150	30	13,477	-49.2		27	12.1
125	29	14,668	-50.0		27	8.9
100	29	16,123	-50.9		28	6.9
80	29	17,575	-51.5		29	5.3
70	29	18,440	-51.9		28	3.4
60	29	19,438	-52.1		28	1.2
50	29	20,619	-52.0		29	1.1
40	29	22,065	-51.7		12	1.0
30	29	23,934	-51.1		11	2.4
25	29	25,122	-50.3		10	2.6
20	29	26,583	-49.1		09	3.7
15	29	28,481	-46.4		09	4.5
10	26	31,190	-42.3		08	5.5
7	24	33,637	-37.4		08	6.0
5	14	36,033	-32.6			
4						

* SHREVEPORT, LA. — 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	79	17.5	15.7	14	.4
1000	31	129	18.4	15.6	15	.7
950	31	576	18.8	12.9	18	3.7
900	31	1,034	16.3	9.8	20	3.4
850	31	1,519	13.5	5.6	21	3.3
800	31	2,028	10.8	1.3	24	2.9
750	31	2,563	7.8	-3.3	23	2.9
700	31	3,130	4.3	-7.7	24	3.3
650	31	3,728	.5	-11.5	25	3.5
600	31	4,369	-3.6	-16.0	27	3.9
550	31	5,048	-7.9	-22.6	27	4.9
500	31	5,788	-12.2	-28.6	26	5.1
450	31	6,581	-17.6	-34.1	27	6.1
400	31	7,459	-23.8	-39.4	28	8.3
350	30	8,418	-31.3	-46.4	27	8.1
300	30	9,492	-39.3	-52.8	27	9.4
250	30	10,717	-48.1		27	14.3
200	30	12,162	-55.8		27	19.3
175	29	13,013	-57.4		27	19.6
150	29	13,986	-58.1		27	20.8
125	29	15,128	-60.6		27	18.3
100	29	16,508	-63.5		27	15.0
80	29	17,873	-64.9		28	10.5
70	29	18,686	-64.5		29	6.9
60	28	19,637	-63.0		32	3.6
50	28	20,767	-59.8		01	2.1
40	28	22,172	-56.5		07	2.4
30	27	24,015	-53.0		08	3.6
25	27	25,196	-51.0		08	3.0
20	27	26,659	-47.6		07	2.2
15	27	28,578	-43.6		02	1.2
10	26	31,330	-38.3		27	2.6
7	23	33,817	-32.6		26	1.1
5	14	36,209	-26.9		24	4.3
4	5	37,821	-23.5			

SPOKANE, WASH. — 931 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	720	8.5	4.8	16	1.8
1000	31	126				
950	31	551				
900	31	1,006	11.4	1.2	20	2.3
850	31	1,482	8.9	-1.9	24	2.2
800	31	1,981	5.7	-5.3	25	3.0
750	31	2,503	2.3	-8.5	25	3.8
700	31	3,060	-1.2	-12.6	26	4.3
650	31	3,644	-4.9	-17.1	26	5.0
600	31	4,273	-8.6	-22.7	26	6.5
550	31	4,937	-12.8	-26.9	26	7.8
500	31	5,664	-17.7	-30.9	27	9.0
450	31	6,435	-23.2	-36.4	27	10.6
400	31	7,295	-29.5	-42.4	27	11.7
350	31	8,234	-36.7	-47.3	27	13.5
300	31	9,283	-44.8		28	15.0
250	31	10,480	-53.0		28	17.3
200	31	11,897	-58.5		28	17.8
175	31	12,738	-57.7		28	16.5
150	31	13,715	-55.5		27	13.7
125	31	14,878	-55.8		27	12.5
100	31	16,299	-55.9		28	10.3
80	31	17,717	-56.3		28	8.1
70	31	18,565	-56.6		28	7.0
60	31	19,543	-56.0		29	5.1
50	31	20,703	-55.8		32	3.4
40	31	22,128	-54.5		35	1.6
30	30	23,978	-52.4		06	2.9
25	30	25,161	-50.8		07	3.6
20	29	26,626	-48.6		07	5.0
15	27	28,534	-45.0		08	6.7
10	23	31,282	-38.4		08	6.1
7	8	33,775	-32.9			
5						
4						

* SWAN ISLAND, W. I. — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	10	27.4	23.8	10	3.2
1000	31	95	26.7	23.2	09	3.7
950	31	545	23.2	20.6	10	4.9
900	31	1,019	20.4	16.4	11	4.8
850	31	1,512	17.9	11.4	11	4.5
800	31	2,030	15.9	5.5	10	3.3
750	31	2,579	13.3	1.3	11	2.4
700	31	3,155	10.3	-2.6	14	1.1
650	31	3,767	6.5	-5.7	25	.3
600	31	4,421	2.7	-9.9	29	1.0
550	31	5,111	-1.3	-14.5	29	2.1
500	31	5,875	-5.6	-19.0	27	3.5
450	31	6,689	-10.5	-23.9	28	5.4
400	31	7,592	-16.3	-30.8	29	6.7
350	31	8,583	-22.7	-37.5	29	9.0
300	31	9,697	-30.7	-45.0	30	12.5
250	31	10,965	-40.8	-53.2	29	14.6
200	30	12,443	-52.9		29	17.4
175	30	13,291	-59.6		29	16.2
150	30	14,239	-66.7		29	15.5
125	30	15,323	-72.8		29	12.1
100	30	16,618	-77.0		32	5.8
80	30	17,899	-76.6		05	3.6
70	30	18,672	-73.8		08	7.4
60	30	19,587	-67.8		08	8.2
50	29	20,695	-62.5		08	10.3
40	28	22,090	-58.5		09	11.1
30	28	23,916	-53.6		09	9.6
25	28	25,098	-49.9		09	9.2
20	28	26,571	-46.1		11	6.4
15	27	28,503	-42.3		09	4.5
10	20	31,241	-39.3		09	7.0
7	11	33,712	-34.6		10	8.2
5						
4						

TAMPA, FLA. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	20.9	18.9	08	2.8
1000	31	133	20.7	17.6	09	4.3
950	31	582	19.5	13.7	11	4.9
900	31	1,042	17.1	7.9	11	3.2
850	31	1,527	14.3	4.7	10	2.2
800	31	2,037	11.5	.9	08	.9
750	31	2,576	8.6	-3.4	35	.8
700	31	3,142	5.3	-7.6	29	1.8
650	31	3,740	2.0	-13.8	28	3.8
600	31	4,385	-2.0	-18.1	28	5.1
550	31	5,067	-5.9	-23.3	28	7.0
500	31	5,813	-10.5	-27.2	28	9.4
450	31	6,615	-15.9	-32.1	27	10.8
400	31	7,495	-22.1	-37.2	28	11.8
350	31	8,464	-28.6	-44.2	28	14.2
300	31	9,548	-37.0	-51.5	27	16.4
250	31	10,786	-45.4		27	21.2
200	31	12,245	-53.1		27	28.2
175	31	13,098	-56.7		27	30.7
150	31	14,066	-60.9		27	29.7
125	31	15,189	-64.6		28	22.6
100	31	16,539	-68.0		27	14.4
80	30	17,873	-68.4		28	7.4
70	30	18,676	-67.1		32	3.2
60	29	19,609	-64.6		03	1.7
50	29	20,732	-61.3		07	4.3
40	28	22,126	-57.3		08	5.6
30	28	23,963	-53.0		09	5.7
25	28	25,146	-50.1		09	4.6
20	26	26,614	-46.7		09	3.6
15	24	28,535	-42.4		08	2.6
10	7	31,274	-38.5			
7						
5						
4						

TOPEKA, KANS. — 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	268	14.3	11.6	07	.5
1000	31	125				
950	31	562	15.0	10.4	20	3.9
900	31	1,018	13.8	7.9	22	4.9
850	31	1,499	11.8	5.5	23	5.4
800	31	2,005	9.1	1.2	24	5.0
750	31	2,535	6.1	-3.5	25	5.7
700	31	3,100	2.6	-8.0	26	5.7
650	31	3,692	-1.2	-12.2	26	6.7
600	31	4,330	-5.2	-17.7	27	7.9
550	31	5,002	-9.4	-22.2	27	8.7
500	31	5,739	-13.9	-28.8	28	8.8
450	31	6,525	-19.4	-33.6	28	9.6
400	31	7,398	-25.7	-39.8	28	9.7
350	31	8,351	-32.9	-46.1	28	10.6
300	31	9,417	-41.3	-50.3	27	12.1
250	31	10,631	-50.5		27	14.3
200	31	12,056	-59.0		27	16.2
175	31	12,887	-61.5		27	17.5
150	31	13,848	-56.8		27	17.2
125	31	14,994	-58.6		27	15.4
100	31	16,391	-60.4		28	12.9
80	31	17,780	-60.7		29	8.9
70	31	18,611	-60.7		29	6.5
60	30	19,577	-59.9		31	4.6
50	30	20,721	-58.2		33	2.4
40	30	22,133	-56.0		03	1.2
30	30	23,977	-53.0		07	2.3
25	29	25,156	-51.7		07	2.6
20	27	26,613	-49.1		08	2.3
15	25	28,522	-45.2		08	2.0
10	18	31,266	-38.5		08	1.1
7	8	33,769	-32.1			
5						

* TRUK, CAROLINE IS. — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	2	28.5	24.7	06	4.3
1000	31	95	27.4	22.8	07	5.8
950	31	547	23.9	18.7	09	8.3
900	31	1,020	21.1	15.2	09	8.8
850	31	1,514	18.4	11.5	10	7.8
800	31	2,033	16.2	7.8	10	8.0
750	31	2,578	13.6	4.3	10	6.7
700	31	3,159	10.5	.9	10	5.8
650	31	3,770	6.9	-2.9	09	5.8
600	31	4,427	3.2	-7.5	09	4.2
550	31	5,121	-.5	-11.1	09	3.6
500	31	5,887	-4.2	-16.4	08	3.5
450	31	6,702	-8.9	-21.4	08	3.7
400	31	7,615	-14.4	-27.5	09	2.5
350	31	8,614	-20.7	-35.4	10	2.5
300	31	9,736	-29.1	-43.6	11	1.7
250	31	11,011	-39.4	-53.1	18	2.1
200	31	12,498	-51.7		23	2.6
175	31	13,350	-58.8		25	3.4
150	31	14,300	-66.5		26	5.4
125	31	15,382	-74.4		27	7.0
100	30	16,662	-79.7		28	4.2
80	30	17,931	-76.9		07	4.7
70	29	18,703	-73.1		09	6.1
60	28	19,617	-67.6		10	6.7
50	28	20,727	-62.7		10	5.4
40	28	22,126	-56.2		09	3.1
30	28	23,973	-52.0		30	2.1
25	28	25,162	-48.8		26	4.4
20	27	26,638	-45.8		26	6.0
15	27	28,567	-42.1		25	4.3
10	24	31,334	-38.5		19	.9
7	19	33,806	-35.6		06	3.7
5						

* TUCSON, ARIZ. — 922 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	789	16.5	-1.4	15	3.3
1000	31	84				
950	31	527				
900	31	994	21.4	.3	17	2.3
850	31	1,487	18.8	-1.6	25	.5
800	31	2,003	15.0	-3.8	14	.3
750	31	2,542	10.8	-6.3	19	1.7
700	31	3,116	6.5	-10.5	20	4.0
650	31	3,715	1.9	-14.0	19	5.9
600	31	4,360	-2.7	-18.6	20	5.5
550	31	5,035	-7.6	-22.5	21	4.9
500	31	5,780	-13.0	-27.3	23	4.4
450	31	6,567	-18.9	-33.5	25	4.1
400	31	7,442	-25.6	-39.7	26	4.8
350	31	8,396	-32.9	-44.6	26	4.7
300	31	9,463	-40.8	-50.9	27	5.9
250	31	10,681	-48.9		27	9.5
200	31	12,124	-54.9		27	16.0
175	31	12,974	-56.3		27	17.9
150	31	13,951	-57.0		26	18.6
125	31	15,100	-59.3		26	16.1
100	31	16,487	-62.5		26	12.3
80	30	17,860	-64.0		27	7.5
70	30	18,678	-64.2		28	3.4
60	30	19,622	-63.5		36	1.6
50	30	20,748	-61.3		06	1.9
40	30	22,145	-57.6		06	2.5
30	30	23,979	-53.4		07	3.6
25	30	25,160	-51.1		07	3.8
20	29	26,620	-48.2		09	2.9
15	29	28,531	-44.5		10	1.0
10	24	31,290	-37.8		31	1.6
7	18	33,769	-33.1		28	1.3
5	5	36,118	-27.8			

* VANDENBERG AFB, CALIF. — 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	100	9.7	9.2	33	1.0
1000	31	119			33	1.3
950	31	547	11.8	6.4	36	5.5
900	31	1,002	14.3	.0	01	4.7
850	31	1,484	13.7	-4.9	36	4.3
800	31	1,992	11.4	-8.0	35	3.9
750	31	2,525	8.8	-11.2	32	3.7
700	31	3,096	5.6	-14.7	30	3.5
650	31	3,691	1.8	-17.9	29	3.1
600	31	4,338	-2.5	-21.9	29	4.1
550	31	5,012	-7.4	-26.4	28	3.9
500	31	5,758	-12.6	-31.4	28	4.7
450	31	6,545	-18.5	-36.7	28	5.5
400	31	7,421	-25.5	-42.4	29	6.2
350	31	8,375	-32.9	-47.9	28	7.0
300	31	9,441	-41.4	-51.5	28	8.2
250	31	10,655	-50.4		28	9.5
200	31	12,085	-57.8		28	11.9
175	31	12,924	-59.2		28	11.9
150	31	13,892	-58.9		27	13.9
125	31	15,034	-59.6		27	13.6
100	31	16,425	-61.4		26	10.7
80	30	17,800	-62.8		27	7.2
70	30	18,622	-62.9		27	5.3
60	30	19,573	-62.3		28	2.6
50	30	20,703	-60.7		32	.5
40	29	22,101	-58.7		08	.7
30	29	23,920	-55.8		04	1.8
25	28	25,082	-53.9		06	2.0
20	28	26,524	-51.0		05	2.3
15	27	28,413	-46.5		07	1.4
10	25	31,135	-40.5		32	1.4
7	22	33,590	-35.3		22	2.0
5	8	35,873	-30.9			

VICTORIA, TEXAS — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	33	19.6	18.4	10	1.5
1000	31	116	20.2	18.9	11	2.2
950	31	555	19.0	16.0	15	4.8
900	31	1,024	17.2	10.6	16	5.7
850	31	1,511	14.8	5.9	16	5.2
800	31	2,023	12.3	1.0	17	3.9
750	31	2,555	9.6	-4.2	19	2.2
700	31	3,132	6.4	-9.1	25	2.1
650	31	3,732	2.6	-12.2	27	2.7
600	31	4,379	-1.8	-16.9	28	4.5
550	31	5,059	-6.5	-21.5	27	7.6
500	31	5,804	-11.6	-27.5	27	9.3
450	31	6,599	-17.1	-32.8	26	10.6
400	31	7,478	-23.2	-38.3	26	11.7
350	31	8,442	-30.5	-43.2	27	13.3
300	31	9,521	-38.3	-50.4	26	16.0
250	31	10,753	-46.6		27	20.5
200	31	12,208	-54.0		27	28.1
175	31	13,060	-56.6		27	30.0
150	31	14,033	-59.1		27	28.0
125	31	15,164	-63.4		27	21.9
100	31	16,525	-66.7		27	15.0
80	30	17,869	-68.0		28	7.6
70	30	18,673	-67.2		31	4.8
60	30	19,607	-65.3		01	2.4
50	30	20,725	-61.8		07	3.1
40	30	22,122	-57.7		08	4.3
30	29	23,954	-53.6		09	4.3
25	29	25,133	-50.9		08	4.1
20	28	26,596	-48.0		08	3.7
15	25	28,511	-43.5		11	.5
10	9	31,241	-38.1			

* See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	* WAKE IS., PACIFIC AREA 1017 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	5	25.9	22.1	08	6.7
1000	31	150	24.2	19.7	08	8.0
950	31	595	20.3	18.2	08	9.3
900	31	1,063	17.6	13.5	08	9.3
850	31	1,551	15.1	8.9	08	9.2
800	31	2,063	13.0	1.8	08	7.9
750	31	2,602	11.2	-6.4	08	6.7
700	31	3,178	8.8	-10.4	08	5.8
650	31	3,783	5.5	-14.5	08	5.5
600	31	4,437	2.0	-19.5	08	5.1
550	31	5,133	-1.7	-22.6	08	4.6
500	31	5,887	-5.8	-25.5	06	3.7
450	31	6,700	-11.0	-30.[illegible]	04	3.1
400	31	7,599	-17.1	-35.5	01	2.7
350	31	8,586	-24.3	-41.2	34	3.2
300	31	9,692	-32.3	-47.4	31	5.5
250	31	10,952	-42.0		29	9.9
200	31	12,425	-53.5		28	12.8
175	31	13,273	-59.6		28	14.1
150	31	14,222	-65.9		28	12.6
125	30	15,314	-71.4		28	6.9
100	30	16,519	-75.2		31	2.5
80	29	17,914	-74.5		05	2.1
70	29	18,696	-71.6		07	3.8
60	29	19,616	-66.5		09	6.2
50	28	20,734	-61.9		09	8.7
40	28	22,125	-58.6		08	10.2
30	25	23,953	-53.4		08	11.2
25	25	25,134	-50.4		08	10.6
20	25	26,602	-47.0		08	8.8
15	24	28,520	-44.1		09	8.0
10	21	31,274	-39.5		09	5.3
7	14	33,732	-35.8		09	3.4
5	8	36,102	-32.9			

Standard pressure surface (mb)	* WALLOPS IS., VA. NASA 1018 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	3	14.9	11.8	19	1.0
1000	31	150	15.4	9.3	22	1.7
950	31	586	15.2	5.7	27	3.1
900	31	1,042	12.6	3.8	28	4.2
850	31	1,520	9.7	.5	28	4.7
800	31	2,022	7.4	-4.5	27	6.3
750	31	2,548	4.8	-8.4	28	7.5
700	31	3,111	1.8	-12.2	27	8.1
650	31	3,700	-1.8	-15.9	27	8.3
600	31	4,338	-5.5	-20.3	27	8.9
550	31	5,010	-9.5	-25.5	27	10.5
500	31	5,747	-14.1	-29.7	27	11.5
450	31	6,532	-19.5	-34.6	27	13.1
400	31	7,404	-25.8	-40.4	26	13.3
350	31	8,358	-32.8	-46.4	27	13.7
300	31	9,425	-41.0	-50.4	27	15.4
250	31	10,642	-49.8		27	16.4
200	31	12,073	-58.0		28	20.0
175	31	12,911	-59.3		28	19.4
150	31	13,877	-58.9		28	18.1
125	31	15,022	-59.1		27	16.6
100	31	16,416	-60.1		28	14.9
80	31	17,807	-60.1		29	10.4
70	31	18,641	-59.7		29	7.4
60	31	19,607	-58.6		30	4.1
50	31	20,757	-57.0		31	.9
40	30	22,177	-54.9		06	1.8
30	29	24,025	-52.4		06	1.6
25	29	25,208	-50.6		07	2.4
20	28	26,667	-48.1		06	1.4
15	22	28,579	-44.1		06	1.3
10	17	31,315	-38.6		16	.6
7	6	33,820	-32.4			
5						

Standard pressure surface (mb)	WASHINGTON DULLES INT. AP 1008 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	85	12.5	9.2	23	.9
1000	31	153			21	1.1
950	31	591	14.4	5.3	27	3.6
900	31	1,042	12.1	3.0	27	5.5
850	31	1,519	9.3	-.2	28	6.7
800	31	2,019	6.6	-4.1	28	8.3
750	31	2,551	4.1	-9.5	28	8.7
700	31	3,106	1.0	-13.9	28	9.2
650	31	3,698	-2.4	-16.9	27	9.4
600	31	4,329	-6.4	-21.1	27	10.0
550	31	5,001	-10.4	-27.1	27	10.7
500	31	5,733	-14.7	-31.1	27	12.0
450	31	6,520	-20.4	-36.0	27	13.2
400	31	7,386	-26.7	-41.1	27	14.3
350	31	8,336	-33.6	-46.4	27	15.2
300	30	9,413	-41.6	-49.7	27	17.1
250	30	10,626	-50.4		27	18.4
200	30	12,054	-58.6		27	20.1
175	30	12,890	-59.8		27	19.5
150	30	13,854	-59.4		27	18.7
125	30	14,998	-59.0		27	16.5
100	30	16,396	-59.3		28	15.0
80	30	17,791	-59.7		28	10.9
70	29	18,624	-59.7		28	7.9
60	28	19,592	-58.4		28	3.9
50	28	20,744	-56.6		30	1.5
40	27	22,163	-55.0		03	.6
30	26	24,014	-52.7		07	1.8
25	26	25,195	-51.2		09	1.9
20	25	26,659	-48.7		08	1.9
15	24	28,570	-44.0		08	1.7
10	24	31,335	-36.9		12	1.1
7	8	33,753	-33.5			
5						

Standard pressure surface (mb)	WAYCROSS, GA. 1011 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	44	17.6	16.5	09	.3
1000	31	139	18.6	16.2	10	1.1
950	31	577	18.3	12.5	13	3.4
900	31	1,043	16.2	8.7	12	2.0
850	31	1,528	13.3	4.9	12	1.3
800	31	2,035	10.3	1.3	11	.7
750	31	2,565	7.6	-4.5	21	.2
700	31	3,136	4.4	-8.0	28	1.3
650	31	3,726	.7	-12.1	28	2.2
600	31	4,375	-3.1	-16.9	28	3.5
550	30	5,047	-7.1	-22.5	28	4.6
500	30	5,794	-11.7	-27.4	27	5.8
450	30	6,581	-16.9	-31.7	27	6.4
400	30	7,468	-23.2	-38.1	28	7.9
350	30	8,433	-30.1	-43.9	27	9.1
300	30	9,512	-38.1	-50.7	27	11.2
250	29	10,739	-47.0		27	16.1
200	29	12,190	-54.6		27	21.5
175	29	13,040	-56.8		27	24.2
150	29	14,013	-58.8		27	26.0
125	29	15,154	-60.8		27	22.6
100	29	16,530	-64.2		27	17.1
80	29	17,892	-65.3		28	10.5
70	29	18,707	-64.3		29	6.5
60	29	19,653	-62.7		31	2.9
50	29	20,783	-60.2		01	1.8
40	29	22,185	-57.1		07	3.3
30	29	24,026	-52.5		09	4.2
25	29	25,210	-50.5		10	3.1
20	29	26,676	-47.4		09	2.0
15	26	28,598	-43.2		06	1.6
10	22	31,358	-36.1		30	2.3
7	8	33,837	-32.1			
5						

Standard pressure surface (mb)	WINNEMUCCA, NEV. 866 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	1,312	8.2	-2.7	03	.9
1000	31	123				
950	31	555				
900	31	1,014				
850	31	1,490	11.9	-1.3	[illegible]	1.8
800	31	1,996	10.1	-3.5	34	2.0
750	31	2,528	[illegible]	[illegible]	28	1.0
700	30	3,092	2.9	-9.1	23	2.7
650	30	3,685	-1.3	-13.9	23	4.6
600	30	4,322	-5.2	-18.8	23	6.7
550	30	4,993	-10.1	-22.1	23	7.9
500	30	5,728	-15.0	-28.0	24	7.9
450	30	6,513	-20.5	-34.2	24	8.6
400	[illegible]	7,378	-26.8	-40.2	25	8.9
350	29	8,328	-34.4	-46.0	28	10.1
300	29	9,387	-42.9	-47.5	26	9.7
250	29	10,591	-52.2		27	9.9
200	29	12,007	-59.7		27	12.3
175	29	12,841	-59.3		27	13.0
150	29	13,808	-58.3		27	12.6
125	29	14,956	-58.4		27	11.0
100	29	16,356	-59.2		27	9.3
80	29	17,754	-59.6		26	6.1
70	29	18,589	-59.9		28	3.9
60	29	19,551	-59.7		29	1.9
50	28	20,691	-58.4		35	1.4
40	28	22,099	-57.1		05	2.7
30	28	23,928	-54.9		07	4.1
25	28	25,099	-52.8		07	3.6
20	28	26,550	-49.5		06	3.1
15	27	28,457	-45.2		07	4.3
10	22	31,220	-37.8		09	4.5
7	9	33,733	-32.6			
5						

Standard pressure surface (mb)	WINSLOW, ARIZ. 850 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	1,487	10.5	-2.8	20	2.1
1000	31	105				
950	31	538				
900	31	998				
850	31	1,487			20	1.6
800	31	1,998	14.2	-4.2	26	3.8
750	31	2,534	10.6	-7.2	25	4.1
700	31	3,110	6.3	-10.5	24	4.2
650	31	3,702	1.8	-13.8	23	3.9
600	31	4,352	-3.0	-18.4	22	4.4
550	31	5,025	-8.2	-23.1	22	4.6
500	31	5,768	-13.6	-29.1	23	5.2
450	31	6,550	-19.4	-35.0	24	5.1
400	31	7,427	-26.0	-40.6	26	5.2
350	31	8,378	-33.9	-46.1	26	5.0
300	31	9,440	-42.4	-51.6	27	5.7
250	31	10,649	-51.0		27	7.6
200	31	12,076	-57.9		27	12.0
175	31	12,917	-58.2		27	13.9
150	30	13,886	-58.1		27	14.4
125	30	15,033	-59.3		27	13.3
100	30	16,423	-61.3		27	10.8
80	30	17,801	-63.3		27	6.6
70	29	18,624	-63.6		28	5.1
60	29	19,571	-63.1		30	3.5
50	29	20,697	-61.5		34	1.4
40	28	22,086	-58.8		02	1.4
30	27	23,906	-56.8		03	1.9
25	27	25,079	-52.3		07	2.3
20	27	26,532	-49.5		08	1.6
15	27	28,433	-45.7		06	.9
10	22	31,172	-38.9		23	.4
7	8	33,623	-34.5			
5						

Standard pressure surface (mb)	YAKUTAT, ALASKA 1014 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	12	3.8	2.9	10	1.7
1000	31	123	5.6	3.2	12	1.7
950	31	539	4.8	.5	13	3.8
900	31	982	2.4	-2.7	14	5.3
850	31	1,442	.0	-5.2	14	6.4
800	31	1,926	-2.7	-8.7	15	5.5
750	31	2,433	-5.9	-13.1	16	5.0
700	31	2,973	-8.7	-16.2	17	4.7
650	31	3,542	-11.8	-19.7	20	4.5
600	31	4,153	-15.5	-24.1	21	4.7
550	31	4,801	-19.6	-27.3	21	5.6
500	31	5,508	-24.1	-32.1	22	7.0
450	31	6,267	-29.1	-36.7	23	7.9
400	31	7,102	-34.8	-40.6	23	7.1
350	31	8,021	-41.7	-41.9	23	9.2
300	31	9,051	-48.1		24	11.2
250	31	10,239	-52.9		25	12.4
200	31	11,677	-52.8		24	9.3
175	31	12,541	-51.3		24	8.7
150	31	13,545	-50.3		24	7.4
125	31	14,735	-50.5		24	6.4
100	31	16,191	-50.3		24	4.9
80	31	17,647	-50.4		24	3.1
70	31	18,518	-50.4		24	2.5
60	30	19,521	-50.6		23	1.8
50	29	20,709	-50.5		16	.6
40	28	22,160	-50.3		09	1.7
30	28	24,041	-49.5		10	3.4
25	27	25,239	-48.7		09	4.3
20	24	26,712	-47.2		09	6.2
15	22	28,615	-44.3		09	7.6
10	18	31,407	-38.1		09	8.8
7	13	33,889	-33.4			
5	5	36,193	-30.5			

Standard pressure surface (mb)	+ YAP, CAROLINE IS. 1008 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	14	28.9	25.0	09	4.4
1000	31	90	27.6	23.2	09	5.4
950	31	538	23.5	19.1	09	8.1
900	31	1,015	20.8	15.4	09	7.9
850	31	1,508	18.6	11.5	10	7.2
800	31	2,027	16.1	8.3	10	6.6
750	31	2,567	13.4	4.5	09	6.3
700	31	3,152	10.4	.6	09	5.9
650	31	3,762	7.1	-3.3	09	5.9
600	31	4,420	3.5	-7.7	09	5.7
550	31	5,121	-.2	-11.7	09	4.8
500	31	5,879	-4.5	-18.0	09	3.5
450	31	6,698	-9.2	-22.6	09	3.4
400	31	7,605	-14.7	-30.0	09	2.8
350	31	8,603	-21.5	-37.3	08	1.9
300	31	9,721	-29.6	-44.9	09	1.2
250	31	10,994	-39.8	-53.5	15	1.8
200	31	12,478	-52.3		22	3.4
175	31	13,327	-59.4		24	3.0
150	31	14,275	-66.9		26	3.9
125	31	15,355	-74.2		28	3.5
100	31	16,635	-79.9		01	2.6
80	30	17,901	-77.2		07	6.3
70	29	18,674	-73.6		08	8.2
60	29	19,586	-68.5		08	8.5
50	29	20,696	-62.3		09	8.9
40	29	22,088	-58.1		09	6.2
30	29	23,927	-52.1		08	1.3
25	29	25,117	-48.8		21	1.1
20	29	26,597	-44.7		22	2.0
15	29	28,535	-41.5		20	2.1
10	26	31,305	-38.1		13	1.9
7	17	33,769	-34.5		07	3.1
5						

Standard pressure surface (mb)	YUCCA FLAT, NEV. 878 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	31	1,198	9.6	.7	33	.4
1000	31	96				
950	31	527				
900	31	988				
850	31	1,473	17.0	-.6	30	1.0
800	31	1,988	14.4	-3.4	22	1.3
750	31	2,522	10.6	-6.5	20	2.7
700	31	3,099	6.3	-9.9	19	2.1
650	31	3,694	1.5	-13.3	17	1.9
600	31	4,341	-3.4	-17.4	17	2.1
550	31	5,015	-8.4	-22.6	21	2.8
500	31	5,756	-13.8	-28.3	23	4.0
450	31	6,539	-19.5	-34.3	24	4.9
400	31	7,414	-26.2	-39.9	25	5.1
350	31	8,364	-33.9	-45.9	26	6.7
300	31	9,426	-42.3	-51.2	27	7.8
250	31	10,634	-51.6		28	8.0
200	31	12,056	-58.2		28	10.2
175	30	12,889	-58.1		27	11.3
150	30	13,861	-57.9		27	12.0
125	30	15,010	-58.2		27	11.1
100	29	16,410	-60.5		27	10.0
80	29	17,799	-61.3		27	6.0
70	29	18,626	-61.7		26	3.8
60	28	19,585	-61.4		29	2.8
50	28	20,720	-59.8		01	1.2
40	26	22,116	-57.6		04	1.5
30	26	23,946	-54.5		05	1.8
25	24	25,117	-52.5		04	1.6
20	21	26,572	-49.4		05	2.8
15	11	28,474	-45.5			
10						
7						
5						

Standard pressure surface (mb)	YUMA, ARIZ. 994 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed
SURFACE	19	131	19.2	4.6	06	.9
1000	19	76				
950	19	518	22.0	1.2	24	1.6
900	19	987	20.2	-1.0	23	1.7
850	19	1,477	17.0	-3.1	21	2.0
800	19	1,990	13.0	-5.0	19	3.2
750	19	2,523	9.4	-9.8	19	3.3
700	19	3,096	5.7	-13.6	19	3.6
650	19	3,691	1.6	-17.5	19	3.2
600	19	4,337	-3.3	-20.0	21	2.3
550	19	5,011	-7.9	-25.7	24	2.3
500	19	5,753	-13.5	-30.6	26	2.4
450	19	6,535	-20.0	-34.7	27	2.7
400	19	7,408	-26.7	-41.1	29	3.7
350	19	8,356	-34.3	-47.5	31	4.1
300	19	9,416	-42.5		30	5.4
250	19	10,624	-50.6		28	7.7
200	16	12,054	-56.6		28	11.2
175	12	12,918	-57.7			

the average monthly station pressures for the month of record, corrected to the height of the

refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages

speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degr

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the

bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
May									
1-----	0.88	0.98	1.11	1.28	1.48	1.24	0.92	0.72	0.61
2-----	.87	.98	1.09	1.27	1.43	1.22	.92	.71	.59
3-----	----	----	----	----	1.42	----	----	----	----
8-----	----	----	----	1.16	1.32	1.24	1.11	1.00	.90
9-----	----	.98	1.09	1.24	1.43	1.22	.93	.71	.59
10----	.74	----	----	1.21	1.39	----	----	----	----
11----	.72	.85	.98	1.17	1.39	----	----	----	----
12----	.78	.90	1.01	1.14	----	----	---	----	----
13----	.79	.88	.98	1.14	----	----	----	----	----
15----	----	----	----	1.10	----	----	----	----	----
16----	.78	.89	1.03	1.19	----	1.15	.83	.66	.55
17----	----	.93	1.05	1.20	1.41	1.18	.80	.64	.49
18----	----	.95	1.05	----	1.44	1.19	.97	.79	.66
19----	----	.92	1.05	1.21	1.39	1.14	.88	.72	.59
20----	.81	.92	1.05	1.26	1.41	1.06	----	----	----
23----	----	----	.78	1.00	1.28	----	----	----	----
24----	----	.78	.95	1.11	----	----	----	----	----
25----	.77	.86	1.00	1.18	1.38	1.13	.80	.66	.52
26----	.78	.88	1.01	1.16	1.39	1.13	.82	.64	.50
27----	----	----	----	----	1.30	.98	.67	.54	.43
28----	.74	.81	.95	1.13	1.34	1.12	.83	.68	.58
29----	.51	.77	.90	----	----	----	----	----	----
30----	----	----	----	----	1.35	----	----	----	----
31----	.67	.79	.73	1.11	----	----	----	----	----
Averages	0.76	0.89	0.99	1.11	1.39	1.15	0.87	0.71	0.58

BLUE HILL OBS., MASS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
May									
1-----	0.60	0.70	0.81	0.98	1.25	1.03	0.84	0.67	0.53
2-----	.69	.79	.94	1.11	----	1.04	.83	.66	.53
4-----	----	----	----	1.11	1.32	1.06	.87	.75	.60
5-----	.55	.64	.82	1.08	1.36	1.18	1.00	.87	.75
6-----	.81	.90	1.03	1.18	1.35	1.11	.95	.84	.74
10----	----	----	----	----	1.33	1.06	.93	.79	.71
13----	----	.82	.96	1.11	----	----	----	----	----
15----	----	.77	.87	1.07	1.37	1.11	.91	.77	.65
16----	.58	.66	.77	.94	----	.91	.75	.62	.53
27----	----	----	.96	1.16	1.37	1.12	.94	.79	.70
28----	.72	.79	.93	----	----	----	----	----	----
31----	.65	.77	.89	1.03	1.33	1.04	.89	.74	.61
Averages	0.66	0.76	0.90	1.08	1.34	1.07	0.89	0.75	0.64

MADISON, WIS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
	No observations - instrument inoperative								

TUCSON, ARIZ.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
May									
1-----	0.79	0.89	1.02	1.18	1.35	1.21	1.05	0.91	0.82
2-----	.77	.88	.97	1.15	1.39	1.18	1.00	.90	.78
3-----	.73	.83	.97	1.16	1.33	1.03	.91	----	----
4-----	----	.78	.89	----	1.27	----	----	----	----
5-----	----	----	----	----	----	1.20	----	----	----
6-----	----	----	----	----	----	----	----	.84	.77
7-----	.71	.87	1.00	1.16	1.37	1.15	1.00	----	----
8-----	.80	.88	.99	1.16	1.38	1.12	.93	.81	.71
9-----	.84	.94	1.05	1.20	1.38	1.14	.98	.86	.77
10----	.80	.90	1.01	1.17	1.38	1.03	.88	.77	.67
11----	.63	.73	.85	1.02	1.27	----	----	----	----
12----	.54	.65	.77	.93	1.19	----	----	----	----
13----	----	----	----	----	1.11	----	----	----	----
14----	----	----	----	----	1.22	1.03	.87	.73	----
15----	----	----	----	----	1.28	1.08	.88	.78	.68
16----	.63	.73	.88	1.06	1.33	1.13	.97	.84	.75
17----	.75	.85	.98	1.16	1.35	1.10	.91	.80	.72
18----	.70	.80	.93	1.11	1.35	1.09	.91	.78	.68
19----	.81	.92	1.04	1.20	1.39	1.20	1.06	.93	.86
20----	----	----	----	1.13	1.33	----	----	----	----
21----	.71	.83	.96	1.16	----	1.18	----	.95	----
22----	----	.81	----	----	1.33	1.20	1.05	.94	.84
23----	.76	.86	.99	1.15	1.33	1.15	----	----	----
24----	.82	.93	1.05	1.21	1.38	1.23	1.04	.93	.82
25----	.87	.95	1.08	1.22	1.39	1.16	1.01	.91	.81
26----	.81	.91	1.02	1.17	1.38	1.12	.97	.86	.78
27----	.75	.83	.96	1.14	1.33	1.08	.92	.82	.72
28----	.65	.76	.88	1.04	1.25	1.06	.92	.79	.70
29----	.55	.66	.80	.95	1.22	.96	.75	.62	.52
30----	----	----	----	----	----	.80	.70	.56	.42
31----	.53	----	.83	1.01	1.24	.98	.85	.71	.61
Averages	0.72	0.83	0.95	1.12	1.32	1.10	0.93	0.82	0.72

OMAHA, NEBR.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
May									
9-----	HS0.61	HS0.72	HS0.81	0.99	----	----	----	----	----
12----	----	----	----	----	HS1.25	----	----	----	----
13----	----	----	.89	1.07	HS1.26	----	----	----	----
14----	----	----	----	HS .96	----	----	----	----	----
24----	HS .70	HS .78	HS .94	HS1.02	HS1.23	----	HM0.79	HM0.60	HM0.54
25----	HM .68	HM .72	HM .82	HM .98	HM1.17	----	----	----	----
28----	HI .38	HI .45	HI .64	HI .81	HI1.15	----	----	----	----
30----	----	----	----	HS1.01	----	----	----	----	----
Averages	0.59	0.67	0.82	0.98	1.21	----	0.79	0.60	0.54

HS Slight haze
HM Moderate haze
HI Intense haze
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1967 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. MAY 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
	Day of month																															
ALBUQUERQUE N.M.	721	715	656	661	165	192	288	718	726	674	668	654	617	544	649	727	733	711	740	677	706	415	626	545	739	743	709	730	665	665	564	624
AMES IOWA	385	306	486	466	368	432	184	362	536	389	481	620	617	610	596	291	142	274	168	525	67	468	272	626	624	368	610	578	538	645	429	434
ANNETTE ALASKA	532	335	210	86	503	269	317	555	464	410	398	446	687	574	671	680	633	689	589	487	634	424	573	298	507	443	714	536	195	457	77	464
APALACHICOLA FLORIDA	594	332	381	622	687	666	661	568	324	729	458	692	690	356	683	201	370	199	637	647	694	709	654	656	616	482	494	599	709	582	613	558
ARGONNE NAT. LAB.	616	480	527	529	238	311	489	340	356	195	563	632	387	645	627	602	149	121	343	480	351	286	497	710	355	571	517	694	486	669	408	457
ASTORIA OREGON	426	408	572	683	685	709	688	686	392	538	616	624	256	515	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ATLANTA GEORGIA	354	545	243	606	622	631	469	198	617	675	677	614	606	147	148	174	181	60	433	607	582	525	567	455	589	451	567	583	566	608	592	474
BARROW ALASKA	324	280	315	428	556	385	411	399	397	373	481	453	604	662	473	515	455	---	587	649	626	470	511	500	607	478	453	512	495	518	424	478
BETHEL ALASKA	406	---	418	438	421	327	---	382	383	638	503	595	279	228	377	221	609	514	643	619	261	618	528	421	663	661	663	568	476	460	677	483
BISMARCK N.DAK.	663	691	376	217	447	718	493	595	598	426	762	704	625	640	469	423	332	613	454	568	439	782	660	562	627	715	743	753	651	---	102	562
BLUE HILL MASS.	637	637	331	647	677	665	399	54	47	599	311	386	588	247	632	610	621	539	281	49	556	341	617	181	473	622	721	457	553	516	678	473
BOISE IDAHO	374	442	530	653	683	677	674	683	689	690	692	434	625	555	665	688	701	384	374	640	722	723	708	552	664	699	737	701	628	691	708	625
BROWNSVILLE TEXAS	618	500	512	518	451	490	371	445	638	526	171	565	395	431	371	368	614	584	707	729	692	571	636	628	679	641	654	694	652	625	714	555
BURLINGTON VERMONT	643	571	267	615	601	647	99	207	155	149	185	477	223	433	631	542	289	110	160	249	570	346	139	310	197	710	649	428	448	521	677	397
CAPE HATTERAS N.C.	687	704	630	691	642	622	616	618	223	723	620	---	---	---	---	721	669	533	276	199	570	200	273	653	367	543	711	715	668	651	595	560
CARIBOU MAINE	732	716	292	603	570	527	568	539	95	289	334	431	426	599	620	553	431	667	127	108	678	304	399	257	151	807	818	---	793	625	627	483
CHARLESTON S.C.	605	544	481	658	656	680	650	678	162	747	647	731	658	379	145	435	313	256	116	633	471	592	627	569	541	332	562	626	613	563	593	527
CLEVELAND OHIO	634	659	565	621	627	515	359	275	183	226	383	508	559	699	666	646	215	124	188	500	757	130	749	635	464	789	721	677	690	687	724	522
COLUMBIA MISSOURI	672	680	626	602	378	495	282	109	561	372	416	724	173	413	591	676	309	253	505	413	142	158	115	274	722	688	690	713	675	342	342	455
DODGE CITY KANSAS	692	680	---	351	296	247	507	588	738	717	683	691	714	717	447	508	400	---	710	102	521	264	279	454	718	723	742	719	530	671	679	555
E. LANSING MICHIGAN	671	603	478	611	550	298	482	163	208	213	447	459	479	735	721	652	189	96	251	284	481	403	745	739	518	883	545	676	636	740	623	[illegible]
EL CENTRO CALIF. NPF	698	695	701	437	540	589	667	684	689	685	687	682	682	713	709	709	750	750	750	750	325	325	694	714	715	718	731	717	696	695	696	664
EL PASO TEXAS	752	447	679	750	634	521	741	779	766	657	749	724	732	722	630	764	760	697	757	755	697	575	742	763	795	771	716	700	724	702	661	705
ELY NEVADA	776	699	544	401	694	709	790	625	810	801	615	436	787	762	845	839	819	810	785	762	755	545	602	799	856	859	861	811	654	728	707	725
EPPLEY NEWPORT R.I.	621	627	306	605	661	674	421	77	37	601	426	629	572	341	680	629	643	601	272	92	430	419	611	384	416	684	707	489	568	473	---	490
FAIRBANKS ALASKA	531	542	597	595	479	603	---	---	---	425	419	339	296	536	471	536	595	591	551	584	535	358	502	626	654	454	519	359	597	564	506	513
FORT WORTH TEXAS	591	464	348	271	514	202	159	461	757	727	744	670	629	214	494	478	231	351	746	719	728	616	554	601	539	418	633	740	567	595	719	542
FRESNO CALIFORNIA	635	606	590	488	608	588	583	590	605	600	615	615	630	659	659	648	639	660	624	641	645	649	631	664	674	669	680	672	643	543	650	626
GAINESVILLE FLORIDA	533	133	536	662	224	647	622	600	260	696	522	666	582	300	508	308	486	216	279	460	483	647	655	506	476	358	507	618	672	594	524	493
GLASGOW MONTANA	163	617	---	382	---	689	671	667	630	719	703	686	640	538	237	487	198	779	403	339	697	683	662	723	682	602	731	773	555	271	318	560
GRAND JUNCTION COLO.	698	713	630	491	436	378	280	708	727	742	680	706	555	624	536	711	736	725	736	688	743	617	531	659	726	744	728	647	746	638	604	641
GREAT FALLS MONTANA	---	---	784	534	689	706	633	740	701	718	667	721	587	560	222	579	567	461	327	73	683	688	739	647	711	686	351	624	537	331	521	579
GREENSBORO N.C.	553	613	621	600	591	554	614	312	488	679	607	485	670	483	460	586	606	332	137	505	624	509	331	420	427	634	395	670	635	640	548	527
INDIANAPOLIS INDIANA	666	657	644	612	579	484	484	206	327	165	405	662	281	524	662	610	193	177	348	327	577	296	456	561	636	671	610	698	678	529	529	492
ITHACA NEW YORK	686	642	385	624	695	668	198	255	209	282	206	425	437	628	699	626	395	413	226	402	628	418	249	544	352	753	749	477	622	705	719	494
LAKELAND FLORIDA	463	151	510	580	632	502	559	577	280	677	589	490	557	355	572	355	515	387	233	523	462	440	560	592	577	645	579	582	517	642	569	506
LANDER WYOMING	673	679	472	363	406	709	551	725	723	717	717	699	630	558	515	658	739	453	627	212	468	761	755	736	550	385	759	744	739	514	392	601
LARAMIE WYOMING	613	547	574	224	111	230	379	675	697	673	647	585	574	441	428	379	604	599	557	564	568	622	526	587	579	673	651	520	634	506	335	526
LAS VEGAS NEVADA	719	670	635	403	371	505	442	715	709	712	698	716	703	760	740	745	741	755	754	741	748	742	732	751	754	769	747	751	751	719	668	689
LITTLE ROCK ARKANSAS	670	626	541	265	470	602	338	422	760	682	739	274	623	685	680	353	---	217	347	661	698	608	494	437	568	609	---	---	---	600	---	538
LOS ANGELES CALIF.	373	628	525	505	319	197	338	684	720	652	451	503	459	587	632	601	363	446	639	494	399	410	473	504	491	666	661	738	589	323	494	[illegible]
LOS ANGELES CALIF. U	439	274	461	479	387	383	131	271	688	687	659	534	473	459	613	652	685	647	640	611	482	400	400	461	481	582	591	650	687	647	482	517
MADISON WISCONSIN	345	468	530	504	511	173	528	295	615	330	512	699	596	693	670	613	107	155	515	443	131	556	537	682	610	469	494	706	724	718	320	492
MANHATTAN KANSAS	571	515	509	368	226	510	138	399	658	568	656	626	613	596	516	416	103	405	357	435	48	189	233	352	576	627	632	622	559	586	492	455
MEDFORD OREGON	684	700	497	724	724	738	732	722	717	680	689	562	433	445	722	733	671	268	665	764	762	757	603	614	638	253	621	745	573	771	806	645
MIAMI FLORIDA	353	415	373	581	529	567	599	594	627	521	535	191	354	554	537	507	525	483	248	449	456	724	607	700	718	555	437	421	624	438	701	517
MIDLAND TEXAS	[illegible]	622	628	197	586	677	597	634	---	654	695	690	687	640	673	590	373	735	719	718	---	---	689	687	685	723	665	690	702	709	671	643
NASHVILLE TENNESSEE	656	611	574	591	574	557	441	256	526	506	673	675	578	521	653	144	233	388	360	488	645	616	315	308	434	671	699	576	568	[illegible]	492	514
NEW YORK N.Y. U	698	611	494	666	709	732	318	258	103	732	517	590	473	506	732	628	701	636	254	189	716	734	545	195	459	789	752	652	671	722	749	566
NORTH OMAHA NEBRASKA	317	---	---	---	341	469	81	545	626	371	665	635	636	677	637	122	142	485	216	345	---	---	570	701	669	555	659	672	598	667	472	495
OAK RIDGE TENNESSEE	643	632	632	---	632	656	656	185	571	579	570	673	694	496	583	272	385	162	354	528	693	631	427	345	269	689	634	611	607	618	634	535
OKLAHOMA CITY OKLA.	624	903	363	227	460	211	360	322	722	652	675	683	547	491	344	347	111	446	639	574	677	248	391	577	398	644	603	642	---	596	675	506
PALMER AAES ALASKA	417	415	487	328	177	401	188	347	490	344	296	245	333	559	307	486	635	634	574	341	301	434	585	624	637	545	334	578	625	465	355	435
PHOENIX ARIZONA	719	727	727	434	458	480	604	721	733	714	699	595	672	708	721	740	736	737	743	661	673	734	731	764	751	[illegible]	748	741	722	709	729	690
PORTLAND MAINE	678	682	406	640	640	594	438	234	112	588	223	493	575	509	681	338	583	100	300	133	722	663	683	140	385	706	728	507	612	356	621	486

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. MAY 1969

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
RAPID CITY S.DAK.	535	635	532	285	490	674	360	705	676	691	711	522	682	600	429	346	615	712	355	261	214	724	727	699	548	672	696	717	705	596	543	57[illegible]
RENO NEVADA	594	424	384	469	670	665	658	647	531	571	573	519	668	698	679	673	602	689	708	691	686	664	670	659	674	621	650	699	687	673	686	628
RIVERSIDE CALIFORNIA	590	577	357	382	250	183	337	711	737	733	646	716	536	627	730	732	713	712	690	665	495	563	548	588	632	715	761	747	734	582	583	599
RUSTON LOUISIANA	352	612	558	287	97	523	155	143	676	652	668	582	438	550	602	352	254	181	562	543	640	627	593	594	515	521	635	409	560	596	632	497
SAINT CLOUD MINN.	156	699	444	440	394	684	659	507	629	473	584	695	702	692	368	176	652	624	254	694	178	322	434	601	644	598	590	587	669	497	250	516
SALT LAKE CITY	667	604	665	644	658	619	754	733	749	756	707	728	464	722	697	789	774	628	710	604	789	780	656	763	764	767	791	792	744	666	802	709
SAN ANTONIO TEXAS	287	303	352	594	313	224	407	286	767	488	645	426	612	546	478	272	644	728	708	671	692	---	736	645	688	551	639	647	647	682	665	546
SANTA MARIA CALIF.	710	640	496	616	702	467	217	670	662	662	387	188	683	723	707	708	653	632	708	531	553	499	348	631	679	749	722	742	736	718	211	592
SAULT STE MARIE MICH	320	100	521	248	262	111	597	166	344	492	563	475	636	665	316	536	302	363	518	611	591	681	688	325	717	708	427	602	683	765	565	479
SEATTLE TACOMA WASH.	305	279	377	653	637	683	684	681	507	297	677	687	592	401	708	481	694	409	261	492	693	695	628	---	500	695	324	276	127	379	563	516
SPOKANE WASHINGTON	212	216	537	661	632	652	667	---	661	662	586	647	470	355	621	531	666	690	148	515	678	654	669	432	652	500	458	593	217	572	677	540
STATE COLLEGE PENN.	698	664	584	649	632	663	421	234	306	412	421	443	484	589	735	626	491	501	471	553	767	582	399	534	497	794	773	548	704	778	755	571
STERLING VIRGINIA	597	600	590	522	612	612	536	216	309	538	461	507	516	339	521	608	637	409	108	473	645	605	346	236	545	645	629	598	606	601	663	511
SWAN ISLAND W.I.	---	640	656	658	629	622	665	627	647	582	659	658	145	---	450	599	657	590	677	685	622	645	616	649	673	693	470	322	444	422	585	586
TALLAHASSEE FLORIDA	537	163	306	656	587	638	603	400	215	699	456	664	656	213	522	145	462	175	398	630	616	630	613	616	440	426	542	522	625	559	422	488
TAMPA FLORIDA	422	187	492	597	681	583	505	674	246	742	596	550	580	377	694	341	552	452	366	565	648	523	704	647	612	606	522	628	596	725	724	553
TUCSON ARIZONA	706	712	695	496	290	552	714	714	725	729	586*	603*	458	594	670	735	730	726	743	715	666	744	728	756	759	747	737	724	704	680	711	673*
WAKE ISLAND PACIFIC	683	593	638	614	664	671	613	667	676	592	660	483	610	685	600	515	694	681	699	688	692	635	647	682	679	696	656	694	699	697	643	650

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

MAY 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	145	243	56	125	33	140	47	109	174	144	145	103	131	209	127	170	243	230	243	110	88	194	237	244	268	229	126	233	252	207	146	166

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer, Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	9.23	9.35	17.76	16.93	15.03	18.11	6.63	16.45	20.36	16.81	18.23	23.56	22.49	22.85	20.60	11.60	7.81	12.78	7.81	20.72	3.90	20.00	11.72	23.44	20.83	12.55	20.72	20.60	19.29	22.49	16.33	16.35

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code [illegible] defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean [illegible]
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical [illegible] extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of [illegible] is expressed in terms of the thickness of a layer it would occupy at standard temperature and pressure, e.g. [illegible] The code [illegible] the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), May.

B. Temperature Departure from 30 - Year Mean (°F 1931-60), May 1969.

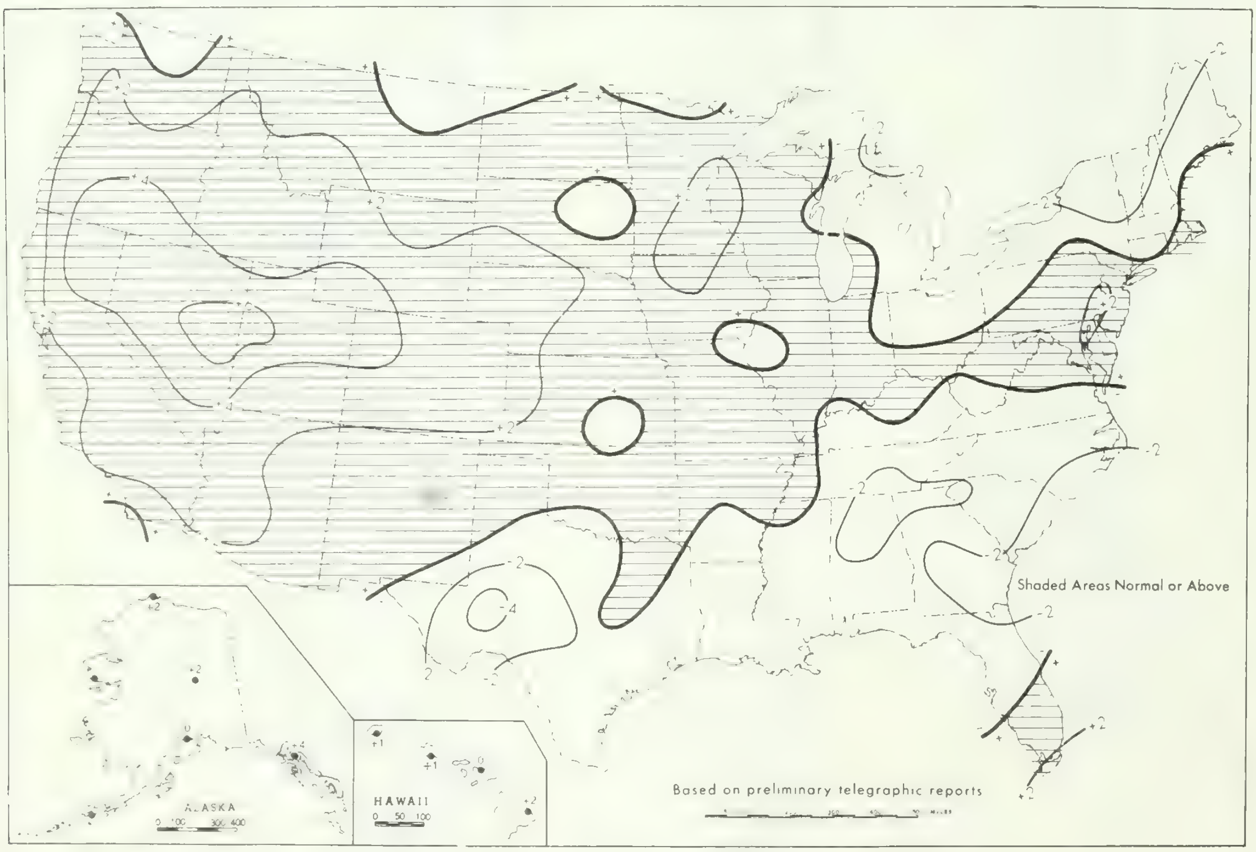


Chart II. Total Precipitation (Inches), May 1969.

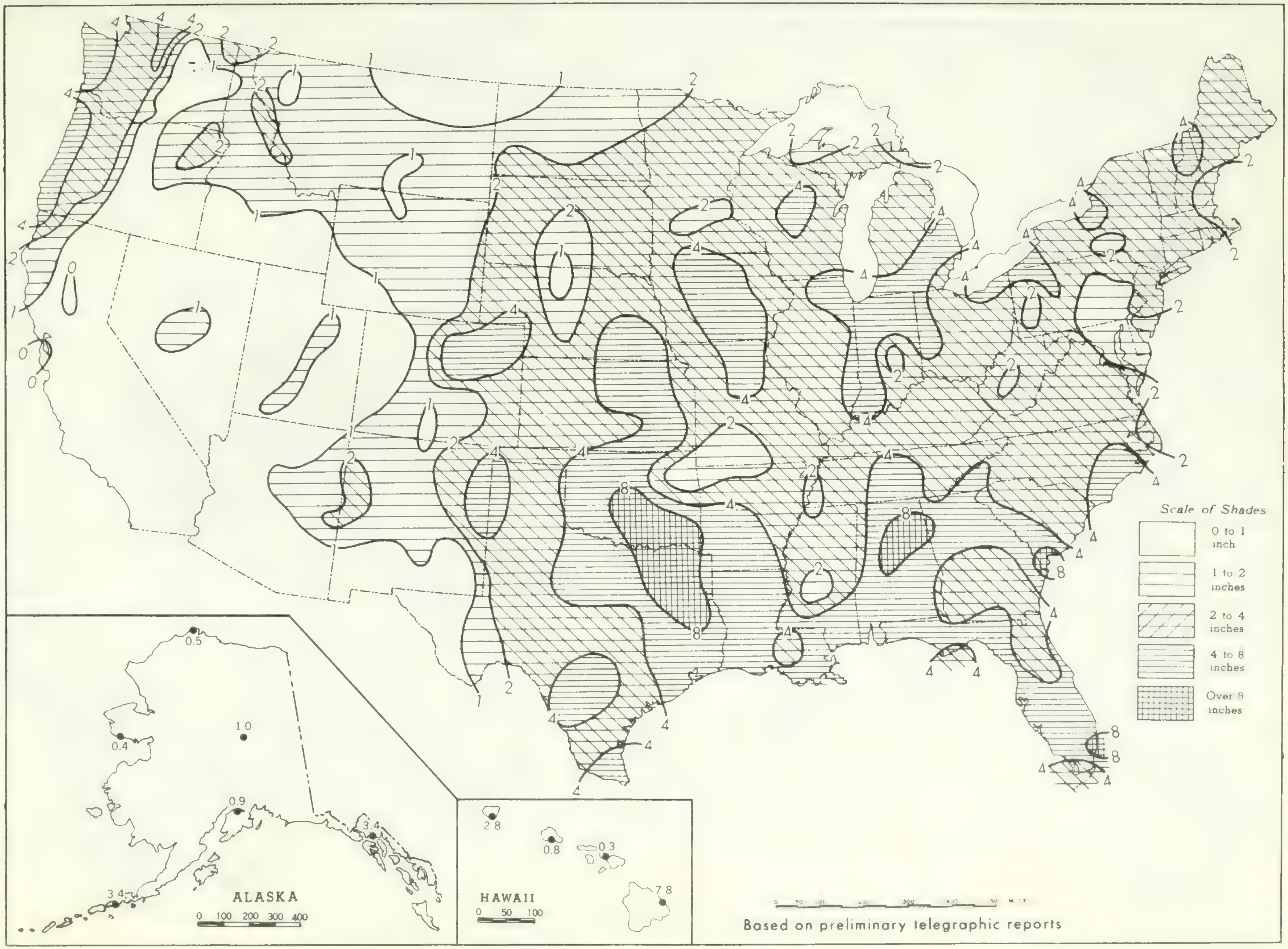


Chart III. Percentage of Normal Precipitation, May 1969.

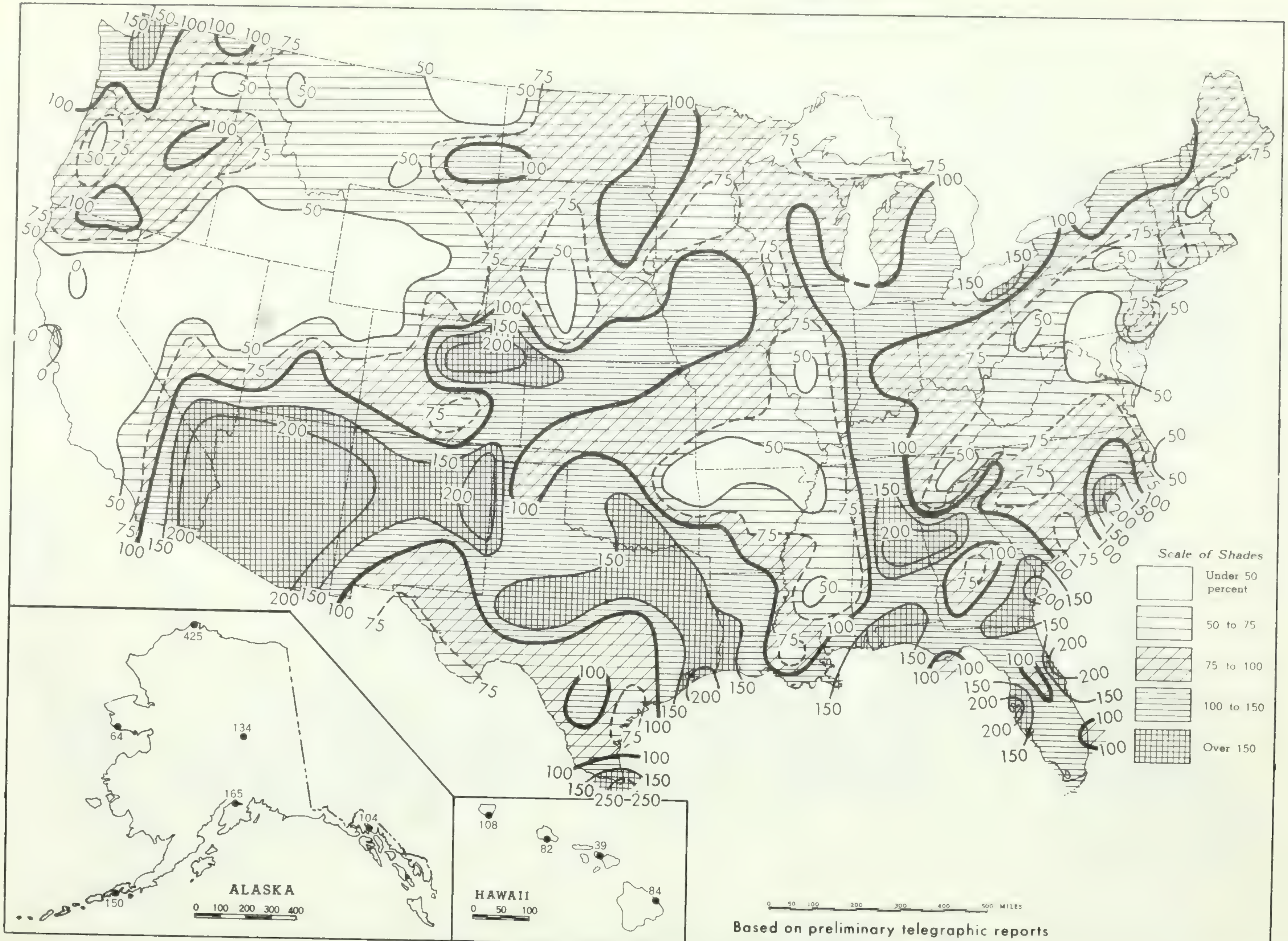
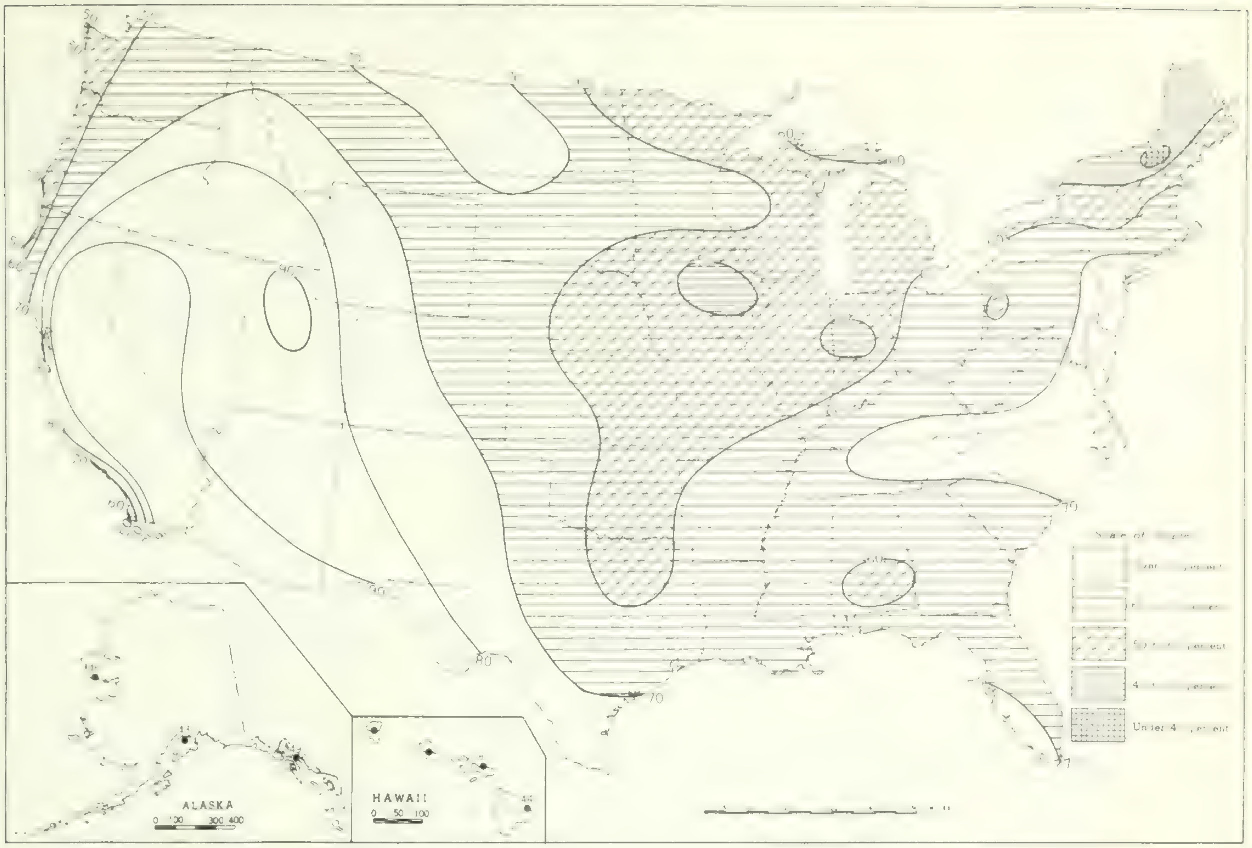
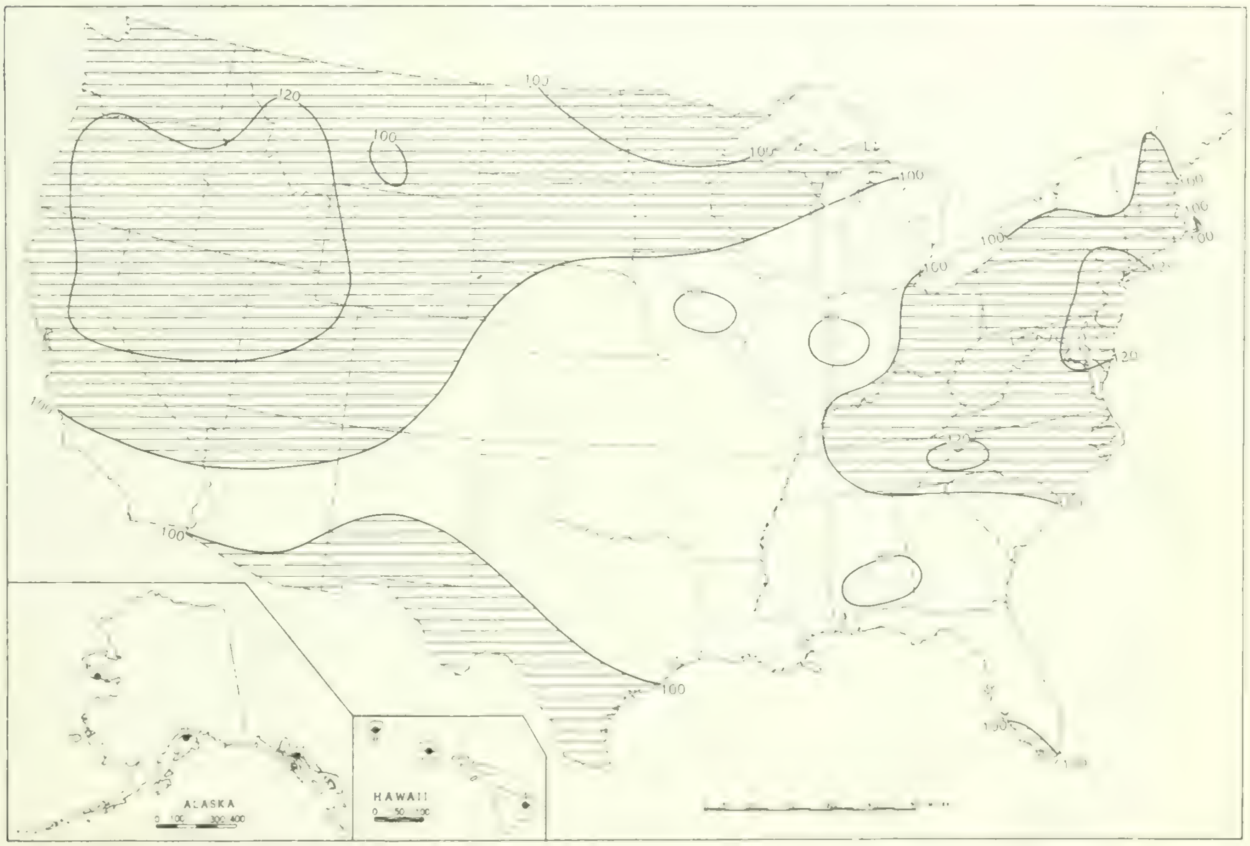


Chart VI. A. Percentage of Possible Sunshine, May 1969.

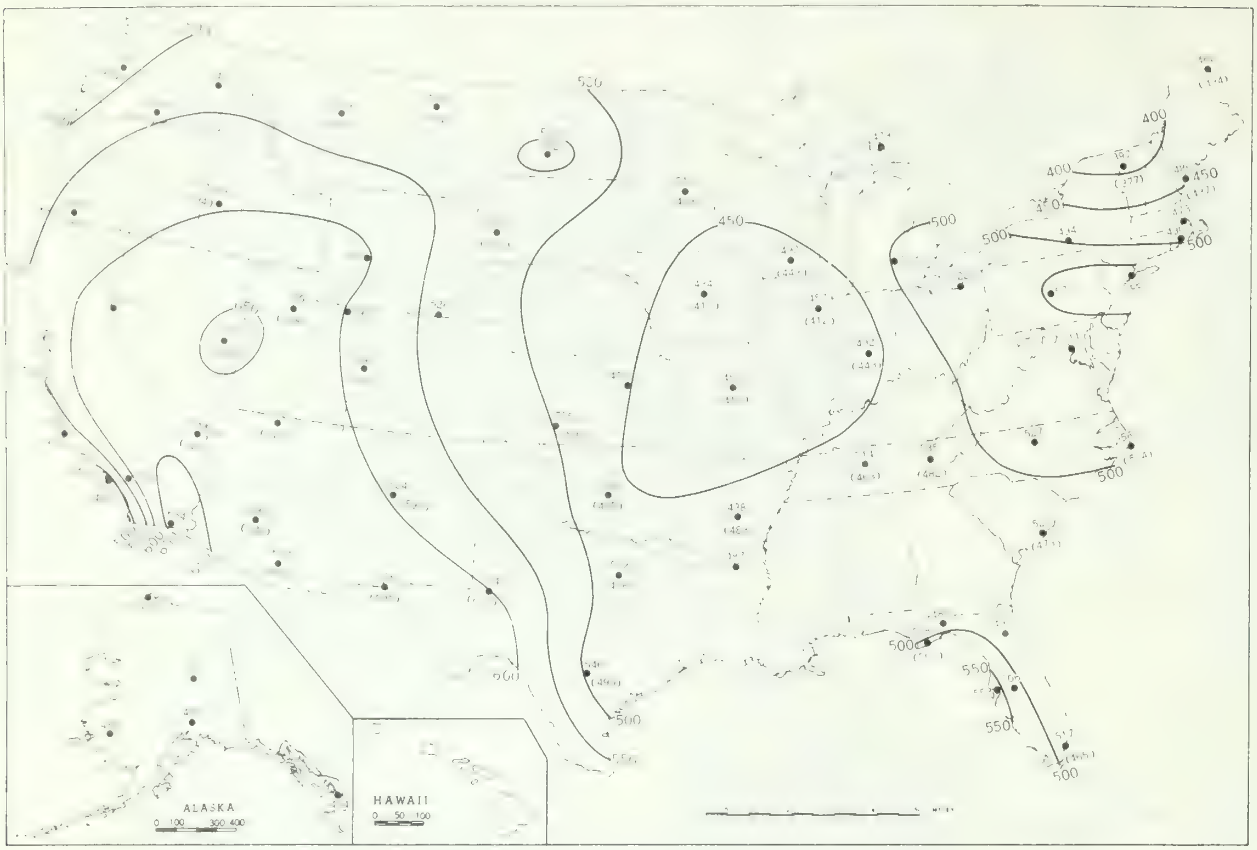


B. Percentage of Mean Monthly Sunshine, May 1969.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

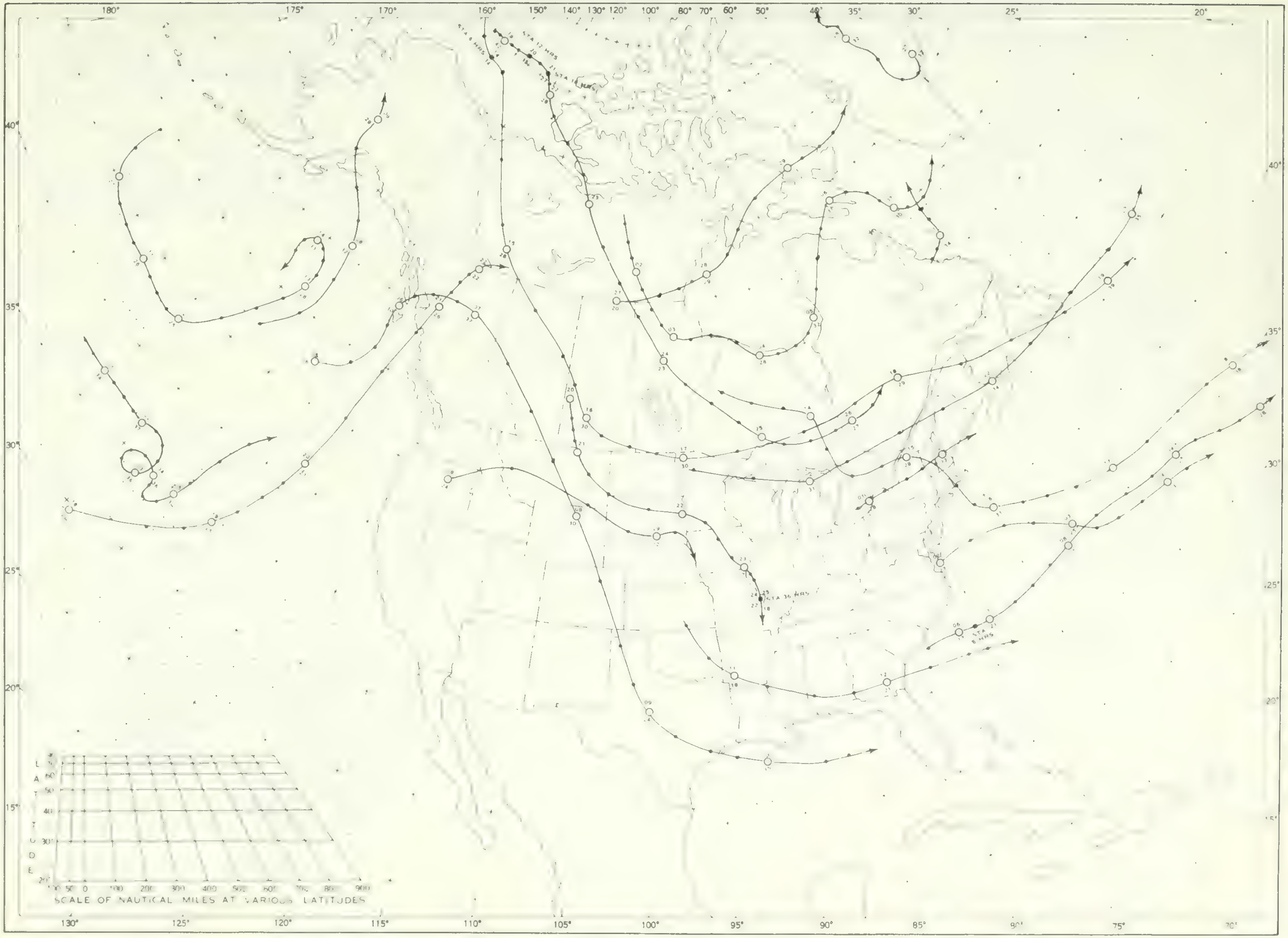
Chart VII. A. Average Daily Values of Solar Radiation, Langleys, May 1969.



B. Percentage of Mean Daily Solar Radiation, May 1969.

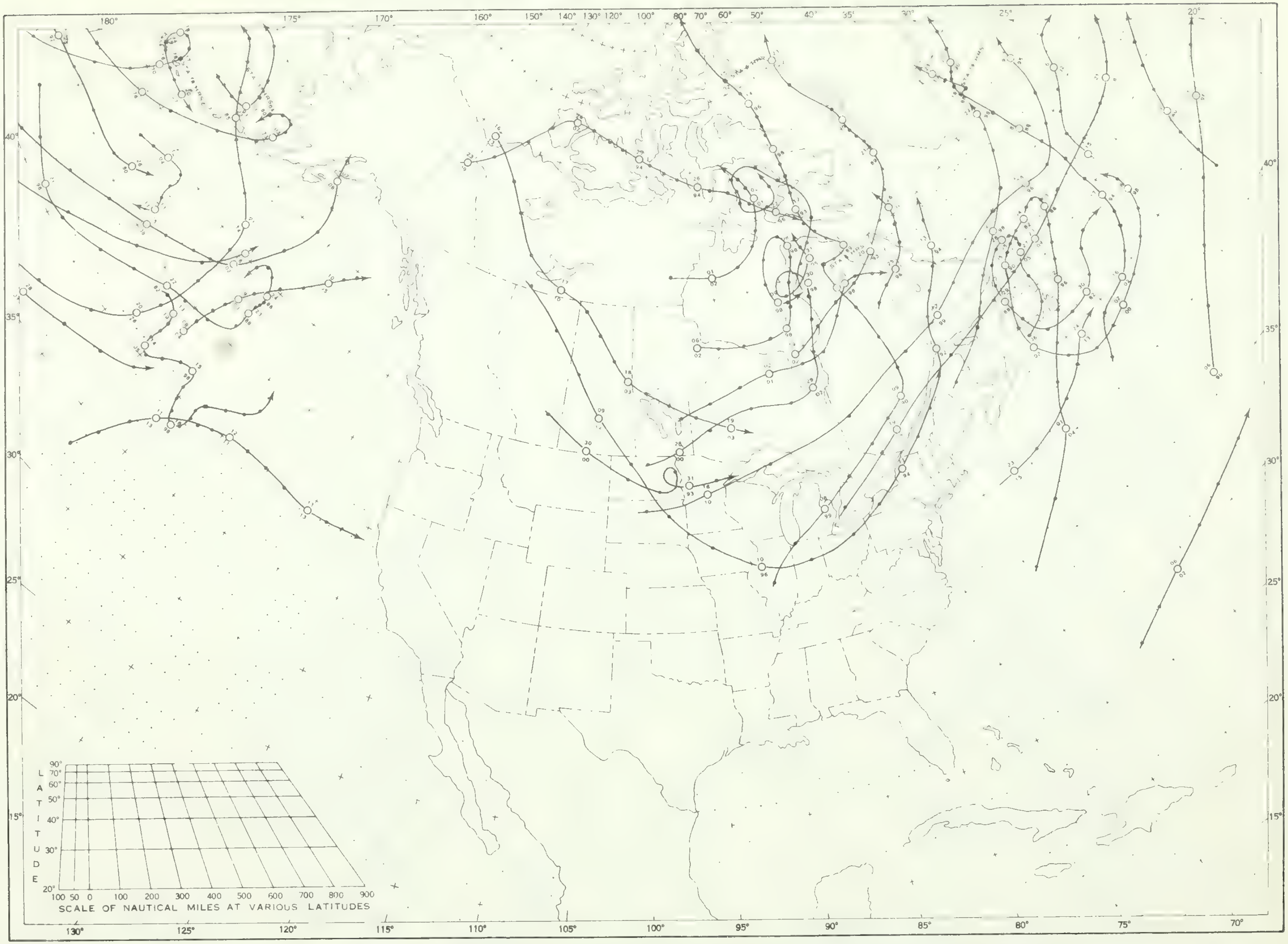
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII   Tracks of Centers of Anticyclones at Sea Level, May 1969.



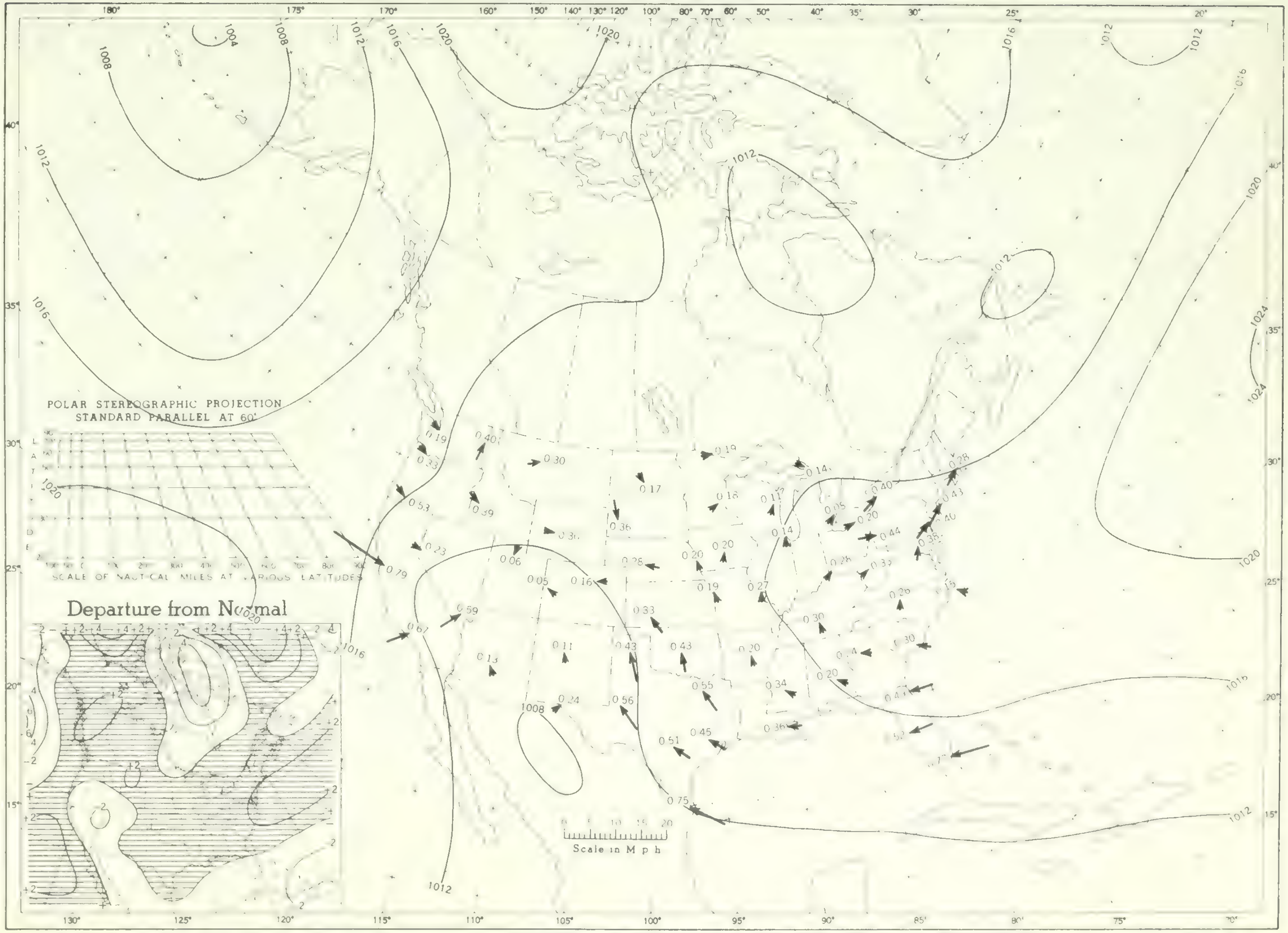
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6 hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX Tracks of Centers of Cyclones at Sea Level, May 1969.



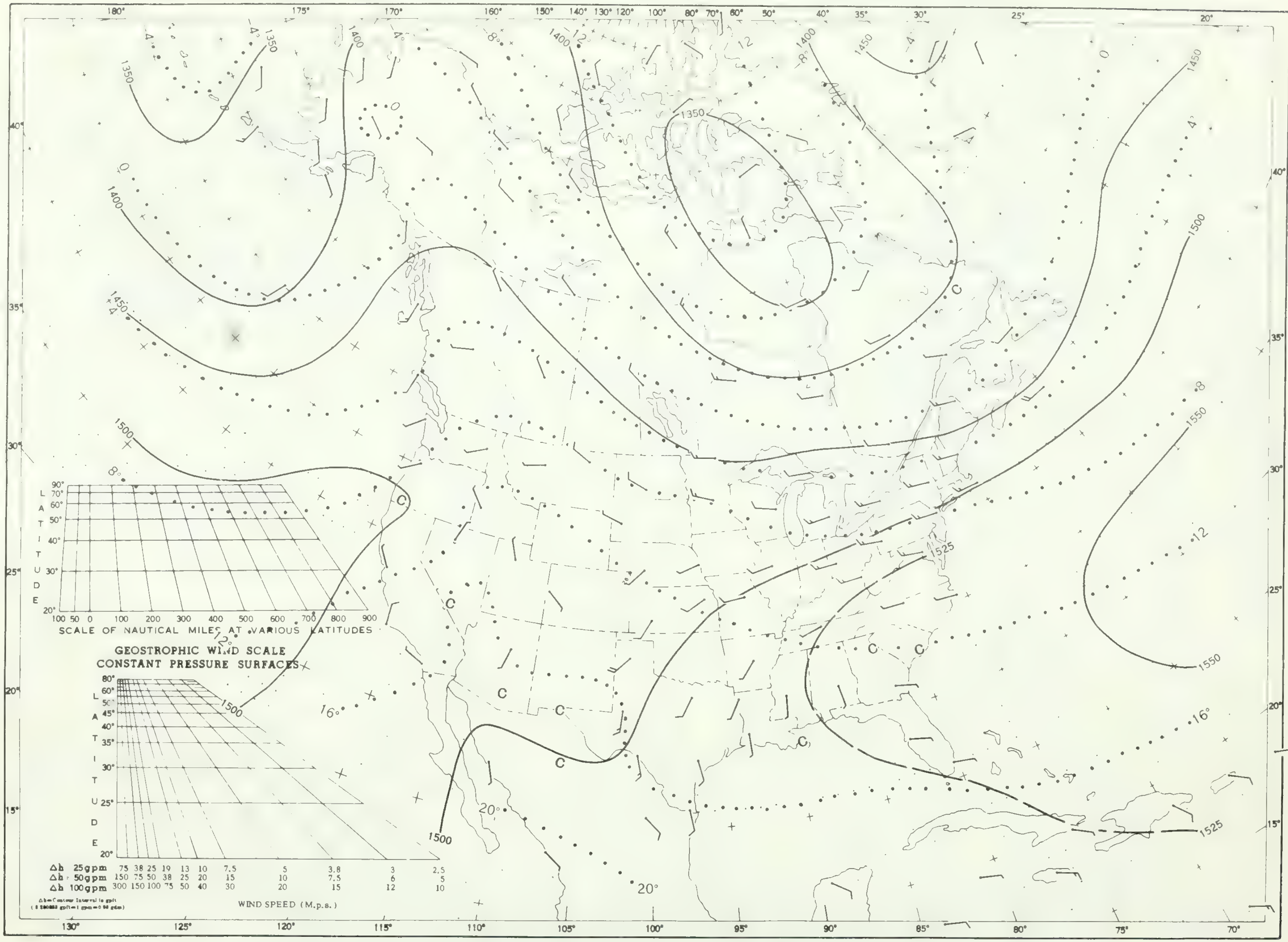
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, May 1969. Inset. Departure of Average Pressure (mb) from Normal, May 1969.



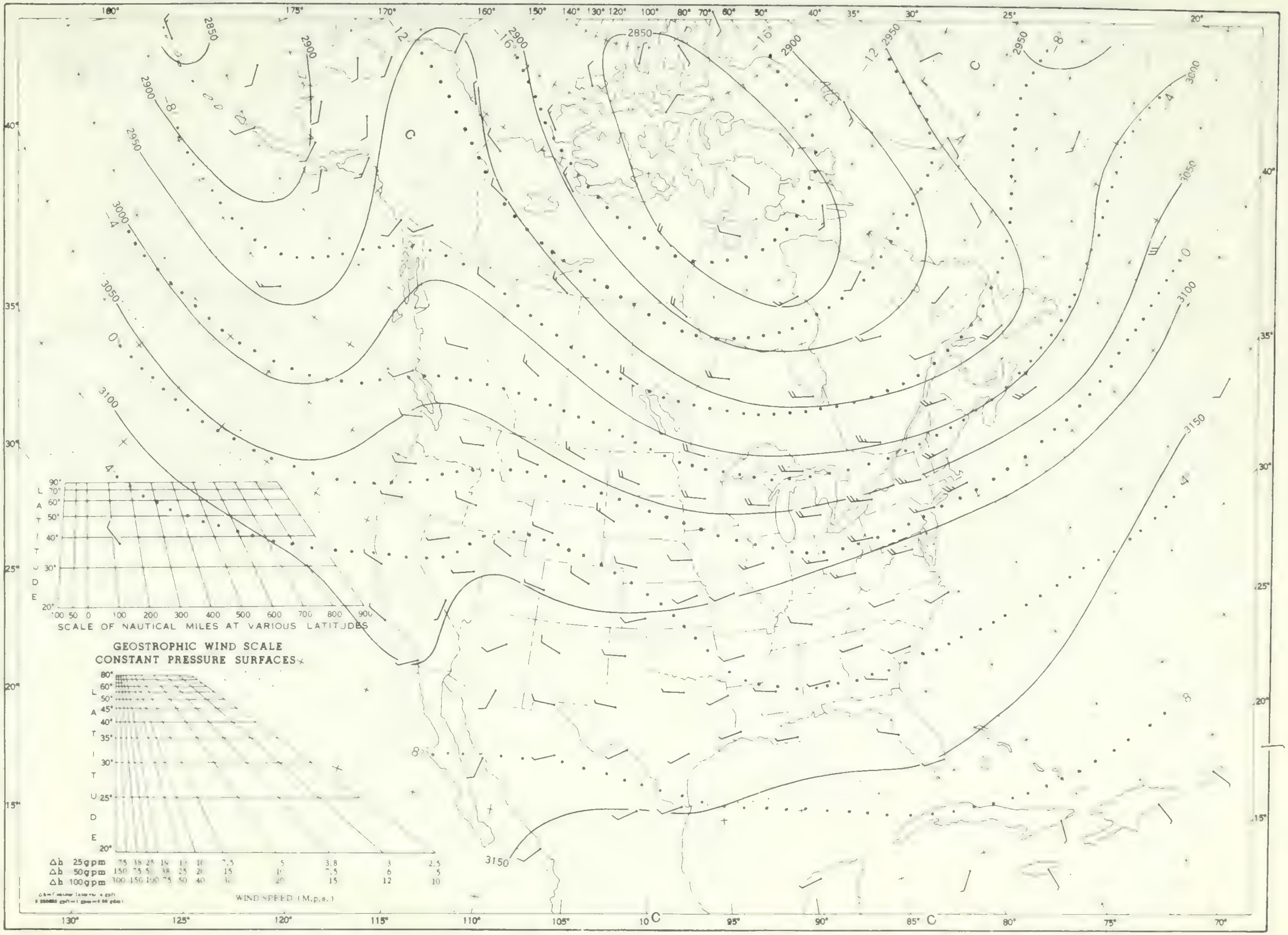
Average sea level pressures are obtained from eight daily 3 hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI 850-mb Surface, 1200 GMT, May 1969. Average Height and Temperature, and Resultant Winds.



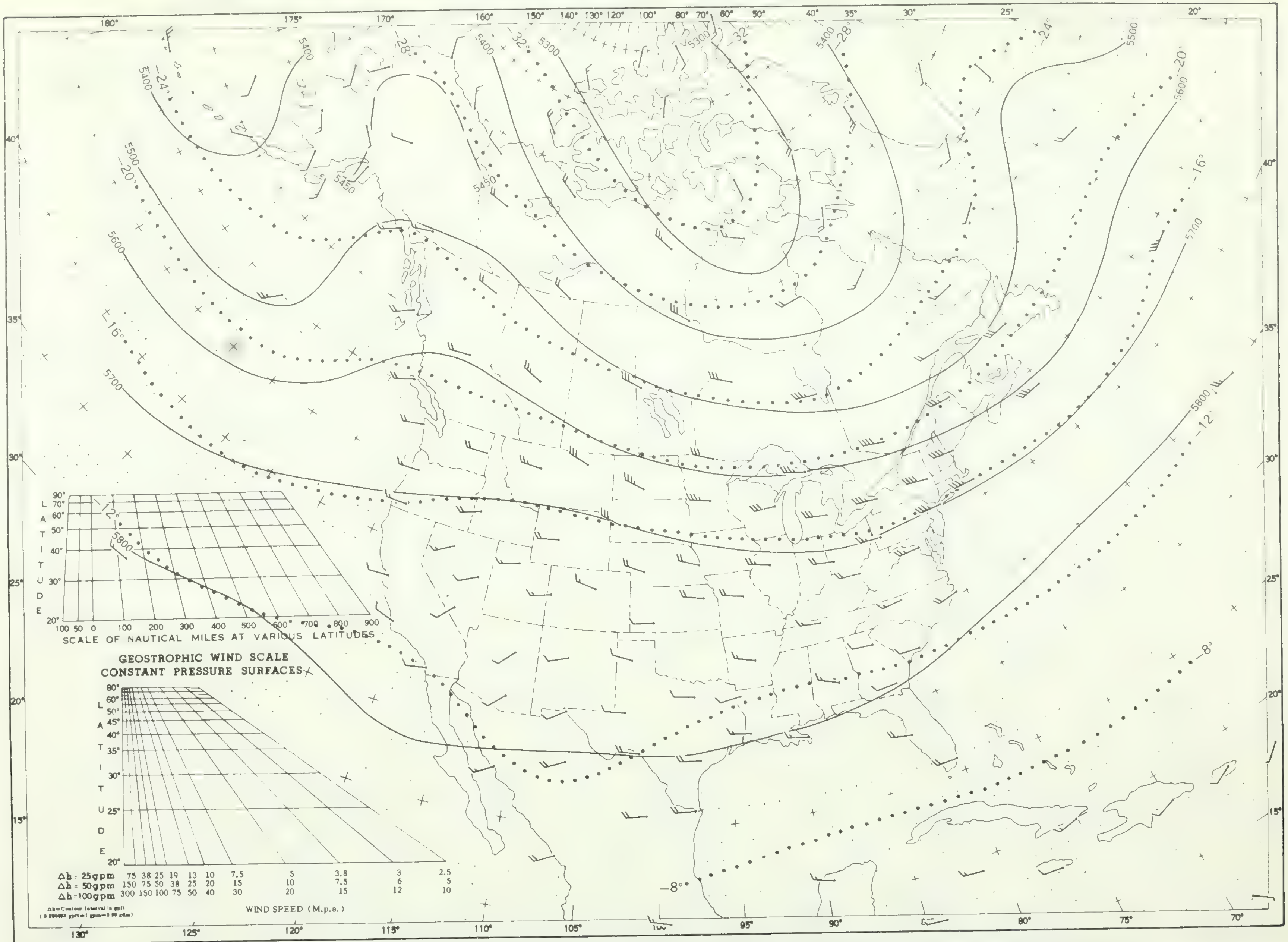
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, May 1969. Average Height and Temperature, and Resultant Winds



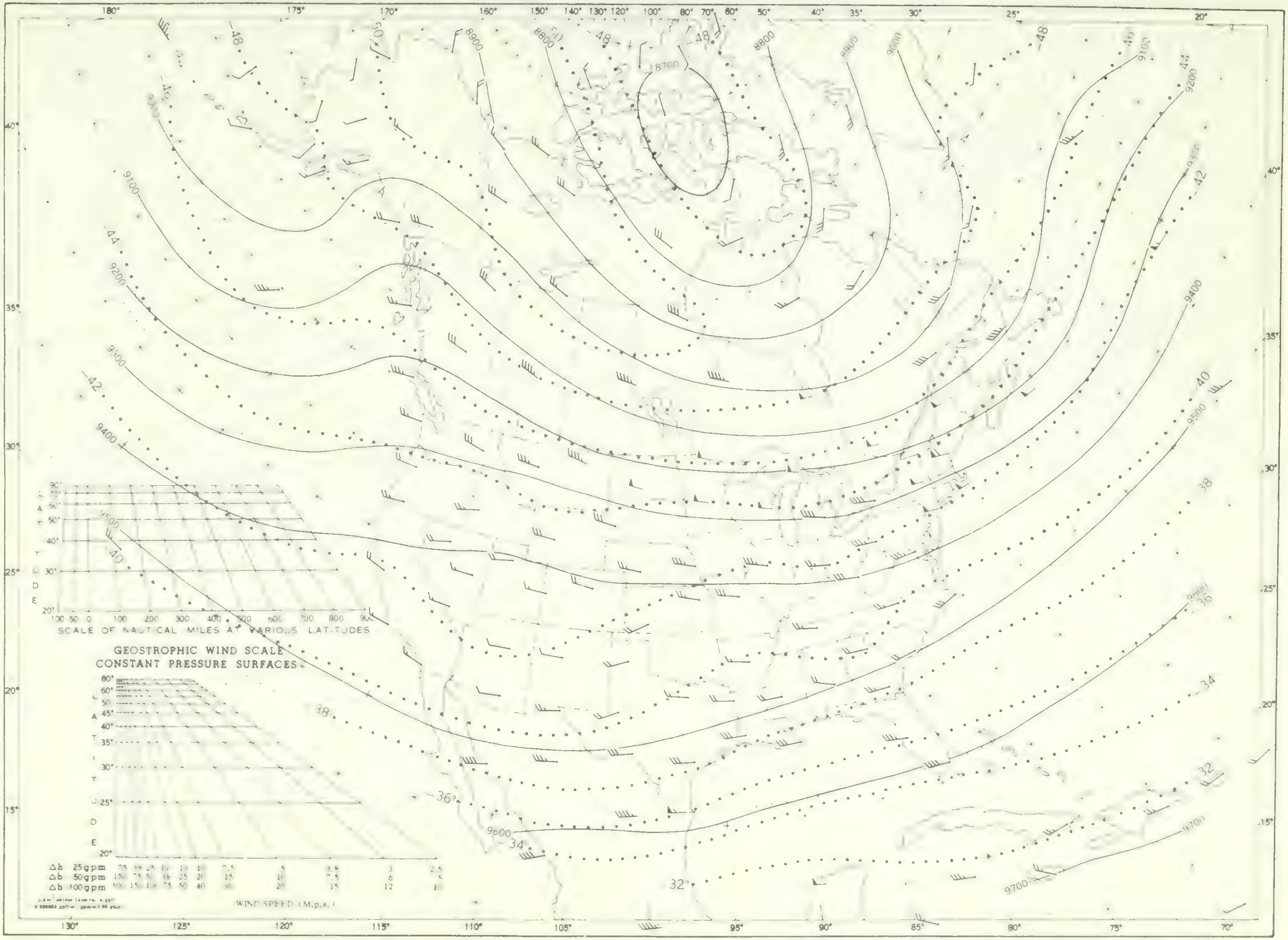
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, May 1969. Average Height and Temperature, and Resultant Winds.



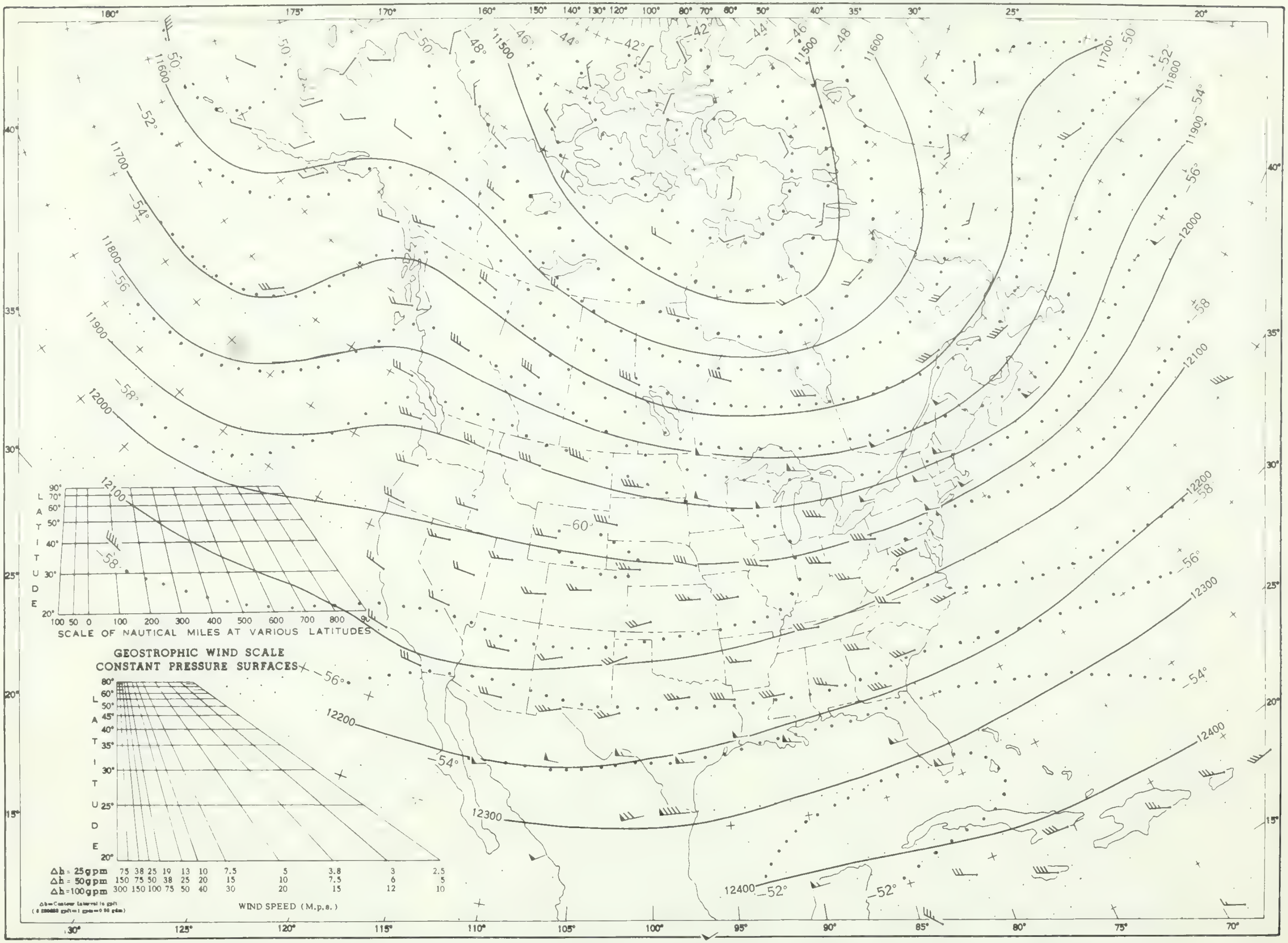
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV 300-mb. Surface, 1200 GMT, May 1969. Average Height and Temperature, and Resultant Winds



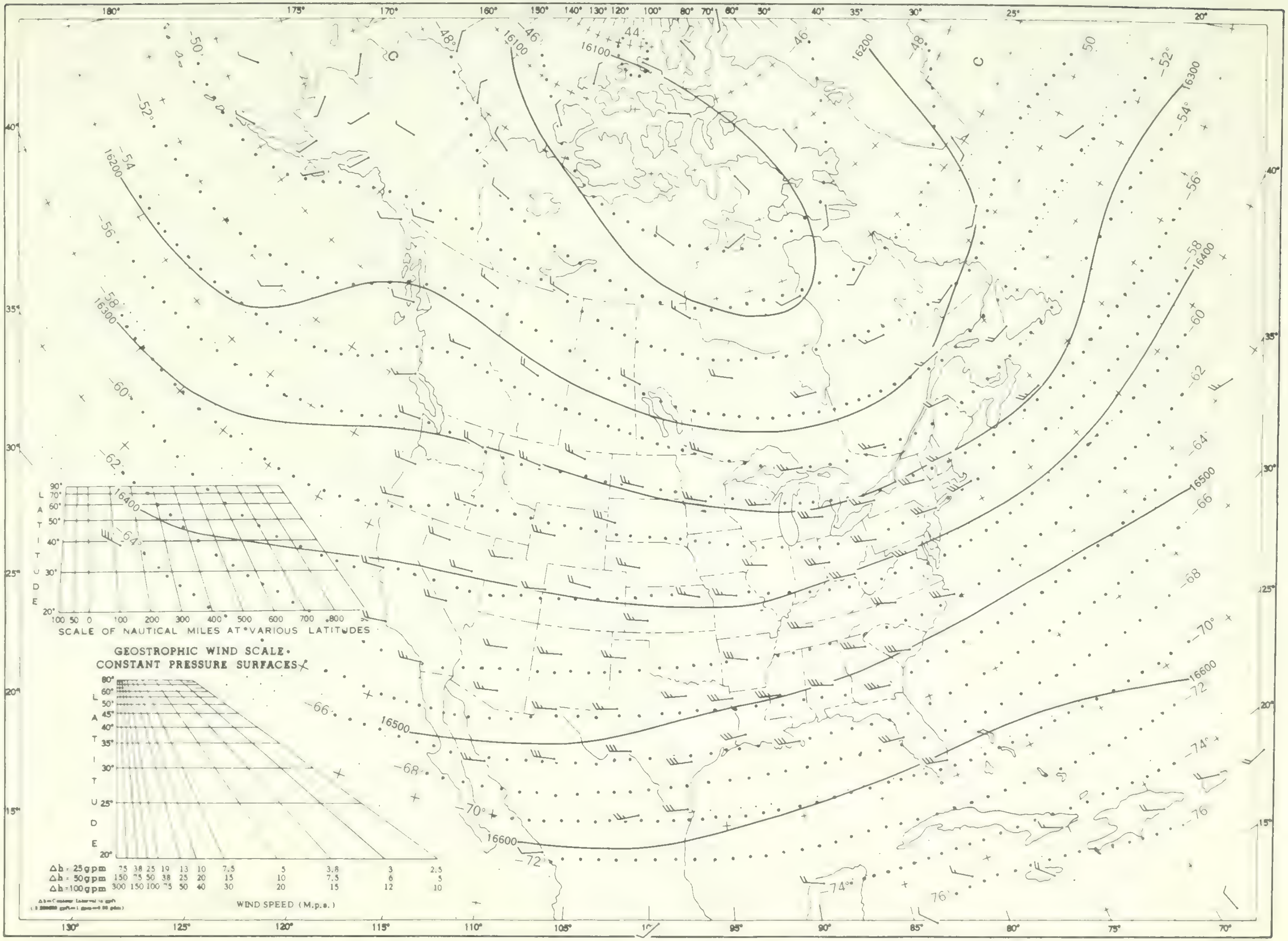
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, May 1969. Average Height and Temperature, and Resultant Winds.



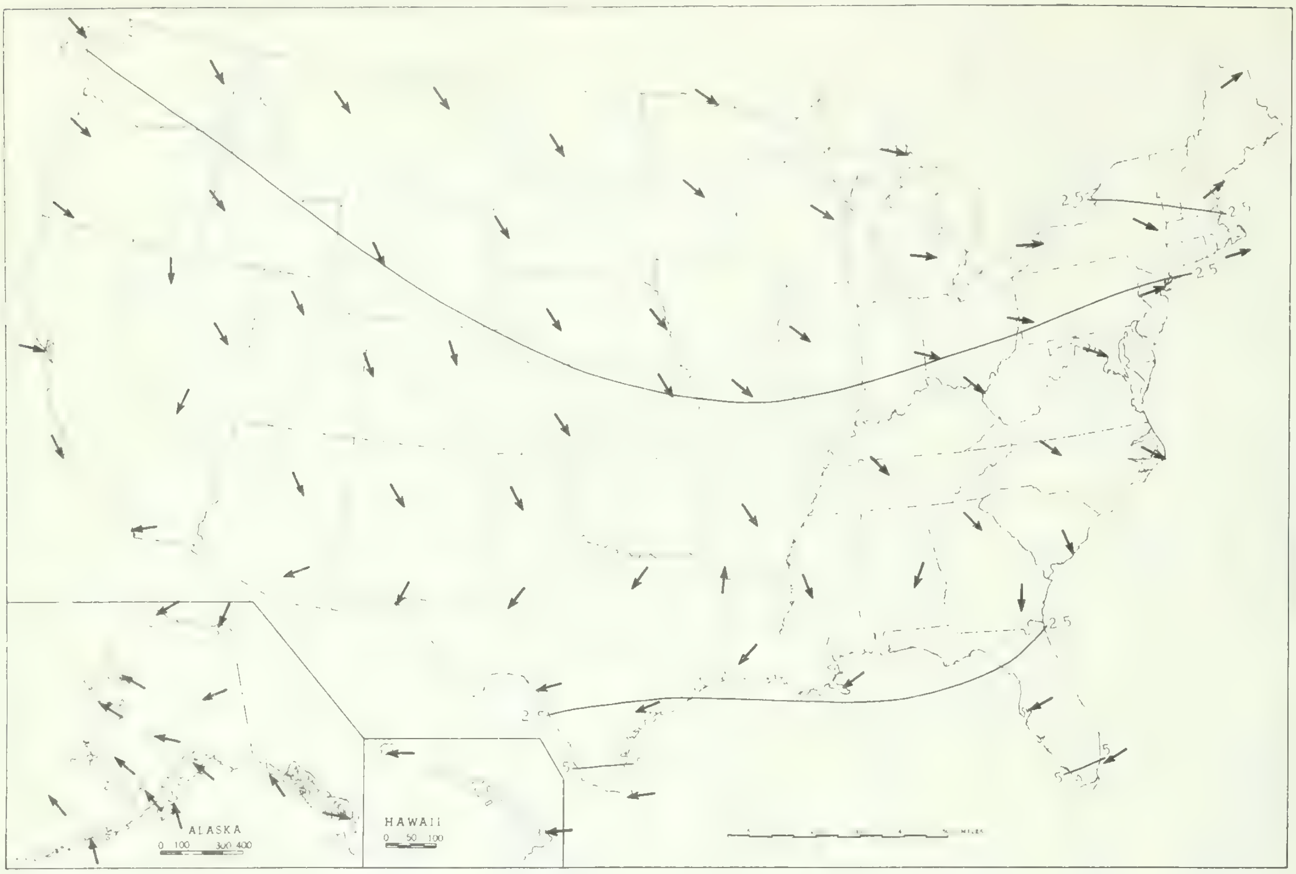
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, May 1969. Average Height and Temperature, and Resultant Winds.

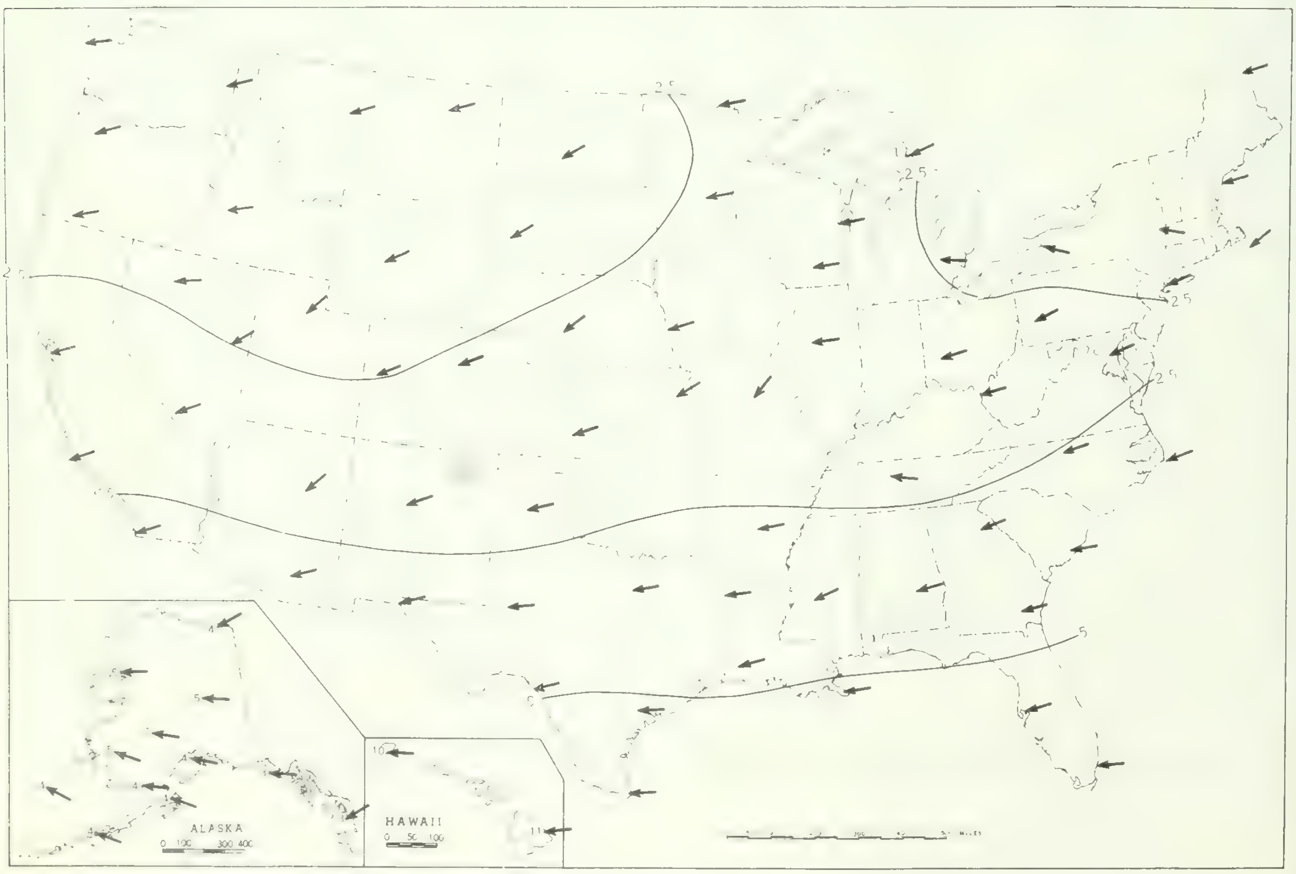


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, May 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, May 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SVC. ADMIN
NATIONAL WEATHER RECORDS CENTER
FEDERAL BUILDING
ASHEVILLE, NORTH CAROLINA 28801

POSTAGE AND
UNITED ST
DEPARTMENT OF
OFFICIAL BU

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JUNE 1969
Volume 20 No. 6

Asheville 1969

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JUNE 1969 Volume 20 No. 6

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:
1. June 1969 was cooler than normal over most interior States but warmer than normal along the coasts.
2. Most of the rain fell in connection with thunderstorms.
3. A total of 134 tornadoes occurred on 28 days, killing 7 persons.

TEMPERATURE.--Temperatures in June averaged warmer than normal over the Far Northwest and along the Pacific, Gulf, and Atlantic coasts, and cooler than normal over most of the interior of the Country. The northern and central Great Plains and eastward to Lower Michigan overaged 4° to 8° cooler than normal.

June began with afternoon temperatures reaching the 90's in the mid-South but with cool air moving into the Great Plains. Bismarck, N. Dak., registered 30° on June 2, the coldest June temperature in their 95-year record. The cool air spread eastward. A hot current pushed northward in the Far West, then spread eastward with 100° heat reaching the desert areas of Washington by the 4th and the central Great Plains by the 6th. The temperature at Scottsbluff, Nebr., climbed from below freezing on the 2d to 98° on the 5th. St. Joseph, Mo., on the 6th, registered 100°, the highest temperature of the season to that date. The heat wave continued its eastward journey with maximums reaching the 90's in Kentucky and Virginia by the 8th.

Meanwhile, another blast of cool air moved into the northern Great Plains and Great Lakes region, dropping early morning temperatures into the 30's and 40's. On June 14, Sault Ste. Marie, Mich., registered 32°, the coldest temperature of record for so late in the season. Moderate temperatures continued over the Northern States in the second week of June. Hot weather lingered in the South. Warm weather continued in the Northeast until near the end of the second week when afternoon temperatures dropped about 20° to the 60's and 70's.

In the third week of June, a heat wave in the Far West drove afternoon temperatures to the 90's or higher. Colville, Wash., registered 109° on June 17. As the hot spell continued in the West, cooler weather from Canada moved into the northern Great Plains. Dickenson, N. Dak., registered 47° at 2 p.m. on the 19th and, on the morning of the 20th, frost occurred over much of North Dakota and the northern half of South Dakota. The last week of June was another week of contrasting temperatures. Strong winds, reaching 40 to 50 m.p.h., brought a cooling trend to the West and North Central States while hot, humid, Gulf air warmed the South Central and Eastern States. New York and New England roasted in 90° heat. On June 28, Washington, D. C., registered 100°, the warmest temperature at Washington since July 3, 1966, when the mercury climbed to 101°. The temperature at Jackson, Miss., climbed to 100° or warmer on 9 consecutive days, from June 22 to 30. Albuquerque, N. Mex., registered 102° on the 29th, the hottest June temperature there in the 20th century. The high humidity in the East combined with the hot temperatures made the weather especially uncomfortable. Hundred-degree heat also occurred over the southwestern deserts, the western edge of the central and southern Great Plains, and the Deep South as far north as the Missouri Bootheel.

June 1969 was the warmest June in many years in parts of Oregon and Washington but it was the coolest June in many years from Minnesota and Iowa to Michigan.

PRECIPITATION.--Local showers left an uneven rainfall pattern over most of the Nation. No rain of importance fell in the southern portions of California, Arizona, and New Mexico. Precipitation ranged from no rain or only light sprinkles to 4 inches in the Far Northwest, from 2 to 4 inches over the northern and central Rocky Mountains and the northern and central Great Plains, and from 1 to more than 8 inches over the eastern half of the Nation. Monthly totals exceeded twice the normals from Nevada to the central Rocky Mountains and northward to western Montana, from north-central Oklahoma to northern Lower Michigan, and in parts of the central Appalachians.

Numerous thunderstorms, some accompanied by large hail, strong winds, and heavy downpours, occurred from Texas to the Great Lakes in the first week of June. On June 2, hail, wind, and rain damaged cotton, barley, and other crops in El Paso and Brewster Counties, Texas, to the extent of over \$1/2 million. Other hailstorms damaged roofs, broke windows, dented automobiles, and caused extensive crop damage in Terry, Castro, and Swisher Counties, Texas, on the 3d. Several tornadoes, numerous funnel clouds, and a few damaging hailstorms occurred in Missouri, Iowa, and Wisconsin on June 4. Hailstorms with stones up to 2 3/4 inches in diameter occurred in several north-central Missouri counties in the evening of June 4. A tornado collapsed a barn, killing 32 head of cattle in Grant County, Wis. Another caused extensive property damage on about 20 farms near Belmont, Wis., on the 8th. Widespread wind and hail damage occurred in West Virginia on June 8. Many areas reported hail up to 1 inch in diameter. Winds exceeded 60 m.p.h. at Charleston and Charles Town. Near Parkersburg, hail as large as golf balls damaged automobiles.

In the second week of June, widespread turbulent weather occurred east of a quasi-stationary front that stretched from Lower Michigan to Texas. Heavy rain showers fell early in the week in the Deep South and severe weather occurred in the Great Plains throughout most of the entire week. On the evening of June 10, wind and hail damage occurred in several south-central Nebraska counties. The center of activity was along an 80-mile path from Maywood to Axtell. A few of the stones attained a diameter of about 2 inches. The hail covered the ground in many areas and, at some sites in northern Frontier County, to a depth of 6 inches. Several tornadoes and a number of hail- and windstorms struck in Texas the same day. One of the most devastating hail- and windstorms occurred in Hale County. It damaged about 80% of the houses and businesses in Plainview, the County Seat. Twelve persons were injured by flying glass. Damage to automobiles exceeded \$1/2 million and glass breakage was estimated at \$150,000. Winds gusted to 70 to 90 m.p.h. On the afternoon and evening of June 11, hail, high winds, and torrential rains caused extensive damage in northeastern Kansas. Numerous

other severe thunderstorms boiled up in Iowa and a few tornadoes and other damaging storms struck Michigan, Kentucky, and Texas on June 11 to 13.

A late winter storm dumped snow in the northern and central Rocky Mountains on June 11 and 12 with accumulations up to 6 inches in the Black Hills of South Dakota. Several inches of snow fell in extreme northwestern Nebraska on the 13th.

Much of the precipitation in the 3d week of June fell in connection with thunderstorms which, in some cases, were accompanied by damaging hail and gusty winds. One of the fiercest hailstorms, with hail up to 3 inches in diameter, caused over $1 million damage to property and crops in the Comanche, Texas, vicinity on the 18th. The jagged hailstones shattered about 95% of the windows on the south and west sides and damaged the roofs of about 95% of the homes in Comanche. Winds accompanying the storms were estimated to have reached 80 m.p.h. Ten persons suffered injuries in connection with the storm. More severe thunderstorms and a few twisters struck mid-America at the end of the 3d week of June.

Substantial rains fell in most Northern States in the last week of June. Totals of 1 to 3 inches were common over the northern Great Plains with 5-inch weekly totals causing some local flooding in Montana. Numerous tornadoes and severe thunderstorms struck from the central Great Plains to the Atlantic Ocean. Heavy rains caused local flooding in south-central Kentucky and north-central Tennessee. Several inches of snow fell in the Colorado Rockies. This was the 4th consecutive wet week in Minnesota and the 7th consecutive dry week in parts of the Deep South.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JUNE 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	105	30	Russellville 2	36	4+	Madison	7.36	Beatrice 1E	T
Alaska	Richardson	98	16	Holy Cross	2	17	Chignik	27.25	2 Stations	.00
Arizona	2 Stations	114	30	Fort Valley	25	7	Teec Nos Pos	1.48	131 Stations	.00
Arkansas	Pocahontas 1	105	30	Mammoth Spring	35	3	Athens	10.39	Wynne	.91
California	Needles FAA AP	114	30	White Mountain 2	19	29+	Boca	4.07	105 Stations	.00
Colorado	John Martin Dam	104	28	Wolf Creek Pass 1E	9	26	Grand Lake 1NW	6.44	Northdale	.60
Connecticut	Hartford WBAP	97	28	3 Stations	39	10+	Cream Hill	7.47	Pauchaug Forest	.51
Delaware	Bridgeville 1NW	101	28	2 Stations	48	4	Milford 2WSW	6.14	Bridgeville 1NW	1.39
Florida	Niceville	102	29	De Funiak Springs	53	4	Royal Palm Ranger Sta	25.49	De Funiak Springs	.30
Georgia	Bainbridge	102	29+	Blairsville Exp Sta	39	4	Savannah WBAP	9.99	Woodstock	.40
Hawaii	2 Stations	93	29+	Mauna Loa Slope Obs	36	30+	Mount Waialeale 1047	21.08	10 Stations	.00
Idaho	Swan Falls Power House	105	5	2 Stations	22	30+	Dixie	5.00	Richfield	.45
Illinois	4 Stations	99	30	do	36	4+	Rosiclare	12.72	Farmer City	1.57
Indiana	2 Stations	97	30+	Wabash 2SW	30	4	Delphia 3NNE	9.09	Collegeville St Jo Col	2.50
Iowa	do	100	6	2 Stations	31	3	Dubuque L&D No 11	14.28	Sanborn	2.75
Kansas	Norton 8SSE	107	28	Brewster	31	2	Lyndon 3ENE	12.65	Dodge City WBAP	.75
Kentucky	Mayfield Radio WNGO	102	30	Vanceburg	35	4	Scottsville 3SSW	14.79	Louisa 2	1.92
Louisiana	St Francisville 6SE	105	28	3 Stations	50	6+	Hackberry 8SSW	3.63	Bethany	.10
Maine	Houlton FAA AP	97	13	do	29	1	Hiram	5.26	Woodland	.86
Maryland	Cumberland	103	30	2 Stations	35	4	U S Soldiers Home DC	7.46	Preston 1S	.95
Massachusetts	Chester 2	99	27	South Egremont	38	10	Adams	5.82	Provincetown 1N	.55
Michigan	Jackson FAA AP	95	26	Champion Van Riper Pk	20	9	Evart	10.94	Eagle Harbor Coast GD	.90
Minnesota	Albert Lea	97	5	Cotton 10E	24	20	Worthington	11.82	Bigfork	1.36
Mississippi	4 Stations	105	30+	Tupelo 2WNW	43	3	Hernando	6.80	Gulfport Naval Center	.12
Missouri	Cape Girardeau FAA AP	103	29	Berryman 6NW	35	3	Windsor	14.68	Round Spring 3NNW	.65
Montana	Loma 1WNW	99	4	Utica 11WSW	14	13	Edgar 9SE	13.12	Haugan	1.20
Nebraska	2 Stations	106	29	Agate 3E	20	2	Curtis	9.04	Benkelman	.77
Nevada	Sunrise Manor Las Vegas	106	30+	Buffalo Ranch	23	28	Eureka	4.37	Sunrise Manor Las Vegas	.09
New Hampshire	Lebanon FAA AP	97	27	Mount Washington	27	9	Otter Brook Dam	7.35	Center Harbor	1.63
New Jersey	Atlantic City WBAP	106	28	Long Valley	37	5	Audubon	8.96	Belleplain St Forest	1.37
New Mexico	4 Stations	109	22+	Tierra Amarilla 4NNW	24	4	Newkirk	5.56	16 Stations	.00
New York	2 Stations	98	28	2 Stations	32	21+	Cohocton SCS	7.74	Cutchogue	1.28
North Carolina	5 Stations	100	29+	Celo 2S	32	4	Mortimer	15.28	Hatteras	1.77
North Dakota	Dickinson Exp Station	97	6	Belcourt Indian Res	18	11+	Watford City 14S	7.68	Grafton	1.65
Ohio	2 Stations	98	30+	Toledo Sewage	30	3	Lancaster 2NW	8.63	Warren 3S	2.12
Oklahoma	Altus Irr Resch Stn	109	21	Kenton	41	27	Nowata	14.85	Leedey	.84
Oregon	2 Stations	104	5+	Fremont	26	29	Otis 2NE	9.29	The Dalles No 2	.31
Pennsylvania	Farrell Sharon	100	28	Clermont 4NW	31	17	Long Pond 2W	10.86	Stump Creek	.31
Puerto Rico	2 Stations	99	17	Cerro Maravilla	60	29+	Mayaguez Nuclear Ctr	16.11	Mona Island	.26
Rhode Island	Providence WBAP	93	28	Kingston	42	10+	Block Island WBAP	1.72	Greenville	1.08
South Carolina	2 Stations	101	30	2 Stations	45	5+	Kingstree 1SE	11.17	Camden 2WSW	1.47
South Dakota	3 Stations	102	5	Deerfield 4NW	14	14	Brookings 2NE	7.20	Wilmot 1ENE	1.09
Tennessee	Savannah	103	30+	Mountain City No 2	35	4	Lafayette	12.44	Parsons Water Plant	.59
Texas	Presidio	114	21	Garcia Lake 12ENE	41	14	Voss	8.64	El Paso WBAP	T
Utah	Saint George	104	30	Cedar Breaks Nat Mon	20	10	Silver Lake Brighton	6.50	Glen Canyon City	.04
Vermont	Woodstock 2WSW	95	28	West Burke	32	1	Whitingham 2W	7.80	Chelsea	1.60
Virginia	Glen Lyn	104	29	Floyd 2NE	33	4	Philpot Dam 2	9.71	Grundy 3NW	.14
Washington	Priest Rapids Dam	104	4	Mount Spokane Summit	28	12	Cedar Lake	7.05	Moxee City 10E	.09
West Virginia	Moorefield 2SSE	102	30	2 Stations	32	4	Beckley WBAP	7.05	Omps	1.34
Wisconsin	2 Stations	92	26	do	27	13+	Darlington	15.87	St Croix Falls	1.81
Wyoming	Worland FAA AP	100	5	Bondurant 3NW	13	1	Ten Sleep 4NE	6.71	Muddy Gap	.51

\+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	991.5	1013.5	88	65	76.2	- 3.2	97	29	48	3	14	0	66	74	3.75	- 0.26	2.38	7	7	0.0	0	0.6	23	45	SW	19	9	14	7	5.0	65
HUNTSVILLE	624	990.9	1013.5	91	68	79.2	0.6	101	29	51	3	19	0	65	65	6.15	2.78	4.46	7	9	0.0	0	1.2	19	35	21	20	6	18	6	5.5	
MOBILE	211	1005.1	1012.9	94	71	82.4	0.9	101	29	61	3	25	0	68	68	1.33	- 4.90	0.35	10	8	0.0	0	0.1	19	26	6	30	11	14	5	4.6	
MONTGOMERY	183	1006.1	1013.3	92	67	79.4	0.0	101	28	54	4	23	0	66	68	1.75	- 2.42	0.88	4	6	0.0	0	0.2	10	25	5	10	12	14	4	4.4	72
ALASKA																																
ANCHORAGE	114	1009.5	1014.1	65	50	57.7	2.0	85	14	43	13+	B 5	0	45	65	0.18	- 0.80	0.16	3	0	0.0	0	4.7	18	25	16	16+	2	4	24	8.3	47
ANNETTE	110	1010.8	1014.9	72	53	62.2	7.9	89	9	46	5	14	0	51	73	2.83	- 2.84	1.37	8	0	0.0	0	2.4	18	23	18	2	10	7	13	6.0	
BARROW	31	1016.9	1017.4	38	29	33.4	0.3	59	30	4	6	0	13	30	87	0.29	- 0.07	0.14	5	0	0.6	3	8.9	8	26	7	22	8	13	9	5.8	
BARTER ISLAND	39	1015.2	1017.1	37	29	33.1	- 1.1	46	10	17	4+	0	20	30	87	0.06	- 0.45	0.05	3	0	0.5	2	10.6	8	30	7	17+	7	10	13	6.5	
BETHEL	125	1005.4	1011.1	61	44	52.4	0.8	79	15	36	3	4	0	42	71	0.78	- 0.40	0.20	15	0	0.0	0	1.9	7	28	14	8	0	4	26	8.7	
BETTLES	644	987.5	1012.5	73	48	60.8		92	16	28	5	18	2	43	52	0.53		0.19	6	0	0.0	0	0.4	21	23	17	8	5	7	18	6.9	
BIG DELTA	1268			75	51	63.2		92	15	35	2	23	0			0.84		0.41	3	0	0.0	0			36	18	9	4	10	16	7.2	
COLD BAY	96	1004.1	1007.9	50	44	46.9	1.6	57	29+	39	2+	0	0	41	82	2.52	0.57	0.71	16	0	0.0	0	4.7	16	48	15	9	0	1	29	9.8	
FAIRBANKS	436	994.9	1011.7	79	51	64.9	6.5	96	15	37	2	26	0	43	48	0.39	- 1.00	0.20	4	3	0.0	0	0.9	28	27	22	17	5	8	17	7.0	
FAREWELL	1499			66	44	54.7		86	15	34	13	10	0			1.91		0.87	8	4	0.0	0						1	6	23	8.5	
GULKANA	1572	956.3	1012.6	73	46	59.1		90	15+	30	3	21	1	38	48	0.47		0.31	3	2	0.0		5.9	19	25	18	8	5	10	15	6.5	
HOMER	67			58	44	50.9		79	14	33	2	2	0			0.43	- 0.62	0.19	7	0	0.0	0						2	4	24	8.3	
ILIAMNA	186			57	44	50.5		82	14	36	2	4	0			2.49		1.14	9	0	0.0	0						2	6	22	8.5	
JUNEAU	12	1013.9	1014.6	69	47	57.8	5.5	86	13	36	6	14	0	49	76	2.41	- 0.98	0.69	9	0	0.0	0	1.2	29	23	12	3	11	5	14	5.7	60
KING SALMON	49	1008.1	1010.2	60	45	52.5	1.1	80	14	38	4	6	0	41	67	0.56	- 0.84	0.15	11	0	0.0	0	8.3	13	38	8	7	1	1	28	9.3	
KOTZEBUE	10	1011.9	1012.4	56	44	49.7	5.9	80	16	25	4	1	5	43	78	0.82	0.33	0.32	12	0	0.0	T	3.1	27	33	17	9	3	9	18	7.3	
MC GRATH	344	999.0	1011.7	69	46	57.6	1.1	90	15	34	7+	15	0	43	60	1.20	- 0.46	0.41	10	4	0.0	0	0.4	26	17	30	28+	1	11	18	7.7	
NENANA	356			75	44	59.4		93	15	30	2	23	2			0.66		0.49	3	2	0.0				23	20	4					
NOME	13	1010.5	1011.3	54	41	47.7	1.8	79	15	26	4	2	3	38	71	0.87	- 0.06	0.33	10	1	0.0	0	2.6	13	25	14	9+	2	4	24	8.5	18
ST. PAUL ISLAND	22	1007.8	1008.6	47	37	42.1	1.3	51	27+	27	3+	0	4	39	88	0.68	- 0.47	0.23	14	0	0.0	0	4.2	6	32	35	15	0	3	27	9.2	
SHEMYA	122	1005.8	1009.5	45	39	42.2	0.4	48	30+	36	8+	0	0	39	89	0.81	- 0.51	0.19	13	0	T	0	4.5	34	35	34	16	0	1	29	9.7	
SUMMIT	2401			64	43	53.7		84	14	31	3	10	1			0.98		0.32	9	2	T	0			29	22	16	4	6	20	7.6	
TALKEETNA	345			69	46	57.8	2.7	91	14	35	3	13	0			0.64	- 1.13	0.41	6	2	0.0	0			16	18	3					
TANANA	232			73	47	60.0	3.1	94	15	33	3+	19	0			0.19	- 1.06	0.07	5	4	0.0	0			23	27	17	3	10	17	7.3	
UNALAKLEET	15			57	44	50.5		71	16+	28	4	2	1			0.51		0.14	10	0	0.0	0			30	14	9+	0	4	26	9.1	
YAKUTAT	28	1014.9	1016.0	57	42	49.7	- 0.8	78	13	30	2	2	2	45	86	2.36	- 2.70	1.12	10	0	0.0	0	2.8	24	17	11	3	4	5	21	8.0	
ARIZONA																																
FLAGSTAFF	7006	786.7	1010.6	76	40	57.9	- 1.6	89	30	32	11+	0	2	26	30	0.01	- 0.68	0.01	1	3	0.0	0	6.7	21	29	21	24	20	8	2	3.0	
PHOENIX	1117	968.2	1006.0	99	69	84.2	0.6	110	30	64	11+	29	0	40	22	0.00	- 0.09	0.00	0	0	0.0	0	1.8	26	32Y	WSW	25+	25	3	2	1.4	95
TUCSON	2584	921.1	1006.5	96	65	80.7	- 2.0	106	30	57	12+	27	0	36	22	0.00	- 0.29	0.00	0	0	0.0	0	5.1	23	35	SE	5	26	4	0	1.1	98
WINSLOW	4895	848.3	1007.6	90	55	72.1	- 2.2	103	30	47	12	17	0	29	23	T	- 0.26	T	0	0	0.0	0	7.2	23	36	23	25	22	6	2	2.6	
YUMA	194	999.3	1006.3	98	69	83.4	- 2.6	110	30	61	10	26	0	48	33	0.00	- 0.01	0.00	0	0	0.0	0	6.0	18	25	SE	25	28	1	1	0.7	99
ARKANSAS																																
FORT SMITH	447	995.6	1011.9	86	66	76.0	- 2.6	95	30+	48	3	11	0	64	69	4.57	0.22	1.46	8	8	0.0	0	1.2	19	34	SW	23	11	11	8	5.1	66
LITTLE ROCK	257	1003.1	1012.2	89	66	77.6	- 1.3	99	30	46	3	18	0	66	70	2.98	- 0.63	0.80	10	8	0.0	0	3.6	22	37	NW	24	12	12	6	4.7	87
CALIFORNIA																																
BAKERSFIELD	475	993.2	1010.5	88	65	76.7	- 0.4	97	30+	58	28	15	0	51	43	T	- 0.09	T	0	0	0.0	0	6.7	33	25	32	16	22	5	3	2.1	
BISHOP	4108	869.6		86	51	68.9	- 0.9	97	3	44	28+	11	0			0.36	0.27	0.15	7		0.0	0						12	12	6	4.0	
BLUE CANYON	5280			66	51	58.3	- 0.9	80	2	41	10+	0	0			0.49	- 0.44	0.32	5		0.0	0			15	10	16	11	5	14	5.4	
EUREKA U	43			60	53	56.6	1.1	64	6	50	1	0	0			0.34	- 0.40	0.15	7		0.0	0			25	N	28	3	3	24	8.4	39
FRESNO	328	999.0	1010.5	87	59	72.9	- 1.8	96	30	54	29+	11	0	53	53	0.04	- 0.03	0.04	1	2	0.0	0	8.5	30	20	NW	25+	21	6	3	2.8	92
LONG BEACH	34	1011.5	1012.8	74	60	66.6	- 0.9	92	30	55	10	1	0	55	71	T	- 0.03	T	0	0	0.0	0	3.8	22	16	21	9+	4	10	16	7.0	
LOS ANGELES	97	1008.5	1012.1	70	61	65.5	0.7	78	30	58	10	0	0	57	77	T	- 0.05	T	0	0	0.0	0	6.3	23	22Y	SW	9	5	12	13	6.8	
LOS ANGELES U	270			73	62	67.2	- 0.8	88	30	60	28+	0	0			T	- 0.06	T	0		0.0	0			16	SW	9	4	11	15	6.8	36
MT SHASTA R	3544	889.9	1012.3	74	50	61.8	1.5	92	3	40	27+	1	0			0.77	- 0.48	0.28	7		0.0	0										
OAKLAND	6	1013.5	1013.8	66	57	61.1	- 1.7	77	29	52	27	0	0	53	79	0.05	- 0.07	0.03	3	0	0.0	0	10.1	27	23	30	16	10	5	15	5.8	
RED BLUFF	342	998.6	1011.1	86	61	73.9	- 2.3	100	15	56	9+	10	0	50	49	0.33	- 0.12	0.19	2	0	0.0	0	0.6	26	29	N	16	12	10	8	4.6	75
SACRAMENTO	17	1010.5	1011.4	83	55	69.0	- 1.5	96	16	51	27	6	0	54	67	0.08	- 0.02	0.08	1	1	0.0	0	7.8	21	24	NE	16	18	9	3	3.0	94
SANDBERG R	4517	860.1		71	51	60.9	- 3.9	86	30	43	10	0	0			0.33	0.30	0.33	1		0.0	0			43	33	28+	21	3	6	2.6	
SAN DIEGO	13	1011.5	1012.4	69	62	65.5	- 0.7	76	30+	59	1	0	0	57	77	0.02	- 0.03	0.02	1	0	0.0	0	5.4	27	18	NW	18+	3	5	22	8.2	30

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CALIFORNIA																																
SAN FRANCISCO	8	1013.5	1014.1	67	55	61.1	-0.2	82	29	50	28	0	0	51	75	0.06	-0.05	0.05	2	0	0.0	0	13.7	27	41	30	3	11	5	14	5.7	
SAN FRANCISCO U	52			63	55	58.7	-0.4	77	29	51	30	0	0			0.05	-0.09	0.04	2		0.0	0			31	W	21					56
SANTA MARIA	236			69	53	60.7	1.1	78	29	42	27	0	0			0.01	-0.13	0.01	1		0.0	0						9	9	12	5.8	
STOCKTON	22	1011.2	1012.1	84	56	70.1	-2.7	97	30	51	28	6	0	51	56	T	-0.07	T	0	1	0.0	0	8.5	28	23	29	25	18	10	2	2.8	
COLORADO																																
ALAMOSA	7536	771.4		74	40	56.8	-3.2	87	30	31	27+	0	2			2.58	2.09	1.04	10		0.0	0						14	11	5	4.3	
COLORADO SPRINGS	6145	810.4	1011.6	72	47	59.7	-5.0	92	28	36	14+	2	0	40	57	2.72	1.13	0.56	14	9	T	0	1.1	3	43	31	24	8	9	13	6.1	
DENVER	5283	834.4	1009.9	74	49	61.5	-5.0	95	28	36	13	2	0	43	59	2.99	1.55	1.66	13	12	0.0	0	0.6	29	40	36	10	5	12	13	6.3	56
GRAND JUNCTION	4843	848.6	1008.1	83	53	67.7	-3.6	95	5	45	25+	6	0	38	40	2.07	1.65	1.57	8	8	0.0	0	2.7	16	48	NW	25	11	11	8	4.9	66
PUEBLO	4684	853.0	1009.2	81	55	68.0	-3.1	100	28	46	12+	5	0	44	49	1.74	0.52	0.67	11	8	0.0	0	0.5	5	54	NW	24	10	10	10	5.3	63
CONNECTICUT																																
BRIDGEPORT	7	1013.5	1014.3	76	60	67.9	-0.1	92	28	52	4	1	0	59	74	1.14	-2.26	0.45	9	2	0.0	0	2.5	20	27	24	15	3	15	12	6.4	
HARTFORD	169	1007.1	1013.6	80	56	68.2	-0.5	97	28	47	11+	4	0	58	72	2.63	-1.07	1.28	11	5	0.0	0	3.6	19	23	SW	28+	4	10	16	7.1	63
DELAWARE																																
WILMINGTON	74	1011.2	1014.2	82	65	73.4	2.0	95	28	53	4	1	0	61	68	3.62	-0.45	1.80	8	10	0.0	0	3.6	16	23	15	14	5	10	15	7.0	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1011.5	1014.0	87	68	77.1	2.9	100	28	57	17	14	0	63	64	3.46	0.25	1.71	8	5	0.0	0	3.4	19	42	SW	2	2	14	14	6.9	58
FLORIDA																																
APALACHICOLA U	13			89	74	81.6	1.4	94	23	66	6+	15	0			0.56	-4.74	0.56	1	3	0.0	0			26	N	21	18	10	2	3.1	78
DAYTONA BEACH	31	1012.5	1013.8	88	73	80.5	2.1	93	22+	66	6	12	0	72	78	2.47	-3.34	2.15	8	6	0.0	0	4.3	9	23	28	5	8	19	3	4.9	
FORT MYERS	15	1012.5	1012.7	90	75	82.2	1.4	93	27+	70	1	21	0	74	81	10.63	1.67	5.10	19	16	0.0	0	1.3	12	29	4	30	4	23	3	5.2	
JACKSONVILLE	20	1012.9	1013.9	92	73	82.4	1.6	97	25+	65	6	20	0	72	74	5.12	-1.21	3.31	7	6	0.0	0	4.0	11	58	N	5	11	16	3	4.5	84
KEY WEST	4	1011.9	1012.4	87	79	82.7	0.9	90	22	74	14+	1	0			9.96	5.99	3.89	20	14	0.0	0	4.0	16	29	SW	13	2	16	12	6.6	77
LAKELAND U	214			91	73	82.0	1.4	95	25	67	21	22	0			4.70	-2.50	1.58	13		0.0	0						5	21	4	5.3	68
MIAMI	7	1012.2	1012.5	88	76	82.3	1.5	93	25	70	6	15	0	72	76	11.42	4.05	2.39	20	10	0.0	0	3.9	13	23	36	17+	0	17	13	7.2	
ORLANDO	108	1009.1	1013.2	92	74	82.9	1.6	97	25	67	7	23	0	72	75	5.04	-1.92	2.76	11	11	0.0	0	3.7	10	23	22	5	4	23	3	5.2	
TALLAHASSEE	55	1010.8	1013.2	95	70	82.4	2.2	100	29+	61	19+	27	0	71	75	4.88	-1.66	1.97	7	12	0.0	0	1.3	6	35	13	30	7	19	4	4.6	
TAMPA	19	1012.2	1012.5	91	73	82.1	1.5	95	28+	66	29	25	0	71	73	4.39	-2.89	1.94	11	11	0.0	0	1.5	7	25	3	21	9	18	3	4.9	86
WEST PALM BEACH	15	1012.2	1012.8	87	73	80.4	-0.6	92	18	69	7	5	0	71	76	12.25	4.72	4.90	15	8	0.0	0	3.2	11	28	8	25	6	13	11	6.1	
GEORGIA																																
ATHENS	802	985.1	1013.5	90	67	78.4	0.8	101	28	53	4	16	0	66	70	1.49	-2.39	0.57	7	9	0.0	0	0.3	19	18	23	2	9	12	9	5.6	
ATLANTA	1010	977.7	1013.7	88	67	77.4	0.8	98	29+	54	4	14	0	66	72	1.00	-2.83	0.43	6	7	0.0	0	0.7	19	34	NE	29	8	15	7	5.2	68
AUGUSTA	136	1008.1	1013.5	91	68	79.2	0.3	98	29	52	4	20	0	68	74	4.53	1.49	1.01	9	14	0.0	0	1.1	14	35	1	29	8	16	6	5.7	
COLUMBUS	385	999.7		91	68	79.6	0.2	99	29+	53	4	21	0	67	70	2.81	-0.87	1.32	6	8	0.0	0	0.7	5	35	32	20	14	12	4	4.3	
MACON	354	1001.0	1013.7	92	67	79.5	-1.2	100	28	49	4	24	0	67	70	4.21	0.87	1.50	7	7	0.0	0	0.8	5	50	NW	28	10	16	4	5.0	74
SAVANNAH	46	1012.2	1013.9	89	70	79.7	0.0	95	25+	62	8+	15	0	70	76	9.99	4.90	3.68	10	12	0.0	0	1.6	14	25	N	5	9	13	8	5.1	77
HAWAII																																
HILO	27	1015.6	1016.7	85	67	76.2	1.9	90	24	65	21+	1	0	68	77	2.76	-4.03	0.86	17	0	0.0	0	1.7	14	20	E	28	3	17	10	6.4	66
HONOLULU	7	1015.6	1016.1	87	71	79.1	1.2	90	20	67	13+	1	0	67	69	0.23	-0.10	0.06	6	0	0.0	0	8.5	5	25	E	30+	10	19	1	4.5	68
KAHULUI	48	1013.5	1015.8	89	67	77.9	0.7	92	28+	61	5	9	0	66	69	0.37	0.19	0.25	7	0	0.0	0	8.9	5	27	E	30+	17	8	5	3.8	80
LIHUE	103	1012.2	1017.3	84	72	78.3	1.7	89	15	67	14+	0	0	68	74	0.89	-0.57	0.20	16	0	0.0	0	7.0	6	22	SW	14	7	15	8	5.8	57
IDAHO																																
BOISE	2838	911.6	1009.8	78	54	66.3	0.5	98	4	40	28	3	0	46	53	2.00	1.11	0.65	10	6	0.0	0	1.9	30	30	NE	7+	5	16	9	6.0	71
LEWISTON	1413			83	57	69.7	4.9	95	18+	48	29+	9	0			2.38	0.65	1.27	5		0.0	0						9	9	12	5.9	
POCATELLO	4454	860.8	1011.6	74	46	59.9	-2.9	90	5+	33	1	2	0	41	55	2.02	1.06	0.85	11	6	0.0	0	3.0	24	34	S	10	4	14	12	6.5	60
ILLINOIS																																
CAIRO U	314			87	67	77.2	-0.7	98	30	53	3	14	0			3.44	-0.69	1.14	11		0.0	0			36	N	28	8	12	10	5.3	67
CHICAGO O HARE	658	987.5	1011.6	74	55	64.3	-3.7	96	26+	43	9+	2	0	52	65	7.76	3.80	2.24	17	13	0.0	0	1.3	21	39	24	25	4	12	14	6.8	
CHICAGO MIDWAY	607	989.5	1011.8	75	56	65.6	-4.9	96	26	43	9	7	0	52	65	5.77	1.70	2.02	16	12	0.0	0	2.4	18	33	SW	27	5	9	16	6.7	48
MOLINE	582	989.8	1011.0	78	57	67.1	-4.3	92	29	43	9+	2	0	56	70	6.97	2.60	1.66	16	13	0.0	0	2.0	22	38	W	25	7	6	17	6.7	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
PEORIA	652	988.2	1011.7	77	56	66.4	-5.3	92	29+	40	3	3	0	55	69	4.93	0.85	2.09	11	10	0.0	0	2.0	20	43	W	25	3	12	15	7.2	50
ROCKFORD	724	984.1	1010.7	73	54	63.6	-6.1	88	26	41	9	0	0	53	70	8.90	4.60	4.15	18	16	0.0	0	1.2	25	30	28	25+	6	7	17	6.9	
SPRINGFIELD	588	989.2	1010.9	83	59	70.7	-3.3	97	7	42	3	10	0	56	63	2.68	-1.77	0.55	12	6	0.0	0	3.1	21	48	NW	28	5	12	13	6.5	63
INDIANA																																
EVANSVILLE	381	998.3	1012.0	86	63	74.4	-1.4	96	25	44	3	14	0	62	67	4.96	1.22	2.23	14	8	0.0	0	2.1	20	34	W	29+	8	13	9	5.8	68
FORT WAYNE	791	982.7	1012.5	75	56	65.6	-5.0	91	26	41	4	1	0	57	74	5.87	1.70	1.06	16	12	0.0	0	3.0	23	38	SW	27	3	7	20	7.7	56
INDIANAPOLIS	792	983.1	1011.6	81	59	69.8	-1.3	91	26+	42	3	6	0	60	73	4.16	-0.46	1.26	12	9	0.0	0	2.2	20	40	SW	1	5	12	13	7.1	50
SOUTH BEND	773	984.1	1011.7	74	56	64.9	-4.1	92	26	44	9+	3	0	57	77	5.17	1.59	1.56	17	9	0.0	0	2.5	22	35	19	30	5	7	18	7.3	
IOWA																																
BURLINGTON	692			76	57	66.7	-5.4	91	29	42	3	2	0	56	68	4.93	-0.08		13	13	0.0		2.2	22	35	36	28	4	11	15	6.8	
DES MOINES	938	976.6	1010.9	78	57	67.3	-3.7	91	29	42	3	3	0	55	68	7.32	2.61	2.60	11	11	0.0	0	1.1	22	63	SW	26	6	8	16	6.5	56
DUBUQUE	1056	972.2		72	52	62.2	-5.7	86	29+	38	2	0	0			10.49	6.28	2.44	16		0.0	0						7	6	17	6.7	
SIOUX CITY	1095	971.2	1010.4	77	53	65.0	-6.4	94	5	40	13+	1	0	53	67	5.71	1.38	2.04	10	8	0.0	0	0.2	1	43	NW	28	6	10	14	6.6	58
WATERLOO	868	979.3	1010.8	72	51	61.9	-8.2	86	29	40	13+	0	0	52	71	4.82	-0.01	1.26	13	9	0.0	0	1.5	26	38	25	26	5	9	16	6.8	
KANSAS																																
CONCORDIA	1470	957.7	1009.7	80	57	68.3	-5.9	97	28	42	2	5	0	57	70	2.89	-1.31	1.58	9	6	0.0	0	1.5	18	47	W	22	10	11	9	5.3	61
DODGE CITY	2582	920.4	1009.3	84	58	70.9	-3.5	101	28	42	2	12	0	55	63	0.75	-2.28	0.58	7	10	0.0	0	2.4	17	42	S	10	10	12	8	5.1	75
GOODLAND	3654	884.9	1009.4	78	52	64.7	-5.0	102	28	36	2	3	0	48	62	2.22	-0.44	1.19	9	9	0.0	0	0.4	18	37	34	21	10	9	11	5.7	
TOPEKA	876	979.0	1010.4	79	59	68.7	-6.0	95	29	45	3	3	0	61	76	8.46	3.95	2.73	12	10	0.0	0	2.2	18	42	SW	11	8	11	11	5.9	59
WICHITA	1321	963.1	1010.4	82	60	71.0	-5.5	96	30+	43	2	7	0	60	70	6.82	2.61	1.36	10	9	0.0	0	4.2	17	50	SW	25	11	9	10	4.8	63
KENTUCKY																																
COVINGTON	869	981.7	1012.7	83	61	71.9	0.1	92	30+	44	4+	9	0	62	73	4.91	1.02	2.28	13	7	0.0	0	3.2	21	40	26	12	2	17	11	6.7	
LEXINGTON	966	978.7	1013.3	83	63	72.8	-0.8	92	12	45	3	9	0	61	68	4.61	-0.11	1.55	14	10	0.0	0	4.6	21	25	22	24	4	13	13	6.6	
LOUISVILLE	477	994.9	1012.1	83	64	73.5	0.1	93	28+	46	3	7	0	62	70	2.97	-1.02	1.25	11	6	0.0	0	3.3	21	40	NW	22	5	14	11	6.2	68
LOUISIANA																																
BATON ROUGE	64	1010.2	1012.8	93	71	81.8	0.9	100	28	61	3	23	0	69	70	0.76	-3.33	0.38	4	2	0.0	0	1.3	18	23	16	11	12	14	4	4.0	
LAKE CHARLES	9	1011.5	1012.4	89	71	80.0	-1.2	98	30	62	16+	14	0	70	76	0.84	-3.88	0.71	2	5	0.0	0	2.5	17	21	14	30	11	14	5	4.2	
NEW ORLEANS	3	1012.2	1013.2	91	70	80.3	0.2	96	30+	61	1	18	0	70	72	2.47	-1.96	1.17	7	2	0.0	0	0.8	18	23	36	14	17	10	3	3.3	
SHREVEPORT	254	1003.1	1012.0	91	70	80.5	-0.1	100	29+	55	5	19	0	67	66	1.16	-2.18	1.14	3	1	0.0	0	3.6	19	23	16	26+	14	11	5	4.3	85
MAINE																																
CARIBOU	624	989.5		71	50	60.7	1.7	91	13	37	1	1	0			3.47	-0.60	1.03	12		0.0	0						1	13	16	7.5	
PORTLAND	47	1010.8	1013.2	73	52	62.6	0.5	88	28	41	1	0	0	56	81	3.53	0.35	1.08	9	5	0.0	0	3.6	19	45	SW	20	8	11	11	5.9	63
MARYLAND																																
BALTIMORE	148	1008.5	1013.9	85	65	74.9	2.4	98	28	54	17	9	0	63	70	3.65	0.36	2.05	6	6	0.0	0	2.6	20	32	SE	2	5	12	13	6.6	54
MASSACHUSETTS																																
BLUE HILL OBS R	629			76	57	66.6	1.5	91	28+	50	4	2	0			1.80	-1.95	0.61	10		0.0	0			38	SSW	3					60
BOSTON	15	1012.5	1013.6	77	61	69.3	1.5	95	27	55	6+	3	0	57	68	0.63	-2.85	0.27	8	3	0.0	0	4.9	20	34	SW	20	9	10	11	5.8	63
NANTUCKET	43	1014.6	1014.8	72	56	63.8	2.5	89	29	45	10	0	0	58	83	0.63	-2.29	0.27	5	3	0.0	0	3.3	19	25	NE	21	3	9	18	7.6	46
WORCESTER	986	978.0	1014.6	76	57	66.3	1.7	92	27	47	4	1	0	54	66	1.26	-2.58	0.41	11	5	0.0	0	3.7	23	23	22	30	9	11	10	5.8	
MICHIGAN																																
ALPENA	689	986.1	1011.3	68	46	56.8	-3.8	86	27	32	21	0	1	47	70	8.37	5.70	2.65	16	8	0.0	0	1.7	23	40	W	12	4	8	18	7.3	47
DETROIT	619			73	55	64.1	-5.6	91	26	38	9	2	0	54	70	3.93	1.10	1.21	16	6	0.0		2.4	23	25	29	28					
DETROIT M WAYNE CO	633	988.2	1011.9	74	55	64.7	-3.2	93	26	40	4	2	0	54	70	4.26	0.95	1.19	18	6	0.0	0	2.2	21	35	SW	1	5	6	19	7.3	47
FLINT	771	984.1	1011.8	70	51	60.1	-6.5	88	26	36	9	0	0	51	72	3.29	0.17	1.14	16	6	0.0	0	3.8	20	35	23	1	4	8	18	7.5	
GRAND RAPIDS	784	982.7	1011.4	73	51	61.8	-5.7	92	26	37	9	2	0	52	69	4.74	1.43	1.49	20	8	0.0	0	3.1	21	43	SW	29	4	8	18	7.2	44
HOUGHTON LAKE	1149	970.2	1011.9	68	46	56.9	-5.7	84	12	31	21	0	1	49	74	6.67	3.55	2.59	16	9	0.0	0	2.3	24	40	27	12	4	6	20	7.5	
LANSING	841	980.4	1011.8	72	51	61.9	-5.5	91	26	36	9	1	0	55	78	4.03	0.69	1.00	17	8	0.0	0	4.1	21	39	W	12	4	7	19	7.2	40
MARQUETTE U	677			63	47	55.4	-4.7	82	26	38	3	0	0			2.76	-0.70	0.51	17		0.0	0			29	NW	16	4	8	18	7.4	47
MUSKEGON	625	988.5	1011.1	71	51	61.1	-5.6	89	26	38	9	0	0	50	68	3.41	0.71	0.85	19	9	0.0	0	2.8	22	25	20	27	8	5	17	6.9	
SAULT STE MARIE	721	984.4	1010.9	65	42	53.0	-6.0	78	26	31	21	0	4	45	74	7.35	4.05	2.94	15	6	0.0	0	2.7	27	31	W	26	4	9	17	7.2	51

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MINNESOTA																																
DULUTH	1428	959.4	1010.8	64	43	53.8	-5.0	81	26	32	13	0	1	42	67	2.18	-2.09	0.79	13	2	0.0	0	2.1	26	35	W	27	2	8	20	7.8	46
INTERNATIONAL FALLS	1179	966.8	1009.8	65	41	53.3	-6.6	87	26	32	2	0	1	45	75	3.21	-0.66	1.04	13	4	0.3	T	2.0	31	26	18	26	4	8	18	7.6	
MINNEAPOLIS	834	980.4	1010.4	71	53	61.8	-5.0	89	5	37	13	0	0	49	65	2.93	-1.07	0.90	17	5	0.0	0	1.7	31	37	SW	26	3	10	17	7.3	45
ROCHESTER	1297	963.4	1010.6	69	50	59.6	-7.4	88	5	38	13+	0	0	49	72	5.66	1.20	1.36	15	6	0.0	0	2.1	26	40	20	26	2	12	16	7.3	
ST CLOUD	1034	972.6	1010.2	69	48	58.5	-6.7	83	26	36	2	0	0		67	2.27	-2.22	1.04	12		0.0	0						4	10	16	7.0	
MISSISSIPPI																																
JACKSON	310	1001.4	1013.0	94	67	80.3	0.5	103	29	49	3	23	0	67	69	1.29	-2.50	0.92	5	3	0.0	0	1.3	16	40	SE	30	11	16	3	4.7	71
MERIDIAN	290	1002.4	1013.2	92	66	78.7	-0.8	103	29	50	3	22	0	65	68	1.29	-2.78	0.40	4	5	0.0	0	1.2	23	23	36	21	10	18	2	4.5	
MISSOURI																																
COLUMBIA	778	983.4	1010.9	80	61	70.3	-3.7	92	29	48	2	6	0	60	71	10.15	5.81	2.19	16	15	0.0	0	2.4	20	35	NE	28	6	10	14	6.6	66
KANSAS CITY	742	984.1	1010.7	79	61	70.2	-5.7	92	6	47	2	3	0	60	71	10.57	6.00	2.20	14	10	0.0	0	2.3	20	47	W	26	8	12	10	5.6	68
ST JOSEPH	811			86	61	73.3	-0.7	100	6	45	3	10	0	57	63	7.16	1.23		13	9	0.0		2.4	19	46	24	26	9	11	10	5.5	
ST LOUIS	535	991.9	1011.9	83	62	72.5	-1.6	94	29+	43	3	10	0			8.65	4.36	2.10	11	7	0.0	0	2.5	22	35	NW	28	7	9	14	6.5	66
SPRINGFIELD	1268	967.5	1011.9	82	60	70.9	-3.3	92	28	45	16	5	0	60	72	5.38	0.36	1.31	12	8	0.0	0	4.1	19	32	NW	23	10	15	5	5.0	59
MONTANA																																
BILLINGS	3567	889.6	1012.5	70	47	58.7	-6.4	94	5	32	13+	1	2	43	63	5.74	3.19	2.15	13	7	T	0	2.9	30	50	W	6	6	8	16	6.7	52
GLASGOW	2284	930.6	1011.9	71	46	58.3	-4.0	92	4	33	13+	2	0	42	60	1.23	-1.75	0.48	11	5	0.0	0	3.1	3	31	4	11	4	9	17	7.5	
GREAT FALLS	3662	887.2	1013.0	71	47	59.3	-0.6	94	4	32	13+	2	2	42	59	5.33	2.43	2.29	16	3	5.3	4	2.9	28	29	S	5	4	4	22	7.7	56
HAVRE	2584	921.1	1012.2	75	46	60.7	-0.3	96	18+	32	1	3	1	41	54	2.17	-0.56	1.01	9	0	T	0	0.7	26	30	NE	11	2	8	20	7.7	73
HELENA	3828	879.8	1013.8	70	45	57.8	-1.7	91	4	30	13	1	1	43	62	3.50	1.27	1.16	11	4	2.7	2	3.8	29	36	N	11	6	4	20	7.1	56
KALISPELL	2965	909.9	1013.5	70	45	57.9	-0.7	88	4	30	13	0	1	42	58	3.88	1.67	0.85	12	3	0.0	0	1.8	6	32	2	11	6	6	18	7.1	
MILES CITY	2629	919.1	1011.1	73	49	60.7	-4.9	94	5	34	13	3	0	45	61	2.63	-0.08		13	2	0.1		3.0	32								
MISSOULA	3190	902.8	1013.8	73	45	58.8	0.3	93	4	33	13	1	0	44	63	4.18	2.27	1.50	10	3	0.0	0	1.2	6	30	NW	9	6	10	14	6.4	56
NEBRASKA																																
GRAND ISLAND	1841	945.1	1010.2	78	54	66.1	-4.9	103	6	40	2	5	0	52	63	3.46	-0.33	1.69	9	8	0.0	0	1.8	24	46	24	22	9	9	12	6.1	
LINCOLN U	1150			79	58	68.5	-4.6	100	6	45	13+	5	0			2.78	-1.72	0.78	9		0.0	0			52	S	25	6	12	12	6.4	60
NORFOLK	1544			77	54	65.4	-5.5	96	5	40	13	3	0			8.09	3.83	4.23	9		0.0	0						6	10	14	6.5	
NORTH PLATTE	2775	914.0	1010.2	77	49	62.8	-6.3	100	6	29	2	4	1	50	67	4.20	0.95	1.44	12	7	0.0	0	0.7	4	46	NW	24	7	9	14	6.3	62
OMAHA	977	975.3	1009.9	79	57	67.9	-5.2	98	6	40	3	4	0	54	64	3.27	-1.26	1.37	7	7	0.0	0	0.4	24	34	W	28	5	11	14	6.7	85
SCOTTSBLUFF	3957	877.1	1010.8	75	48	61.4	-5.5	98	5	30	14	2	2	44	60	2.01	-1.09	0.81	12	8	T	T	1.6	35	33	28	25	5	13	12	6.1	
VALENTINE	2587			76	49	62.4	-5.1	100	5	30	14	1	2			2.02	-1.09	0.82	10		0.0	0			48	SW	25	7	9	14	6.3	57
NEVADA																																
ELY	6253	807.0	1009.3	73	42	57.4	-1.2	87	4	30	26	0	1	37	54	2.80	2.30	1.45	11	9	0.0	0	2.4	21	40	SW	9	5	13	12	6.3	56
LAS VEGAS	2162	931.6	1006.0	95	68	81.4	-1.5	104	30	58	10	23	0	36	23	0.23	0.19	0.22	2	1	0.0	0	3.4	22	33	N	24	22	6	2	2.2	90
RENO	4404	863.2	1010.5	78	46	62.0	1.9	93	4	34	27	2	0	42	52	1.29	0.92	0.79	8	11	0.0	0	3.4	30	34	SW	4	10	9	11	5.4	81
WINNEMUCCA	4301	864.9	1010.5	77	48	62.3	0.8	92	4	34	28	2	0	42	49	1.65	0.89	0.46	12	10	0.0	0	1.5	34	30	E	8	5	12	13	6.5	48
NEW HAMPSHIRE																																
CONCORD	342	1001.0	1013.7	75	51	63.0	-1.5	90	27	35	5	1	0	55	77	4.70	1.10	1.60	10	6	0.0	0	2.6	20	24	SW	20+	8	12	10	5.7	65
MT WASHINGTON OBS	6262			53	39	45.8	0.9	68	13	27	9	0	7			5.06	-1.44	2.08	12	1	0.0	0			70Y	W	30+	3	7	20	8.0	37
NEW JERSEY																																
ATLANTIC CITY	64	1011.9	1014.3	82	57	69.5	-0.5	106	28	42	10	6	0	61	78	1.42	-1.41	0.47	7	4	0.0	0	5.6	19	29	20	15	5	15	10	6.4	52
ATLANTIC CITY U	11			76	66	70.8	1.8	89	29	58	10+	0	0			1.64	-1.40	1.10	7						30	S	23+					
NEWARK	7	1012.9	1013.8	81	65	72.8	1.5	96	28	53	4	3	0	59	65	2.53	-0.91	0.86	10	6	0.0	0	2.8	19	21	20	15+	3	15	12	6.3	
TRENTON U	56			81	64	72.4	1.4	95	28	55	4	2	0			5.09	1.49	2.17	10		0.0	0			32	S	2	3	17	10	6.3	62
NEW MEXICO																																
ALBUQUERQUE	5311	835.8	1007.3	89	58	73.6	-1.3	102	29	50	12	16	0	35	29	0.59	0.02	0.58	2	3	0.0	0	1.7	16	45	SE	8	19	6	5	3.0	85
CLAYTON	4969			79	52	65.6	-4.6	95	28	43	14	4	0			3.23	1.75	1.59	11	9	0.0	0						11	11	8	4.9	
ROSWELL	3617			94	61	77.1	0.0	106	21	50	14	21	0			0.35	-0.70	0.27	3		0.0	0			33	SE	2					78
NEW YORK																																
ALBANY	275	1002.7	1013.3	78	54	66.0	-1.3	92	27	40	10	2	0	57	76	5.30	2.05	1.38	13	7	0.0	0	3.9	19	36	W	20	4	12	14	6.7	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days		Average dew point	Average relative humidity	Precipitation			No. of days		Snow, Sleet		Wind		Fastest mile			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h							%
NEW YORK																																
BINGHAMTON	1590	956.3	1014.3	73	54	63.8	0.3	87	27	44	4	0	0	56	79	4.00	0.15	0.85	15	11	0.0	0	3.4	22	26	W	28+	3	7	20	7.5	58
BUFFALO	705	987.1	1012.5	74	55	64.4	- 0.4	92	27	42	21	2	0	54	71	3.51	0.97	0.83	14	7	0.0	0	5.7	24	34	SW	28	5	7	18	7.3	50
J.F. KENNEDY	13	1013.5	1014.3	78	65	71.2	1.1	91	29	58	4	1	0	60	72	2.85	- 0.50	1.13	8	5	0.0	0	5.1	18	29	20	15	3	16	11	6.3	
NEW YORK U	132	1010.5	1013.6	81	65	73.1	1.7	96	28	55	4	3	0	59	64	3.16	- 0.15	1.03	10	4	0.0	0	1.4	18	21	SE	2					66
NEW YORK LA GUARDIA	11	1012.2	1014.1	78	64	70.9	- 0.6	94	28	56	4	1	0	57	65	4.20	0.82	2.12	9	5	0.0	0	3.2	19	34	SW	2	4	16	10	6.4	
ROCHESTER	547	992.9	1012.7	75	55	65.0	- 1.9	95	27	42	21	3	0	56	75	4.69	2.13	1.30	12	9	0.0	0	3.7	24	47	SW	27	6	7	17	6.7	50
SYRACUSE	410	998.0	1012.7	75	54	64.5	- 2.8	94	27	43	10	2	0	55	73	3.74	0.78	1.03	12	6	0.0	0	2.8	22	47	W	30	5	6	19	6.9	55
NORTH CAROLINA																																
ASHEVILLE	2140	940.1	1014.6	85	61	73.1	3.0	96	28	44	4	9	0	64	79	3.82	0.30	1.02	14	17	0.0	0	0.6	36	25	18	21	7	8	15	6.2	67
CAPE HATTERAS R	7	1014.6	1014.9	82	68	75.1	- 0.1	89	25	59	6	0	0	69	83	2.31	- 1.83	0.97	6	7	0.0	0	2.7	17	39	WNW	19	6	13	11	6.5	73
CHARLOTTE	736	987.1	1013.9	87	67	77.3	0.2	98	28	54	4	12	0	65	72	2.32	- 1.29	0.77	10	10	0.0	0	0.6	17	37	SW	23	5	10	15	6.6	67
GREENSBORO	897	983.4	1014.3	86	66	76.2	1.4	97	28	53	4	10	0	66	75	7.86	4.39	4.20	16	12	0.0	0	2.0	18	40	W	24	4	12	14	6.9	54
RALEIGH	434	998.3	1013.9	85	65	74.7	- 0.4	94	28	52	4	6	0	66	80	4.81	1.11	1.75	9	14	0.0	0	2.6	19	35	28	24	3	13	14	6.9	59
WILMINGTON	28	1013.2	1014.6	86	69	77.4	- 0.3	95	25	60	5	6	0	70	83	9.31	5.05	5.43	11	10	0.0	0	2.3	17	29	NW	24	7	8	15	6.8	66
NORTH DAKOTA																																
BISMARCK	1647	951.6	1010.6	72	47	59.5	- 5.0	87	5	30	2	0	1	45	63	2.01	- 1.39	0.57	12	4	T	T	2.3	36	42	N	1	3	9	18	7.5	61
FARGO	896	977.3	1010.0	68	46	57.3	- 7.5	77	16+	30	20	0	1	47	69	2.03	- 1.01	0.99	9	3	0.0	0	1.6	35	33	N	11	4	12	14	6.6	50
WILLISTON	1899	943.1	1011.0	71	45	57.8	- 5.3	91	4	30	13	1	3	43	62	2.73	- 0.58	0.95	12	4	0.0	0	3.7	1	34	NE	25	3	10	17	7.5	66
OHIO																																
AKRON	1208	969.5	1013.3	77	55	65.9	- 3.5	91	27+	43	16+	2	0	57	77	2.94	- 1.32	0.87	13	6	0.0	0	2.6	22	29	23	30	5	9	16	7.2	
CINCINNATI OBS	761			82	61	71.6	- 1.8	94	29	44	3	7	0			3.77	- 0.41	0.97	12		0.0	0			27	SW	12					62
CLEVELAND	777	984.4	1013.2	75	56	65.5	- 2.3	92	27	40	10	3	0	55	72	4.61	1.18	1.44	13	6	0.0	0	3.1	22	32	SW	27	6	7	17	7.2	55
COLUMBUS	812	983.7	1013.2	79	58	68.5	- 2.3	92	27	42	4	5	0	60	77	8.19	4.03	2.53	13	10	0.0	0	2.1	19	30	SW	1	3	13	14	7.1	51
DAYTON	1002	977.0	1012.6	78	58	68.1	- 3.4	90	29+	45	4	3	0	57	69	5.90	1.80	2.36	12	7	0.0	0	2.7	20	39	W	12	3	9	18	7.2	58
MANSFIELD	1295			77	58	67.4	- 3.4	91	27+	45	16	3	0	56	68	3.68	- 0.55	0.87	15	8	0.0		4.0	21	23	24	1	4	10	16	6.9	
TOLEDO	669	987.8	1012.8	75	54	64.6	- 3.7	92	26	39	10+	2	0	55	74	4.82	1.03	1.57	17	12	0.0	0	1.9	23	50	W	27	4	9	17	7.2	50
YOUNGSTOWN	1178	971.2	1013.5	75	54	64.3	- 2.8	91	27	40	17+	2	0	55	76	3.57	- 0.01	0.77	14	7	0.0	0	2.1	24	23	35	14+	4	8	18	7.3	
OKLAHOMA																																
OKLAHOMA CITY	1285	965.1	1010.5	86	64	75.0	- 3.0	96	22	52	4+	14	0	63	69	4.92	0.45	3.21	9	12	0.0	0	5.4	17	34	SW	26	12	8	10	4.9	72
TULSA	650	987.1	1010.8	85	65	75.0	- 2.3	95	30+	52	2	12	0	64	71	6.40	1.71	2.05	11	11	0.0	0	5.3	19	47	S	22	11	11	8	5.2	54
OREGON																																
ASTORIA	8	1014.2	1015.1	66	53	59.6	2.3	81	17	45	30+	0	0	54	87	3.63	0.61	0.94	16	2	0.0	0	5.5	26	21	31	2	3	4	23	8.3	
BURNS U	4151	871.0	1012.1	74	48	61.0	1.2	91	4	34	26	1	0	43	56	1.33	0.45	0.33	13		0.0	0	3.7	33				8	13	9	5.9	
EUGENE	359	1001.0	1014.5	76	55	65.3	4.4	97	17	48	29	2	0	54	74	3.13	1.71	0.86	9	0	0.0	0	2.8	24	22	26	25	3	8	19	7.6	
MEACHAM	4050	875.0	1012.0	68	48	57.8	4.1	86	4	38	29+	0	0			4.02	1.57	1.49	15		0.0	0			25	23	5	8	9	13	6.1	
MEDFORD	1298	966.5	1013.5	81	55	67.9	3.7	99	3	43	29	7	0	52	64	1.31	0.29	0.32	9	3	0.0	0	3.1	32	20	4	15	9	6	15	6.0	
PENDLETON	1482	958.7	1011.6	83	56	69.8	4.0	98	4	48	27	9	0	48	50	0.86	- 0.31	0.29	9	6	0.0	0	4.3	26	33	34	10	9	13	8	5.3	
PORTLAND	21	1012.2	1013.6	76	57	66.5	4.5	97	17	50	27	2	0	55	72	2.99	1.32	0.87	10	0	0.0	0	2.4	29	21	W	24+	5	8	17	7.3	52
SALEM	196	1007.1	1014.3	77	53	65.4	4.8	100	17	45	30	3	0	54	72	2.94	1.49	0.91	8	0	0.0	0	1.9	26	21	35	16	5	7	18	7.3	
SEXTON SUMMIT R	3836	883.2	1013.4	67	49	58.0	2.3	88	3	37	27	0	0			1.65	0.12	0.42	12		0.9	1			29	34	15	11	6	13	5.8	
PACIFIC AREA																																
JOHNSTON	7	1013.9	1014.4	86	76	80.8	0.5	87	30+	71	29	0	0	71	73	0.75	- 0.09	0.20	9	0	0.0	0	14.5	8	28	E	9	11	14	5	4.9	80
KOROR R	94	1006.4	1010.0	89	76	82.5	1.4	90	30+	74	28+	14	0	77	85	16.79	3.81	3.07	24	4	0.0	0	1.2	13	25	W	27	0	3	27	9.3	37
KWAJALEIN	8	1009.5	1010.3	87	78	82.3	0.9	89	14+	73	14	0	0	76	81	12.56	3.88	4.12	21	1	0.0	0	14.8	7	32	10	20	0	3	27	9.3	
MAJURO	10	1010.2	1010.6	86	77	81.2	0.9	87	28+	72	20	0	0	76	82	13.01	0.17	2.81	19	1	0.0	0	10.0	7	37	E	20	0	6	24	8.5	53
PAGO PAGO	12	1012.5	1012.7	85	76	80.5		87	9+	68	4	0	0	74	83	3.96		2.06	17	0	0.0	0	10.1	11	24	E	23	5	18	7	5.9	45
PONAPE R	123	1004.4	1010.0	87	74	80.7	0.6	89	27+	72	29+	0	0	76	86	24.88	8.18	4.02	29	3	0.0	0	4.9	9	18	NE	18	0	5	25	8.9	62
TAGUAC GUAM R	361	998.6	1011.2	89	73	80.7	0.5	90	30+	70	25+	4	0	73	79	1.52	- 4.35	0.45	17	0	0.0	0	10.5	10	24	E	27+	0	10	20	7.9	74
TRUK MOEN ISLAND	5	1009.5	1009.8	87	77	81.6	0.9	88	29+	74	25+	0	0	76	83	14.91	3.04	3.97	26	2	0.0	0	7.2	7	22	S	24+	0	4	26	9.1	73
WAKE	11	1014.6	1014.8	88	76	81.8	0.4	90	27	74	28+	1	0	73	77	1.64	- 0.26	0.54	16	0	0.0	0	15.3	8	25	E	12+	6	17	7	5.4	82
YAP R	44	1007.8	1009.7	87	77	81.9	0.0	89	29+	75	24+	0	0	76	83	8.78	- 1.94	2.08	27	0	0.0	0	6.8	10	18	E	9+	0	6	24	8.6	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft	Mb	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In	In	M p.h		M p.h.							%
PENNSYLVANIA																																
ALLENTOWN	387	1000.0	1013.8	80	60	70.0	0.6	94	28	47	4	3	0	59	71	3.20	- 0.87	1.06	12	7	0.0	0	2.1	21	29	16	2	3	16	11	6.8	
ERIE	731	986.5	1013.1	71	54	62.6	- 4.1	91	27+	42	21+	2	0	54	75	4.88	1.83	1.05	13	6	0.0	0	3.6	23	35	27	27	6	8	16	6.9	
HARRISBURG	338	1001.0	1013.4	82	63	72.4	1.1	98	28	50	4	4	0	59	65	2.54	- 0.88	0.98	12	6	0.0	0	2.0	20	28	SW	2	4	12	14	7.0	59
PHILADELPHIA	5	1012.5	1013.6	83	64	73.4	2.4	94	28	52	4	3	0	61	67	7.31	3.26	2.55	9	7	0.0	0	3.3	20	57	NW	23	3	16	11	6.9	61
PITTSBURGH	1137	969.9	1013.1	81	58	69.3	0.9	93	30+	43	4	5	0	55	63	3.74	- 0.04	0.87	17	10	0.0	0	3.2	25	29	31	30	3	9	18	7.3	47
SCRANTON	930	980.4	1014.1	78	58	68.2	0.0	90	30+	46	4	3	0	57	69	4.58	0.67	2.83	12	9	0.0	0	2.4	21	26	S	5+	4	17	9	6.4	68
WILLIAMSPORT	524	994.9	1013.6	80	59	69.5	0.3	92	28	47	10+	2	0	61	78	4.38	1.15	1.42	11	10	0.0	0	1.5	18	26	27	2	4	15	11	6.5	
RHODE ISLAND																																
BLOCK ISLAND	110			71	59	64.9	2.0	85	29	48	10+	0	0			1.72	- 0.84	0.91	6		0.0	0										
PROVIDENCE	51	1011.9	1014.1	78	58	68.2	2.0	93	28	49	5	3	0	56	69	1.23	- 1.53	0.50	10	2	0.0	0	3.8	21	21	23	28+	7	11	12	6.0	57
SOUTH CAROLINA																																
CHARLESTON	40	1012.2	1014.2	89	71	80.3	1.1	94	26	65	7+	14	0	70	74	4.88	- 0.10	2.26	9	8	0.0	0	3.0	15	44Y	W	20	7	17	6	5.4	68
CHARLESTON U	9			86	75	80.6	1.0	93	19	69	7+	6	0			6.13	1.88	1.71	11		0.0	0			43	NW	20					
COLUMBIA	213	1006.1	1014.0	89	67	78.3	- 1.4	100	28	52	4	17	0	68	78	4.70	0.85	2.06	8	11	0.0	0	1.0	14	35	32	9	10	8	12	5.7	60
GNVLE-SPARTANBURG	957	980.4	1014.3	87	66	76.3	- 0.7	95	29+	52	4	11	0	65	72	9.59	6.70	4.21	13	8	0.0	0	0.6	26	35	NW	9	7	13	10	5.8	62
SOUTH DAKOTA																																
ABERDEEN	1296	963.8	1010.3	72	48	59.9	- 6.7	89	5	34	20+	0	0	48	68	3.37	- 0.39	2.88	10	6	0.0	0	2.1	35	25	2	10	7	7	16	6.7	
HURON	1281	964.1	1010.2	73	48	60.4	- 7.2	93	5	35	14+	1	0	45	59	2.38	- 0.76	1.09	8	5	0.0	0	1.3	31	33	W	25	7	8	15	6.4	61
RAPID CITY	3162	901.8	1011.3	72	48	59.8	- 5.1	95	5	32	14	1	1	44	60	2.04	- 1.04	0.62	13	5	0.5	T	5.1	34	42	NW	1	7	10	13	6.5	50
SIOUX FALLS	1418	959.4	1010.3	74	49	61.4	- 6.7	93	5	33	13	1	0	47	62	4.85	0.50	1.38	11	8	0.0	0	1.3	33	33	20	25	6	12	12	6.0	
TENNESSEE																																
BRISTOL	1507	961.1	1014.4	85	62	73.1	- 0.1	94	8	45	4	7	0	63	75	5.24	1.86	1.09	14	14	0.0	0	1.3	30	29	30	2	5	13	12	6.2	
CHATTANOOGA	665	988.8	1013.1	87	63	75.1	- 3.0	95	8	48	3	9	0	65	74	3.61	- 0.09	1.37	8	7	0.0	0	1.5	23	29	NW	24+	5	16	9	5.9	56
KNOXVILLE	980	979.0	1013.1	84	65	74.5	- 1.2	93	29+	51	3	6	0	64	73	7.58	4.25	1.82	12	11	0.0	0	1.8	24	38	SW	24+	6	14	10	6.3	73
MEMPHIS	258	1002.4	1012.4	89	68	78.8	0.3	101	30	52	3	18	0	65	65	1.60	- 2.08	0.61	9	6	0.0	0	3.8	21	38	NW	21	10	13	7	5.0	72
NASHVILLE	590	991.2	1012.5	89	65	77.2	- 0.2	97	28+	46	3	16	0	64	67	3.34	0.09	1.66	10	7	0.0	0	3.9	20	38	SW	24	8	13	9	5.6	73
OAK RIDGE R	905			86	63	74.6	0.1	94	28+	47	4	11	0			6.07	2.83	3.70	12		0.0	0			34Y		24	6	13	11	6.3	
TEXAS																																
ABILENE	1762	949.5	1009.5	89	68	78.4	- 1.9	104	20	52	2	15	0	63	61	2.42	- 0.25	1.46	8	7	0.0	0	8.8	17	47	N	23	15	10	5	3.9	78
AMARILLO	3604	887.9	1008.3	86	60	72.6	- 4.2	100	21	48	14	14	0	52	54	4.09	1.20	1.67	8	10	0.0	0	3.9	18	59	NW	7	17	6	7	4.0	77
AUSTIN	597	989.8	1011.4	91	71	80.7	- 1.2	98	21	59	5	21	0	66	64	2.66	- 0.56	1.60	4	3	0.0	0	6.6	17	31	SE	24	10	16	4	4.5	71
BROWNSVILLE	19	1009.8	1010.3	92	75	83.8	1.1	97	21	63	6	25	0	71	70	0.08	- 2.88	0.08	2	1	0.0	0	9.9	14	32	SE	24	14	12	4	4.2	90
CORPUS CHRISTI	41	1009.5	1010.9	91	73	82.1	- 0.2	97	20	61	6	22	0	71	72	0.13	- 2.26	0.07	2	0	0.0	0	10.7	14	35	S	25	14	11	5	4.3	87
DALLAS	481	993.9	1010.8	91	72	81.4	0.1	102	21	58	2	20	0	64	58	0.44	- 2.80	0.28	4	3	0.0	0	7.4	16	31	S	26	13	13	4	4.1	75
DEL RIO	1026	973.6	1008.7	96	73	84.4	0.0	105	23+	62	4	24	0	65	57	0.20	- 2.09	0.13	2	2	0.0	0	11.4	12	24	12	30+	9	16	5	5.0	
EL PASO	3918	878.1	1005.9	96	67	81.5	0.5	105	30	58	4	27	0	41	26	T	- 0.69	T	0	3	0.0	0	3.9	22	42	NW	3	26	3	1	1.3	93
FORT WORTH	537	991.2	1011.3	91	69	79.8	- 1.7	101	21	56	5+	19	0	67	68	0.63	- 2.35	0.30	5	6	0.0	0	7.4	18	38	36	18	12	14	4	4.3	
GALVESTON U	7			85	78	81.4	- 0.3	92	30	64	5+	2	0			3.45	0.80	2.21	3		0.0	0			27	NE	2					83
HOUSTON INTERCON	98	1008.8	1012.4	91	69	80.0	- 0.8	99	30	56	5	21	0	70	76	1.51	- 2.03	1.28	3	1	0.0	0	4.1	15	21	17	26	12	13	5	4.5	76
LUBBOCK	3254	900.1	1008.3	91	63	76.9	- 0.6	106	21	50	2	18	0	52	49	1.41	- 1.12	1.30	4	6	0.0	0	4.2	16	44	36	13	15	8	7	3.8	
MIDLAND	2851	912.3	1008.3	91	65	78.2	- 3.0	104	21+	55	4	17	0	52	47	2.68	1.05	2.54	7	6	0.0	0	6.2	16	40	35	3	22	2	6	3.0	
PORT ARTHUR	16	1011.9	1012.5	90	72	81.0	0.4	98	30	62	16+	18	0	72	78	2.08	- 2.21	1.41	4	4	0.0	0	4.5	16	33	S	26	12	13	5	4.1	75
SAN ANGELO	1903	943.8	1008.6	96	68	82.0	- 0.5	110	20	52	5	23	0	60	54	0.26	- 1.56	0.14	2	6	0.0	0	6.0	17	37	16	17	19	5	6	3.8	
SAN ANTONIO	788	983.7	1011.1	91	72	81.2	- 0.7	99	23+	60	5	20	0	68	68	2.32	- 0.63	1.20	3	4	0.0	0	7.3	14	29	N	24	11	16	3	4.4	72
VICTORIA	104	1007.5	1011.5	93	73	81.9	0.6	96	30+	60	5	21	0	71	74	2.33	- 0.71	2.33	2	2	0.0	0	7.3	15	38Y	S	25	11	12	7	4.7	
WACO	501	993.6	1011.2	93	72	82.7	0.7	102	23+	60	5+	24	0	68	64	0.44	- 2.23	0.37	2	6	0.0	0	9.0	16	55	16	24	19	6	5	3.4	
WICHITA FALLS	994	973.9	1009.8	92	66	79.2	- 2.6	105	21	52	4	20	0	65	67	3.11	- 0.09	2.04	7	8	0.0	0	7.4	15	39	30	13	11	11	6	4.6	
UTAH																																
MILFORD	5028	843.2		80	47	63.1	- 2.3	91	4	36	26	2	0			1.22	0.79	0.51	8		0.0	0						11	8	11	5.1	
SALT LAKE CITY	4220	868.3	1009.9	78	52	64.8	- 2.6	92	5	38	1	2	0	43	51	2.83	1.85	1.16	12	13	0.0	0	1.4	17	35	E	7	4	14	12	6.4	78
WENDOVER	4237	867.9	1010.9	76	57	66.5	- 3.3	90	5	46	26	1	0			1.31	0.85	0.77	10		0.0	0										

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h.							%
VERMONT																																
BURLINGTON	332	1000.0	1012.5	74	54	64.1	- 0.1	88	28	40	1	0	0	55	74	4.01	0.52	1.12	14	8	0.0	0	4.1	19	26	S	19	6	9	15	6.6	70
VIRGINIA																																
LYNCHBURG	916			83	61	72.3	- 0.7	94	29+	44	4	6	0			3.27	- 0.79	0.99	12		0.0	0			28	NW	2	5	13	12	6.5	52
NORFOLK	22	1013.2	1014.2	85	69	77.1	1.5	94	30+	62	5	7	0	65	68	4.13	0.52	2.54	9	9	0.0	0	3.0	15	40	SW	2	2	15	13	6.6	62
RICHMOND	164	1008.1	1014.1	86	66	75.7	0.6	98	28	53	4	11	0	65	75	4.36	0.61	2.87	12	7	0.0	0	2.3	19	34	N	18	4	13	13	6.7	53
ROANOKE	1149	972.9	1014.1	84	62	73.1	- 0.3	96	8	45	4	8	0	61	71	4.95	1.15	2.26	13	10	0.0	0	1.1	23	29	23	24	4	11	15	6.9	
WALLOPS ISLAND	9			79	67	72.7		95	29	60	10+	2	0			1.81		1.23	7		0.0	0			38Y	SSW	15					
WASHINGTON																																
OLYMPIA	195	1006.8	1014.1	75	53	64.0	4.9	93	17	45	1	2	0			1.68	- 0.11	0.43	10	1	0.0	0			21	23	20	6	6	18	6.9	
QUILLAYUTE	179	1007.1	1014.7	67	51	59.2	3.4	92	17	43	27	1	0	53	85	2.04	- 1.34	0.68	13	0	0.0	0	2.8	24	17	N	3	3	8	19	7.9	34
SEATTLE TACOMA	400	998.0	1014.3	73	55	64.3	4.5	91	17	49	26	1	0	53	70	0.91	- 0.67	0.58	5	0	0.0	0	3.0	25	19	N	16	6	6	18	6.9	53
SPOKANE	2356	928.5	1010.9	78	52	65.2	3.3	93	18	43	28	4	0	45	51	1.17	- 0.32	0.67	6	3	0.0	0	2.2	16	30	NE	12	7	13	10	5.9	68
STAMPEDE PASS R	3958	878.8		64	49	56.1	7.2	82	3	36	25	0	0			5.21	1.12	1.26	11		0.0	0						5	6	19	7.4	
WALLA WALLA U	949			83	59	71.3	4.1	98	4	51	28+	8	0			0.76	- 0.46	0.47	6		0.0	0			28	E	10	9	11	10	5.6	70
YAKIMA	1052	972.9	1010.8	83	55	68.9	4.5	95	4	40	26	8	0	45	45	0.61	- 0.20	0.28	5	2	0.0	0	4.0	32	29	30	24	9	13	8	5.7	
WEST INDIES																																
SAN JUAN P.R.	13	1012.9	1015.3	88	76	82.0	2.0	93	24+	74	10+	8	0	72	75	4.04	- 1.62	0.86	16	5	0.0	0	6.4	11	27	N	23	0	20	10	6.5	75
SWAN ISLAND	28			88	79	83.5	1.2	89	24+	74	25+	0	0			5.70	- 0.76	1.03	22		0.0	0						3	8	19	8.1	
WEST VIRGINIA																																
BECKLEY	2504	927.9	1014.0	78	58	67.7	- 0.1	88	26	40	4+	0	0	59	77	7.05	2.81	1.62	18	16	0.0	0	3.7	22	24	27	23	2	12	16	7.5	
CHARLESTON	939	979.7	1013.1	86	62	73.7	1.7	97	27	44	4	11	0	63	74	2.43	- 1.26	0.73	15	10	0.0	0	2.8	21	32	23	24	4	11	15	7.0	
ELKINS	1970	944.5		79	55	66.9	- 0.2	92	30	38	4	2	0			3.83	- 1.36	1.57	17		0.0	0			30	31	8	1	14	15	7.6	
HUNTINGTON	827	983.7	1013.4	84	62	72.6	0.6	94	30+	44	4	8	0	62	73	2.45	- 1.65	0.70	13	9	0.0	0	2.7	19	25	21	24	1	17	12	7.0	
PARKERSBURG U	615			83	61	71.8	- 0.8	94	27+	46	4	7	0			5.15	0.88	1.83	15		0.0	0			34	W	2					47
WISCONSIN																																
GREEN BAY	682	985.4	1010.9	67	47	57.2	- 8.3	83	26	38	4	0	0	48	74	7.62	4.26	2.65	18	8	0.0	0	1.5	25	33	W	30+	4	7	19	7.4	47
LA CROSSE	651	986.5	1010.6	71	52	61.4	- 7.4	87	5	42	13	0	0	52	75	6.39	2.19		13	6	0.0		1.3	25								
MADISON	858	979.7	1010.9	70	49	59.5	- 6.6	85	26	36	9	0	0	52	77	7.96	4.01	2.71	13	9	0.0	0	1.5	25	33	SW	25	6	6	18	6.9	44
MILWAUKEE	672	986.1	1011.3	69	49	58.9	- 4.4	88	26	36	4	0	0	50	74	7.53	3.89	2.34	20	6	0.0	0	2.0	24	39	SW	29	5	9	16	7.0	45
WYOMING																																
CASPER	5338	835.8	1011.4	70	44	57.0	- 6.1	92	5	28	13	1	4	40	61	2.39	1.14	1.67	14	7	3.0	2	2.5	31	31	22	24	7	7	16	6.9	
CHEYENNE	6126	811.0	1011.6	69	45	57.0	- 6.0	91	5	34	14+	1	0	39	58	2.70	0.59	0.98	13	6	T	T	3.9	29	56	W	25	7	8	15	6.7	48
LANDER	5563	827.6	1011.5	69	45	56.8	- 5.2	91	5	32	13	1	1	40	58	5.29	3.93	3.11	12	8	1.2	T	2.7	27	31	W	25	5	10	15	6.8	63
SHERIDAN	3964	877.1	1012.8	70	45	57.4	- 4.5	91	5	31	13	1	2	45	66	2.44	- 0.13	0.58	17	5	4.0	4	3.7	32	39	NW	5	7	7	16	6.6	54

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb	C	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm	M.p.s.		M.p.s							%
ALABAMA																																
BIRMINGHAM	189	991.5	1013.5	31.1	18.3	24.6	- 1.8	36.1	29	8.9	3	14	0	18.9	66	95	- 7	60	7	7	0	0	0.3	23	20.1	SW	19	9	14	7	5.0	65
HUNTSVILLE	190	990.9	1013.5	32.8	20.0	26.2	0.3	38.3	29	10.6	3	19	0	18.3	65	156	71	113	7	9	0	0	0.5	19	15.6	21	20	6	18	6	5.3	
MOBILE	64	1005.1	1012.9	34.4	21.7	28.0	0.5	38.3	29	16.1	3	25	0	20.0	68	34	-124	9	10	8	0	0	0.0	19	11.6	6	30	11	14	5	4.6	
MONTGOMERY	56	1006.1	1013.3	33.3	19.4	26.3	0.0	38.3	28	12.2	4	23	0	18.9	68	44	- 61	22	4	6	0	0	0.1	10	11.2	S	10	12	14	4	4.4	72
ALASKA																																
ANCHORAGE	35	1009.5	1014.1	18.3	10.0	14.3	1.1	29.4	14	6.1	13+	5	0	7.2	65	5	- 20	4	3	0	0	0	2.1	18	11.2	16	16+	2	4	24	8.3	47
ANNETTE	34	1010.8	1014.9	22.2	11.7	16.8	4.4	31.7	9	7.8	5	14	0	10.6	73	72	- 72	35	8	0	0	0	1.1	18	10.3	18	2	10	7	13	6.0	
BARROW	9	1016.9	1017.4	3.3	- 1.7	0.8	0.2	15.0	30	-15.6	6	0	13	- 1.1	87	7	- 2	4	5	0	15	76	4.0	8	11.6	7	22	8	13	9	5.8	
BARTER ISLAND	12	1015.2	1017.1	2.8	- 1.7	0.6	- 0.6	7.8	10	- 8.3	4+	0	20	- 1.1	87	2	- 11	1	3	0	13	51	4.7	8	13.4	7	17+	7	10	13	6.5	
BETHEL	38	1005.4	1011.1	16.1	6.7	11.3	0.4	26.1	15	2.2	3	4	0	5.6	71	20	- 10	5	15	0	0	0	0.8	7	12.5	14	8	0	4	26	8.7	
BETTLES	196	987.5	1012.5	22.8	8.9	16.0		33.3	16	- 2.2	5	18	2	6.1	52	13		5	6	0	0	0	0.2	21	10.3	17	8	5	7	18	6.9	
BIG DELTA	386			23.9	10.6	17.3		33.3	15	1.7	2	23	0			21		10	3	0	0	0			16.1	18	9	4	10	16	7.2	
COLD BAY	29	1004.1	1007.9	10.0	6.7	8.3	0.9	13.9	29+	3.9	2+	0	0	5.0	82	64	14	18	16	0	0	0	2.1	16	21.5	15	9	0	1	29	9.8	
FAIRBANKS	133	994.9	1011.7	26.1	10.6	18.3	3.6	35.6	15	2.8	2	26	0	6.1	48	10	- 25	5	4	3	0	0	0.4	28	12.1	22	17	5	8	17	7.0	
FAREWELL	457			18.9	6.7	12.6		30.0	15	1.1	13	10	0			49		22	8	4	0	0						1	6	23	9.5	
GULKANA	479	956.3	1012.6	22.8	7.8	15.1		32.2	15+	- 1.1	3	21	1	3.3	48	12		8	3	2	0		2.6	19	11.2	18	8	5	10	15	6.5	
HOMER	20			14.4	6.7	10.5		26.1	14	0.6	2	2	0			11	- 16	5	7	0	0	0						2	4	24	8.3	
ILIAMNA	57			13.9	6.7	10.3		27.8	14	2.2	2	4	0			63		29	9	0	0	0						2	6	22	8.5	
JUNEAU	4	1013.9	1014.6	20.6	8.3	14.3	3.1	30.0	13	2.2	6	14	0	9.4	76	61	- 25	18	9	0	0	0	0.5	29	10.3	12	3	11	5	14	8.7	60
KING SALMON	15	1008.1	1010.2	15.6	7.2	11.4	0.6	26.7	14	3.3	4	6	0	5.0	67	14	- 21	4	11	0	0	0	3.7	13	17.0	8	7	1	1	28	9.3	
KOTZEBUE	3	1011.9	1012.4	13.3	6.7	9.8	3.3	26.7	16	- 3.9	4	1	5	6.1	78	21	8	8	12	0	0	T	1.4	27	14.8	17	9	3	9	18	7.3	
MC GRATH	105	999.0	1011.7	20.6	7.8	14.2	0.6	32.2	15	1.1	7+	15	0	6.1	60	30	- 12	10	10	4	0	0	0.2	26	7.6	30	28+	1	11	18	7.7	
NENANA	109			23.9	6.7	15.2		33.9	15	- 1.1	2	23	2			17		12	3	2	0				10.3	20	4					
NOME	4	1010.5	1011.3	12.2	5.0	8.7	1.0	26.1	15	- 3.3	4	2	3	3.3	71	22	- 2	8	10	1	0	0	1.2	13	11.2	14	9+	2	4	24	8.5	18
ST. PAUL ISLAND	7	1007.8	1008.6	8.3	2.8	5.6	0.7	10.6	27+	- 2.8	3+	0	4	3.9	88	17	- 12	6	14	0	0	0	1.9	6	14.3	35	15	0	3	27	9.2	
SHEMYA	37	1005.8	1009.5	7.2	3.9	5.7	0.2	8.9	30+	2.2	8+	0	0	3.9	89	21	- 13	5	13	0	T	0	2.0	34	15.6	34	16	0	1	29	9.7	
SUMMIT	732			17.8	6.1	12.1		28.9	14	- 0.6	3	10	1			25		8	9	2	T	0			13.0	22	16	4	6	20	7.6	
TALKEETNA	105			20.6	7.8	14.3	1.5	32.8	14	1.7	3	13	0			16	- 29	10	6	2	0	0			7.2	18	3					
TANANA	71			22.8	8.3	15.6	1.7	34.4	15	0.6	3+	19	0			5	- 27	2	5	4	0	0			10.3	27	17	3	10	17	7.3	
UNALAKLEET	5			13.9	6.7	10.3		21.7	16+	- 2.2	4	2	1			13		4	10	0	0	0			13.4	14	9+	0	4	26	9.1	
YAKUTAT	9	1014.9	1016.0	13.9	5.6	9.8	- 0.4	25.6	13	- 1.1	2	2	2	7.2	86	60	- 69	28	10	0	0	0	1.3	24	7.6	11	3	4	5	21	8.0	
ARIZONA																																
FLAGSTAFF	2135	786.7	1010.6	24.4	4.4	14.4	- 0.9	31.7	30	0.0	11+	0	2	- 3.3	30	T	- 17	T	1	3	0	0	3.0	21	13.0	21	24	20	8	2	3.0	
PHOENIX	340	968.2	1006.0	37.2	20.6	29.0	0.3	43.3	30	17.8	11+	29	0	4.4	22	0	- 2	0	0	0	0	0	0.8	26	14.3Y	WSW	25+	25	3	2	1.4	95
TUCSON	788	921.1	1006.5	35.6	18.3	27.1	- 1.1	41.1	30	13.9	12+	27	0	2.2	22	0	- 7	0	0	0	0	0	2.3	23	15.6	SE	5	26	4	0	1.1	98
WINSLOW	1492	848.3	1007.6	32.2	12.8	22.3	- 1.2	39.4	30	8.3	12	17	0	- 1.7	23	T	- 7	T	0	0	0	0	3.2	23	16.1	23	25	22	6	2	2.6	
YUMA	59	999.3	1006.3	36.7	20.6	28.6	- 1.4	43.3	30	16.1	10	26	0	8.9	33	0	T	0	0	0	0	0	2.7	18	11.2	SE	25	28	1	1	0.7	99
ARKANSAS																																
FORT SMITH	136	995.6	1011.9	30.0	18.9	24.4	- 1.4	35.0	30+	8.9	3	11	0	17.8	69	116	6	37	8	8	0	0	0.5	19	15.2	SW	23	11	11	8	5.1	66
LITTLE ROCK	78	1003.1	1012.2	31.7	18.9	25.3	- 0.7	37.2	30	7.8	3	18	0	18.9	70	76	- 16	20	10	8	0	0	1.6	22	16.5	NW	24	12	12	6	4.7	87
CALIFORNIA																																
BAKERSFIELD	145	993.2	1010.5	31.1	18.3	24.8	- 0.2	36.1	30+	14.4	28	15	0	10.6	43	T	- 2	T	0	0	0	0	3.0	33	11.2	32	16	22	5	3	2.1	
BISHOP	1252	869.6		30.0	10.6	20.5	- 0.5	36.1	3	6.7	28+	11	0			9	7	4	7		0	0						12	12	6	4.[illegible]	
BLUE CANYON	1609			18.9	10.6	14.6	- 0.5	26.7	2	5.0	10+	0	0			12	- 11	8	5		0	0			6.7	10	16	11	5	14	5.[illegible]	
EUREKA O	13			15.6	11.7	13.7	0.6	17.8	6	10.0	1	0	0			9	- 10	4	7		0	0			11.2	N	28	3	3	24	8.4	39
FRESNO	100	999.0	1010.5	30.6	15.0	22.7	- 1.0	35.6	30	12.2	29+	11	0	11.7	53	1	- 1	1	1	2	0	0	3.8	30	8.9	NW	25+	21	6	3	2.8	92
LONG BEACH	10	1011.5	1012.8	23.3	15.6	19.2	- 0.5	33.3	30	12.8	10	1	0	12.8	71	T	- 1	T	0	0	0	0	1.7	22	7.2	21	9+	4	10	16	7.0	
LOS ANGELES	30	1008.5	1012.1	21.1	16.1	18.6	0.4	25.6	30	14.4	10	0	0	13.9	77	T	- 1	T	0	0	0	0	2.8	23	9.8Y	SW	9	5	12	13	6.8	
LOS ANGELES O	82			22.8	16.7	19.6	- 0.4	31.1	30	15.6	28+	0	0			T	- 2	T	0		0	0			7.2	SW	9	4	11	15	6.8	36
MT SHASTA R	1080	889.9	1012.3	23.3	10.0	16.6	0.8	33.3	3	4.4	27+	1	0			20	- 12	7	7		0	0										
OAKLAND	2	1013.5	1013.8	18.9	13.9	16.2	- 0.9	25.0	29	11.1	27	0	0	11.7	79	1	- 2	1	3	0	0	0	4.5	27	10.3	30	16	10	5	15	5.8	
RED BLUFF	104	998.6	1011.1	30.0	16.1	23.3	- 1.3	37.8	15	13.3	9+	10	0	10.0	49	8	- 3	5	2	0	0	0	0.3	26	13.0	N	16	12	10	8	4.6	75
SACRAMENTO	5	1010.5	1011.4	28.3	12.8	20.6	- 0.8	35.6	16	10.6	27	6	0	12.2	67	2	- 1	2	1	1	0	0	3.5	21	10.7	NE	16	18	9	3	3.0	94
SANDBERG R	1377	860.1		21.7	10.6	16.1	- 2.2	30.0	30	6.1	10	0	0			8	8	8	1		0	0			19.2	33	28+	21	3	6	2.6	
SAN DIEGO	4	1011.5	1012.4	20.6	16.7	18.6	- 0.4	24.4	30+	15.0	1	0	0	13.9	77	1	- 1	1	1	0	0	0	2.4	27	8.0	NW	18+	3	5	22	8.2	30
SAN FRANCISCO	2	1013.5	1014.1	19.4	12.8	16.2	- 0.1	27.8	29	10.0	28	0	0	10.6	75	2	- 1	1	2	0	0	0	6.1	27	18.3	30	3	11	5	14	5.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C	C.	C.	C.	C.		C.				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
CALIFORNIA																																
SAN FRANCISCO U	16			17.2	12.8	14.8	-0.2	25.0	29	10.6	30	0	0			1	-2	1	2		0	0			13.9	W	21					56
SANTA MARIA	72			20.6	11.7	15.9	0.6	25.6	29	5.6	27	0	0			T	-3	T	1		0	0						9	9	12	5.8	
STOCKTON	7	1011.2	1012.1	28.9	13.3	21.2	-1.5	36.1	30	10.6	28	6	0	10.6	56	T	-2	T	0	1	0	0	3.8	28	10.3	29	25	18	10	2	2.8	
COLORADO																																
ALAMOSA	2297	771.4		23.3	4.4	13.8	-1.8	30.6	30	-0.6	27+	0	2			66	53	26	10		0	0						14	11	5	4.3	
COLORADO SPRINGS	1873	810.4	1011.6	22.2	8.3	15.4	-2.8	33.3	28	2.2	14+	2	0	4.4	57	69	29	14	14	9	T	0	0.5	3	19.2	31	24	8	9	13	6.1	
DENVER	1610	834.4	1009.9	23.3	9.4	16.4	-2.8	35.0	28	2.2	13	2	0	6.1	59	76	39	42	13	12	0	0	0.3	29	17.9	36	10	5	12	13	6.3	56
GRAND JUNCTION	1476	848.6	1008.1	28.3	11.7	19.8	-2.0	35.0	5	7.2	25+	6	0	3.3	40	53	42	40	8	8	0	0	1.2	16	21.5	NW	25	11	11	8	4.9	66
PUEBLO	1428	853.0	1009.2	27.2	12.8	20.0	-1.7	37.8	28	7.8	12+	5	0	6.7	49	44	13	17	11	8	0	0	0.2	5	24.1	NW	24	10	10	10	5.3	63
CONNECTICUT																																
BRIDGEPORT	2	1013.5	1014.3	24.4	15.6	19.9	-0.1	33.3	28	11.1	4	1	0	15.0	74	29	-57	11	9	2	0	0	1.1	20	12.1	24	15	3	15	12	6.4	
HARTFORD	52	1007.1	1013.6	26.7	13.3	20.1	-0.3	36.1	28	8.3	11+	4	0	14.4	72	67	-27	33	11	5	0	0	1.6	19	10.3	SW	28+	4	10	16	7.1	63
DELAWARE																																
WILMINGTON	23	1011.2	1014.2	27.8	18.3	23.0	1.1	35.0	28	11.7	4	1	0	16.1	68	92	-11	46	8	10	0	0	1.6	16	10.3	15	14	5	10	15	7.0	
DIST.OF COLUMBIA																																
WASH NATL AP	3	1011.5	1014.0	30.6	20.0	25.1	1.6	37.8	28	13.9	17	14	0	17.2	64	88	6	43	8	5	0	0	1.5	19	18.8	SW	2	2	14	14	6.9	58
FLORIDA																																
APALACHICOLA U	4			31.7	23.3	27.6	0.8	34.4	23	18.9	6+	15	0			14	-120	14	1	3	0	0			11.6	N	21	18	10	2	3.1	78
DAYTONA BEACH	9	1012.5	1013.8	31.1	22.8	26.9	1.2	33.9	22+	18.9	6	12	0	22.2	78	63	-85	55	8	6	0	0	1.9	9	10.3	28	5	8	19	3	4.9	
FORT MYERS	5	1012.5	1012.7	32.2	23.9	27.9	0.8	33.9	27+	21.1	1	21	0	23.3	81	270	42	130	19	16	0	0	0.6	12	13.0	4	30	4	23	3	5.2	
JACKSONVILLE	6	1012.9	1013.9	33.3	22.8	28.0	0.9	36.1	25+	18.3	6	20	0	22.2	74	130	-31	84	7	6	0	0	1.8	11	25.9	N	5	11	16	3	4.5	84
KEY WEST	1	1011.9	1012.4	30.6	26.1	28.2	0.5	32.2	22	23.3	14+	1	0			253	152	99	20	14	0	0	1.8	16	13.0	SW	13	2	16	12	6.6	77
LAKELAND U	65			32.8	22.8	27.8	0.8	35.0	25	19.4	21	22	0			119	-64	40	13		0	0						5	21	4	5.3	68
MIAMI	2	1012.2	1012.5	31.1	24.4	27.9	0.8	33.9	25	21.1	6	15	0	22.2	76	290	103	61	20	10	0	0	1.7	13	10.3	36	17+	0	17	13	7.2	
ORLANDO	33	1009.1	1013.2	33.3	23.3	28.3	0.9	36.1	25	19.4	7	23	0	22.2	75	128	-49	70	11	11	0	0	1.7	10	10.3	22	5	4	23	3	5.2	
TALLAHASSEE	17	1010.8	1013.2	35.0	21.1	28.0	1.2	37.8	29+	16.1	19+	27	0	21.7	75	124	-42	50	7	12	0	0	0.6	6	15.6	13	30	7	19	4	4.6	
TAMPA	6	1012.2	1012.5	32.8	22.8	27.8	0.8	35.0	28+	18.9	29	25	0	21.7	73	112	-73	49	11	11	0	0	0.7	7	11.2	3	21	9	18	3	4.9	86
WEST PALM BEACH	5	1012.2	1012.8	30.6	22.8	26.9	-0.3	33.3	18	20.6	7	5	0	21.7	76	311	120	124	15	8	0	0	1.4	11	12.5	8	25	6	13	11	6.1	
GEORGIA																																
ATHENS	244	985.1	1013.5	32.2	19.4	25.8	0.4	38.3	28	11.7	4	16	0	18.9	70	38	-61	14	7	9	0	0	0.1	19	8.0	23	2	9	12	9	5.6	
ATLANTA	308	977.7	1013.7	31.1	19.4	25.2	0.4	36.7	29+	12.2	4	14	0	18.9	72	25	-72	11	6	7	0	0	0.3	19	15.2	NE	29	8	15	7	5.2	68
AUGUSTA	41	1008.1	1013.5	32.8	20.0	26.2	0.2	36.7	29	11.1	4	20	0	20.0	74	115	38	26	9	14	0	0	0.5	14	15.6	1	29	8	16	6	5.7	
COLUMBUS	117	999.7		32.8	20.0	26.4	0.1	37.2	29+	11.7	4	21	0	19.4	70	71	-22	34	6	8	0	0	0.3	5	15.6	32	20	14	12	4	4.3	
MACON	108	1001.0	1013.7	33.3	19.4	26.4	-0.7	37.8	28	9.4	4	24	0	19.4	70	107	22	38	7	7	0	0	0.4	5	22.4	NW	28	10	16	4	5.0	74
SAVANNAH	14	1012.2	1013.9	31.7	21.1	26.5	0.0	35.0	25+	16.7	8+	15	0	21.1	76	254	124	93	10	12	0	0	0.7	14	11.2	N	5	9	13	8	5.1	77
HAWAII																																
HILO	8	1015.6	1016.7	29.4	19.4	24.6	1.1	32.2	24	18.3	21+	1	0	20.0	77	70	-102	22	17	0	0	0	0.8	14	8.9	E	28	3	17	10	6.4	66
HONOLULU	2	1015.6	1016.1	30.6	21.7	26.2	0.7	32.2	20	19.4	13+	1	0	19.4	69	6	-3	2	6	0	0	0	3.8	5	11.2	E	30+	10	19	1	4.5	68
KAHULUI	15	1013.5	1015.8	31.7	19.4	25.5	0.4	33.3	28+	16.1	5	9	0	18.9	69	9	5	6	7	0	0	0	4.0	5	12.1	E	30+	17	8	5	3.8	80
LIHUE	31	1012.2	1017.3	28.9	22.2	25.7	0.9	31.7	15	19.4	14+	0	0	20.0	74	23	-14	5	16	0	0	0	3.1	6	9.8	SW	14	7	15	8	5.8	57
IDAHO																																
BOISE	865	911.6	1009.8	25.6	12.2	19.1	0.3	36.7	4	4.4	28	3	0	7.8	53	51	28	17	10	6	0	0	0.8	30	13.4	NE	7+	5	16	9	6.0	71
LEWISTON	431			28.3	13.9	20.9	2.7	35.0	18+	8.9	29+	9	0			60	17	32	5		0	0						9	9	12	5.9	
POCATELLO	1358	860.8	1011.6	23.3	7.8	15.5	-1.6	32.2	5+	0.6	1	2	0	5.0	55	51	27	22	11	6	0	0	1.3	24	15.2	S	10	4	14	12	6.5	60
ILLINOIS																																
CAIRO U	96			30.6	19.4	25.1	-0.4	36.7	30	11.7	3	14	0			87	-18	29	11		0	0			16.1	N	28	8	12	10	5.3	67
CHICAGO O HARE	201	987.5	1011.6	23.3	12.8	17.9	-2.1	35.6	26+	6.1	9+	2	0	11.1	65	197	97	57	17	13	0	0	0.6	21	17.4	24	25	4	12	14	6.8	
CHICAGO MIDWAY	185	989.5	1011.8	23.9	13.3	18.7	-2.7	35.6	26	6.1	9	7	0	11.1	65	147	43	51	16	12	0	0	1.1	18	14.8	SW	27	5	9	16	6.7	48
MOLINE	177	989.8	1011.0	25.6	13.9	19.5	-2.4	33.3	29	6.1	9+	2	0	13.3	70	177	66	42	16	13	0	0	0.9	22	17.0	W	25	7	6	17	6.7	57
PEORIA	199	988.2	1011.7	25.0	13.3	19.1	-2.9	33.3	29+	4.4	3	3	0	12.8	69	125	22	53	11	10	0	0	0.9	20	19.2	W	25	3	12	15	7.2	50
ROCKFORD	221	984.1	1010.7	22.8	12.2	17.6	-3.4	31.1	26	5.0	9	0	0	11.7	70	226	117	105	18	16	0	0	0.5	25	13.4	28	25+	6	7	17	6.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm	Mm.			Mm.	Mm	M p.s.		M.p.s							%
ILLINOIS																																
SPRINGFIELD	179	989.2	1010.9	28.3	15.0	21.5	-1.8	36.1	7	5.6	3	10	0	13.3	63	68	-45	14	12	6	0	0	1.4	21	21.5	NW	28	5	12	13	6.5	63
INDIANA																																
EVANSVILLE	116	998.3	1012.0	30.0	17.2	23.6	-0.8	35.6	25	6.7	3	14	0	16.7	67	126	31	57	14	8	0	0	0.9	20	15.2	W	29+	8	13	9	5.8	68
FORT WAYNE	241	982.7	1012.5	23.9	13.3	18.7	-2.8	32.8	26	5.0	4	1	0	13.9	74	149	43	27	16	12	0	0	1.3	23	17.0	SW	27	3	7	20	7.7	56
INDIANAPOLIS	241	983.1	1011.6	27.2	15.0	21.0	-0.7	32.8	26+	5.6	3	6	0	15.6	73	106	-12	32	12	9	0	0	1.0	20	17.9	SW	1	5	12	13	7.1	50
SOUTH BEND	236	984.1	1011.7	23.3	13.3	18.3	-2.3	33.3	26	6.7	9+	3	0	13.9	77	131	40	40	17	9	0	0	1.1	22	15.6	19	30	5	7	18	7.3	
IOWA																																
BURLINGTON	211			24.4	13.9	19.3	-3.0	32.8	29	5.6	3	2	0	13.3	68	125	-2		13	13	0		1.0	22	15.6	36	28	4	11	15	6.8	
DES MOINES	286	976.6	1010.9	25.6	13.9	19.6	-2.1	32.8	29	5.6	3	3	0	12.8	68	186	66	66	11	11	0	0	0.5	22	28.2	SW	26	6	8	16	6.5	56
DUBUQUE	322	972.2		22.2	11.1	16.8	-3.2	30.0	29+	3.3	2	0	0			266	160	62	16		0	0						7	6	17	6.7	
SIOUX CITY	334	971.2	1010.4	25.0	11.7	18.3	-3.6	34.4	5	4.4	13+	1	0	11.7	67	145	35	52	10	8	0	0	0.1	1	19.2	NW	28	6	10	14	6.6	58
WATERLOO	265	979.3	1010.8	22.2	10.6	16.6	-4.6	30.0	29	4.4	13+	0	0	11.1	71	122	T	32	13	9	0	0	0.7	26	17.0	25	26	5	9	16	6.8	
KANSAS																																
CONCORDIA	448	957.7	1009.7	26.7	13.9	20.2	-3.3	36.1	28	5.6	2	5	0	13.9	70	73	-33	40	9	6	0	0	0.7	18	21.0	W	22	10	11	9	5.3	61
DODGE CITY	787	920.4	1009.3	28.9	14.4	21.6	-1.9	38.3	28	5.6	2	12	0	12.8	63	19	-58	15	7	10	0	0	1.1	17	18.8	S	10	10	12	8	5.1	75
GOODLAND	1114	884.9	1009.4	25.6	11.1	18.2	-2.8	38.9	28	2.2	2	3	0	8.9	62	56	-11	30	9	9	0	0	0.2	18	16.5	34	21	10	9	11	5.7	
TOPEKA	267	979.0	1010.4	26.1	15.0	20.4	-3.3	35.0	29	7.2	3	3	0	16.1	76	215	100	69	12	10	0	0	1.0	18	18.8	SW	11	8	11	11	5.9	59
WICHITA	403	963.1	1010.4	27.8	15.6	21.7	-3.1	35.6	30+	6.1	2	7	0	15.6	70	173	66	35	10	9	0	0	1.9	17	22.4	SW	25	11	9	10	4.8	63
KENTUCKY																																
COVINGTON	265	981.7	1012.7	28.3	16.1	22.2	0.1	33.3	30+	6.7	4+	9	0	16.7	73	125	26	58	13	7	0	0	1.4	21	17.9	26	12	2	17	11	6.7	
LEXINGTON	294	978.7	1013.3	28.3	17.2	22.7	-0.4	33.3	12	7.2	3	9	0	16.1	68	117	-3	39	14	10	0	0	2.1	21	11.2	22	24	4	13	13	6.6	
LOUISVILLE	145	994.9	1012.1	28.3	17.8	23.1	0.1	33.9	28+	7.8	3	7	0	16.7	70	75	-26	32	11	6	0	0	1.5	21	17.9	NW	22	5	14	11	6.2	68
LOUISIANA																																
BATON ROUGE	20	1010.2	1012.8	33.9	21.7	27.7	0.5	37.8	28	16.1	3	23	0	20.6	70	19	-85	10	4	2	0	0	0.6	18	10.3	16	11	12	14	4	4.0	
LAKE CHARLES	3	1011.5	1012.4	31.7	21.7	26.7	-0.7	36.7	30	16.7	16+	14	0	21.1	76	21	-99	18	2	5	0	0	1.1	17	9.4	14	30	11	14	5	4.2	
NEW ORLEANS	1	1012.2	1013.2	32.8	21.1	26.8	0.1	35.6	30+	16.1	1	18	0	21.1	72	63	-50	30	7	2	0	0	0.4	18	10.3	36	14	17	10	3	3.3	
SHREVEPORT	77	1003.1	1012.0	32.8	21.1	26.9	-0.1	37.8	29+	12.8	5	19	0	19.4	66	29	-55	29	3	1	0	0	1.6	19	10.3	16	26+	14	11	5	4.3	85
MAINE																																
CARIBOU	190	989.5		21.7	10.0	15.9	0.9	32.8	13	2.8	1	1	0			88	-15	26	12		0	0						1	13	16	7.5	
PORTLAND	14	1010.8	1013.2	22.8	11.1	17.0	0.3	31.1	28	5.0	1	0	0	13.3	81	90	9	27	9	5	0	0	1.6	19	20.1	SW	20	8	11	11	5.9	63
MARYLAND																																
BALTIMORE	45	1008.5	1013.9	29.4	18.3	23.8	1.3	36.7	28	12.2	17	9	0	17.2	70	93	9	52	6	6	0	0	1.2	20	14.3	SE	2	5	12	13	6.6	54
MASSACHUSETTS																																
BLUE HILL OBS R	192			24.4	13.9	19.2	0.8	32.8	28+	10.0	4	2	0			46	-50	15	10		0	0			17.0	SSW	3					60
BOSTON	5	1012.5	1013.6	25.0	16.1	20.7	0.8	35.0	27	12.8	6+	3	0	13.9	68	16	-72	7	8	3	0	0	2.2	20	15.2	SW	20	9	10	11	5.8	63
NANTUCKET	13	1014.6	1014.8	22.2	13.3	17.7	1.4	31.7	29	7.2	10	0	0	14.4	83	16	-58	7	5	3	0	0	1.5	19	11.2	NE	21	3	9	18	7.6	46
WORCESTER	301	978.0	1014.6	24.4	13.9	19.1	0.9	33.3	27	8.3	4	1	0	12.2	66	32	-66	10	11	5	0	0	1.7	23	10.3	22	30	9	11	10	5.8	
MICHIGAN																																
ALPENA	210	986.1	1011.3	20.0	7.8	13.8	-2.1	30.0	27	0.0	21	0	1	8.3	70	213	145	67	16	8	0	0	0.8	23	17.9	W	12	4	8	18	7.3	47
DETROIT	189			22.8	12.8	17.8	-3.1	32.8	26	3.3	9	2	0	12.2	70	100	28	31	16	6	0		1.1	23	11.2	29	28					
DETROIT M WAYNE CO	193	988.2	1011.9	23.3	12.8	18.2	-1.8	33.9	26	4.4	4	2	0	12.2	70	108	24	30	18	6	0	0	1.0	21	15.6	SW	1	5	6	19	7.3	47
FLINT	235	984.1	1011.8	21.1	10.6	15.6	-3.6	31.1	26	2.2	9	0	0	10.6	72	84	4	29	16	6	0	0	1.7	20	15.6	23	1	4	8	18	7.5	
GRAND RAPIDS	239	982.7	1011.4	22.8	10.6	16.6	-3.2	33.3	26	2.8	9	2	0	11.1	69	120	36	38	20	8	0	0	1.4	21	19.2	SW	29	4	8	18	7.2	44
HOUGHTON LAKE	350	970.2	1011.9	20.0	7.8	13.8	-3.2	28.9	12	-0.6	21	0	1	9.4	74	169	90	66	16	9	0	0	1.0	24	17.9	27	12	4	6	20	7.5	
LANSING	256	980.4	1011.8	22.2	10.6	16.6	-3.1	32.8	26	2.2	9	1	0	12.8	78	102	18	25	17	8	0	0	1.8	21	17.4	W	12	4	7	19	7.2	40
MARQUETTE C	206			17.2	8.3	13.0	-2.6	27.8	26	3.3	3	0	0			70	-18	13	17		0	0			13.0	NW	16	4	8	18	7.4	47
MUSKEGON	191	988.5	1011.1	21.7	10.6	16.2	-3.1	31.7	26	3.3	9	0	0	10.0	68	87	18	22	19	9	0	0	1.3	22	11.2	20	27	8	5	17	6.9	
SAULT STE MARIE	220	984.4	1010.9	18.3	5.6	11.7	-3.3	25.6	26	-0.6	21	0	4	7.2	74	187	103	75	15	6	0	0	1.2	27	13.9	W	26	4	9	17	7.2	51
MINNESOTA																																
DULUTH	435	959.4	1010.8	17.8	6.1	12.1	-2.8	27.2	26	0.0	13	0	1	5.6	67	55	-53	20	13	2	0	0	0.9	26	15.6	W	27	2	8	20	7.8	46

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C.	C.	C.	C	C.		C.				C	%	Mm.	Mm	Mm			Mm	Mm	M p.s.		M.p.s							%
MINNESOTA																																
INTERNATIONAL FALLS	359	966.8	1009.8	18.3	5.0	11.8	- 3.7	30.6	26	0.0	2	0	1	7.2	75	82	- 17	26	13	4	8	T	0.9	31	11.6	18	26	4	8	18	7.6	
MINNEAPOLIS	254	980.4	1010.4	21.7	11.7	16.6	- 2.8	31.7	5	2.8	13	0	0	9.4	65	74	- 27	23	17	5	0	0	0.8	31	16.5	SW	26	3	10	17	7.3	45
ROCHESTER	395	963.4	1010.6	20.6	10.0	15.3	- 4.1	31.1	5	3.3	13+	0	0	9.4	72	144	30	35	15	6	0	0	0.9	26	17.9	20	26	2	12	16	7.3	
ST CLOUD	315	972.6	1010.2	20.6	8.9	14.7	- 3.7	28.3	26	2.2	2	0	0		67	58	- 56	26	12		0	0						4	10	16	7.0	
MISSISSIPPI																																
JACKSON	94	1001.4	1013.0	34.4	19.4	26.8	0.3	39.4	29	9.4	3	23	0	19.4	69	33	- 64	23	5	3	0	0	0.6	16	17.9	SE	30	11	16	3	4.7	71
MERIDIAN	88	1002.4	1013.2	33.3	18.9	25.9	- 0.4	39.4	29	10.0	3	22	0	18.3	68	33	- 71	10	4	5	0	0	0.5	23	10.3	36	21	10	18	2	4.5	
MISSOURI																																
COLUMBIA	237	983.4	1010.9	26.7	16.1	21.3	- 2.1	33.3	29	8.9	2	6	0	15.6	71	258	148	56	16	15	0	0	1.1	20	15.6	NE	28	6	10	14	6.6	66
KANSAS CITY	226	984.1	1010.7	26.1	16.1	21.2	- 3.2	33.3	6	8.3	2	3	0	15.6	71	268	152	56	14	10	0	0	1.0	20	21.0	W	26	8	12	10	5.6	68
ST JOSEPH	247			30.0	16.1	22.9	- 0.4	37.8	6	7.2	3	10	0	13.9	63	182	31		13	9	0		1.1	19	20.6	24	26	9	11	10	5.5	
ST LOUIS	163	991.9	1011.9	28.3	16.7	22.5	- 0.9	34.4	29+	6.1	3	10	0			220	111	53	11	7	0	0	1.1	22	15.6	NW	28	7	9	14	6.5	66
SPRINGFIELD	386	967.5	1011.9	27.8	15.6	21.6	- 1.8	33.3	28	7.2	16	5	0	15.6	72	137	9	33	12	8	0	0	1.8	19	14.3	NW	23	10	15	5	5.0	59
MONTANA																																
BILLINGS	1087	889.6	1012.5	21.1	8.3	14.8	- 3.6	34.4	5	0.0	13+	1	2	6.1	63	146	81	55	13	7	T	0	1.3	30	22.4	W	6	6	8	16	6.7	52
GLASGOW	696	930.6	1011.9	21.7	7.8	14.6	- 2.2	33.3	4	0.6	13+	2	0	5.6	60	31	- 44	12	11	5	0	0	1.4	3	13.9	4	11	4	9	17	7.5	
GREAT FALLS	1116	887.2	1013.0	21.7	8.3	15.2	- 0.3	34.4	4	0.0	13+	2	2	5.6	59	135	62	58	16	3	135	102	1.3	28	13.0	5	5	4	4	22	7.7	56
HAVRE	788	921.1	1012.2	23.9	7.8	15.9	- 0.2	35.6	18+	0.0	1	3	1	5.0	54	55	- 14	26	9	0	T	0	0.3	26	13.4	NE	11	2	8	20	7.7	73
HELENA	1167	879.8	1013.8	21.1	7.2	14.3	- 0.9	32.8	4	- 1.1	13	1	1	6.1	62	89	32	29	11	4	69	51	1.7	29	16.1	N	11	6	4	20	7.1	56
KALISPELL	904	909.9	1013.5	21.1	7.2	14.4	- 0.4	31.1	4	- 1.1	13	0	1	5.6	58	99	42	22	12	3	0	0	0.8	6	14.3	2	11	6	6	18	7.1	
MILES CITY	801	919.1	1011.1	22.8	9.4	15.9	- 2.7	34.4	5	1.1	13	3	0	7.2	61	67	- 2		13	2	T		1.3	32								
MISSOULA	972	902.8	1013.8	22.8	7.2	14.9	0.2	33.9	4	0.6	13	1	0	6.7	63	106	58	38	10	3	0	0	0.5	6	13.4	NW	9	6	10	14	6.4	58
NEBRASKA																																
GRAND ISLAND	561	945.1	1010.2	25.6	12.2	18.9	- 2.7	39.4	6	4.4	2	5	0	11.1	63	88	- 8	43	9	8	0	0	0.8	24	20.6	24	22	9	9	12	6.1	
LINCOLN U	351			26.1	14.4	20.3	- 2.6	37.8	6	7.2	13+	5	0			71	- 44	20	9		0	0			23.2	S	25	6	12	12	6.4	60
NORFOLK	471			25.0	12.2	18.6	- 3.1	35.6	5	4.4	13	3	0			205	97	107	9		0	0						6	10	14	6.5	
NORTH PLATTE	846	914.0	1010.2	25.0	9.4	17.1	- 3.5	37.8	6	- 1.7	2	4	1	10.0	67	107	24	37	12	7	0	0	0.3	4	20.6	NW	24	7	9	14	6.3	62
OMAHA	298	975.3	1009.9	26.1	13.9	19.9	- 2.9	36.7	6	4.4	3	4	0	12.2	64	83	- 32	35	7	7	0	0	0.2	24	15.2	W	28	5	11	14	6.7	85
SCOTTSBLUFF	1206	877.1	1010.8	23.9	8.9	16.3	- 3.1	36.7	5	- 1.1	14	2	2	6.7	60	51	- 28	21	12	8	T	1	0.7	35	14.8	28	25	5	13	12	6.1	
VALENTINE	789			24.4	9.4	16.9	- 2.8	37.8	5	- 1.1	14	1	2			51	- 28	21	10		0	0			21.5	SW	25	7	9	14	6.3	57
NEVADA																																
ELY	1906	807.0	1009.3	22.8	5.6	14.1	- 0.7	30.6	4	- 1.1	26	0	1	2.8	54	71	58	37	11	9	0	0	1.1	21	17.9	SW	9	5	13	12	6.3	56
LAS VEGAS	659	931.6	1006.0	35.0	20.0	27.4	- 0.8	40.0	30	14.4	10	23	0	2.2	23	6	5	6	2	1	0	0	1.5	22	14.8	N	24	22	6	2	2.2	90
RENO	1342	863.2	1010.5	25.6	7.8	16.7	1.1	33.9	4	1.1	27	2	0	5.6	52	33	23	20	8	11	0	0	1.5	30	15.2	SW	4	10	9	11	5.4	81
WINNEMUCCA	1311	864.9	1010.5	25.0	8.9	16.8	0.4	33.3	4	1.1	28	2	0	5.6	49	42	23	12	12	10	0	0	0.7	34	13.4	E	8	5	12	13	6.5	48
NEW HAMPSHIRE																																
CONCORD	104	1001.0	1013.7	23.9	10.6	17.2	- 0.8	32.2	27	1.7	5	1	0	12.8	77	119	28	41	10	6	0	0	1.2	20	10.7	SW	20+	8	12	10	5.7	65
MT WASHINGTON OBS	1909			11.7	3.9	7.7	0.5	20.0	13	- 2.8	9	0	7			129	- 37	53	12	1	0	0			31.3Y	W	30+	3	7	20	8.0	37
NEW JERSEY																																
ATLANTIC CITY	20	1011.9	1014.3	27.8	13.9	20.8	- 0.3	41.1	28	5.6	10	6	0	16.1	78	36	- 36	12	7	4	0	0	2.5	19	13.0	20	15	5	15	10	6.4	52
ATLANTIC CITY U	3			24.4	18.9	21.6	1.0	31.7	29	14.4	10+	0	0			42	- 36	28	7						13.4	S	23+					
NEWARK	2	1012.9	1013.8	27.2	18.3	22.7	0.8	35.6	28	11.7	4	3	0	15.0	65	64	- 23	22	10	6	0	0	1.3	19	9.4	20	15+	3	15	12	6.3	
TRENTON U	17			27.2	17.8	22.4	0.8	35.0	28	12.8	4	2	0			129	38	55	10		0	0			14.3	S	2	3	17	10	6.3	62
NEW MEXICO																																
ALBUQUERQUE	1619	835.8	1007.3	31.7	14.4	23.1	- 0.7	38.9	29	10.0	12	16	0	1.7	29	15	1	15	2	3	0	0	0.8	16	20.1	SE	8	19	6	5	3.0	85
CLAYTON	1515			26.1	11.1	18.7	- 2.6	35.0	28	6.1	14	4	0			82	44	40	11	9	0	0						11	11	8	4.9	
ROSWELL	1102			34.4	16.1	25.1	0.0	41.1	21	10.0	14	21	0			9	- 18	7	3		0	0			14.8	SE	2					78
NEW YORK																																
ALBANY	84	1002.7	1013.3	25.6	12.2	18.9	- 0.7	33.3	27	4.4	10	2	0	13.9	76	135	52	35	13	7	0	0	1.7	19	16.1	W	20	4	12	14	6.7	57
BINGHAMTON	485	956.3	1014.3	22.8	12.2	17.7	0.2	30.6	27	6.7	4	0	0	13.3	79	102	4	22	15	11	0	0	1.5	22	11.6	W	28+	3	7	20	7.5	58
BUFFALO	215	987.1	1012.5	23.3	12.8	18.0	- 0.2	33.3	27	5.6	21	2	0	12.2	71	89	25	21	14	7	0	0	2.5	24	15.2	SW	28	5	7	18	7.3	50

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground) (M)	Pressure: Station (Mb)	Pressure: Sea level (Mb.)	Temperature: Average maximum (C.)	Average minimum (C.)	Average (C.)	Departure from normal (C.)	Highest (C.)	Date	Lowest (C.)	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point (C.)	Average relative humidity (%)
NEW YORK															
J.F. KENNEDY	4	1013.5	1014.3	25.6	18.3	21.8	0.6	32.8	29	14.4	4	1	0	15.6	72
NEW YORK U	40	1010.5	1013.6	27.2	18.3	22.8	0.9	35.6	28	12.8	4	3	0	15.0	64
NEW YORK LA GUARDIA	3	1012.2	1014.1	25.6	17.8	21.6	- 0.3	34.4	28	13.3	4	1	0	13.9	65
ROCHESTER	167	992.9	1012.7	23.9	12.8	18.3	- 1.1	35.0	27	5.6	21	3	0	13.3	75
SYRACUSE	125	998.0	1012.7	23.9	12.2	18.1	- 1.6	34.4	27	6.1	10	2	0	12.8	73
NORTH CAROLINA															
ASHEVILLE	652	940.1	1014.6	29.4	16.1	22.8	1.7	35.6	28	6.7	4	9	0	17.8	79
CAPE HATTERAS R	2	1014.6	1014.9	27.8	20.0	23.9	- 0.1	31.7	25	15.0	6	0	0	20.6	83
CHARLOTTE	224	987.1	1013.9	30.6	19.4	25.2	0.1	36.7	28	12.2	4	12	0	18.3	72
GREENSBORO	273	983.4	1014.3	30.0	18.9	24.6	0.8	36.1	28	11.7	4	10	0	18.9	75
RALEIGH	132	998.3	1013.9	29.4	18.3	23.7	- 0.2	34.4	28	11.1	4	6	0	18.9	80
WILMINGTON	9	1013.2	1014.6	30.0	20.6	25.2	- 0.2	35.0	25	15.6	5	6	0	21.1	83
NORTH DAKOTA															
BISMARCK	502	951.6	1010.6	22.2	8.3	15.3	- 2.8	30.6	5	- 1.1	2	0	1	7.2	63
FARGO	273	977.3	1010.0	20.0	7.8	14.1	- 4.2	25.0	16+	- 1.1	20	0	1	8.3	69
WILLISTON	579	943.1	1011.0	21.7	7.2	14.3	- 2.9	32.8	4	- 1.1	13	1	3	6.1	62
OHIO															
AKRON	368	969.5	1013.3	25.0	12.8	18.8	- 1.9	32.8	27+	6.1	16+	2	0	13.9	77
CINCINNATI OBS	232			27.8	16.1	22.0	- 1.0	34.4	29	6.7	3	7	0		
CLEVELAND	237	984.4	1013.2	23.9	13.3	18.6	- 1.3	33.3	27	4.4	10	3	0	12.8	72
COLUMBUS	247	983.7	1013.2	26.1	14.4	20.3	- 1.3	33.3	27	5.6	4	5	0	15.6	77
DAYTON	305	977.0	1012.6	25.6	14.4	20.1	- 1.9	32.2	29+	7.2	4	3	0	13.9	69
MANSFIELD	395			25.0	14.4	19.7	- 0.2	32.8	27+	7.2	16	3	0	13.3	68
TOLEDO	204	987.8	1012.8	23.9	12.2	18.1	- 2.1	33.3	26	3.9	10+	2	0	12.8	74
YOUNGSTOWN	359	971.2	1013.5	23.9	12.2	17.9	- 1.6	32.8	27	4.4	17+	2	0	12.8	76
OKLAHOMA															
OKLAHOMA CITY	392	965.1	1010.5	30.0	17.8	23.9	- 1.7	35.6	22	11.1	4+	14	0	17.2	69
TULSA	198	987.1	1010.8	29.4	18.3	23.9	- 1.3	35.0	30+	11.1	2	12	0	17.8	71
OREGON															
ASTORIA	2	1014.2	1015.1	18.9	11.7	15.3	1.3	27.2	17	7.2	30+	0	0	12.2	87
BURNS U	1265	871.0	1012.1	23.3	8.9	16.1	0.7	32.8	4	1.1	26	1	0	6.1	56
EUGENE	109	1001.0	1014.5	24.4	12.8	18.5	2.4	36.1	17	8.9	29	2	0	12.2	74
MEACHAM	1234	875.0	1012.0	20.0	8.9	14.3	2.3	30.0	4	3.3	29+	0	0		
MEDFORD	396	966.5	1013.5	27.2	12.8	19.9	2.1	37.2	3	6.1	29	7	0	11.1	64
PENDLETON	452	958.7	1011.6	28.3	13.3	21.0	2.2	36.7	4	8.9	27	9	0	8.9	50
PORTLAND	6	1012.2	1013.6	24.4	13.9	19.2	2.5	36.1	17	10.0	27	2	0	12.8	72
SALEM	60	1007.1	1014.3	25.0	11.7	18.6	2.7	37.8	17	7.2	30	3	0	12.2	72
SEXTON SUMMIT R	1169	883.2	1013.4	19.4	9.4	14.4	1.3	31.1	3	2.8	27	0	0		
PACIFIC AREA															
JOHNSTON	2	1013.9	1014.4	30.0	24.4	27.1	0.3	30.6	30+	21.7	29	0	0	21.7	73
KOROR R	29	1006.4	1010.0	31.7	24.4	28.1	0.8	32.2	30+	23.3	28+	14	0	25.0	85
KWAJALEIN	2	1009.5	1010.3	30.6	25.6	27.9	0.5	31.7	14+	22.8	14	0	0	24.4	81
MAJURO	3	1010.2	1010.6	30.0	25.0	27.3	0.5	30.6	28+	22.2	20	0	0	24.4	82
PAGO PAGO	4	1012.5	1012.7	29.4	24.4	26.9		30.6	9+	20.0	4	0	0	[illegible]	83
PONAPE R	37	1004.4	1010.0	30.6	23.3	27.1	0.3	31.7	27+	22.2	29+	0	0	24.4	86
TAGUAC GUAM R	110	998.6	1011.2	31.7	22.8	27.1	0.4	32.2	30+	21.1	25+	4	0	22.8	79
TRUK MOEN ISLAND	2	1009.5	1009.8	30.6	25.0	27.6	0.5	31.1	29+	23.3	25+	0	0	24.4	83
WAKE	3	1014.6	1014.8	31.1	24.4	27.7	0.2	32.2	27	23.3	28+	1	0	22.8	77
YAP R	13	1007.8	1009.7	30.6	25.0	27.7	0.0	31.7	29+	23.9	24+	0	0	24.4	83
PENNSYLVANIA															
ALLENTOWN	118	1000.0	1013.8	26.7	15.6	21.1	0.3	34.4	28	8.3	4	3	0	15.0	71
ERIE	223	986.5	1013.1	21.7	12.2	17.0	- 2.3	32.8	27+	5.6	21+	2	0	12.2	75
HARRISBURG	103	1001.0	1013.4	27.8	17.2	22.4	0.6	36.7	28	10.0	4	4	0	15.0	65

State and Station	Precipitation: Total (Mm.)	Departure from normal (Mm.)	Greatest in 24 hours (Mm)	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total (Mm.)	Snow, Sleet: Maximum depth on ground (Mm.)	Wind: Resultant speed (M.p.s.)	Resultant direction	Fastest mile (1.6 kilometers): Speed (M.p.s.)	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine (%)
NEW YORK																	
J.F. KENNEDY	72	- 13	29	8	5	0	0	2.3	18	13.0	20	15	3	16	11	6.3	
NEW YORK U	80	- 4	26	10	4	0	0	0.6	18	9.4	SE	2					66
NEW YORK LA GUARDIA	107	21	54	9	5	0	0	1.4	19	15.2	SW	2	4	16	10	6.4	
ROCHESTER	119	54	33	12	9	0	0	1.7	24	21.0	SW	27	6	7	17	6.7	50
SYRACUSE	95	20	26	12	6	0	0	1.3	22	21.0	W	30	5	6	19	6.9	55
NORTH CAROLINA																	
ASHEVILLE	97	8	26	14	17	0	0	0.3	36	11.2	18	21	7	8	15	6.2	67
CAPE HATTERAS R	59	- 46	25	6	7	0	0	1.2	17	17.4	WNW	19	6	13	11	6.5	73
CHARLOTTE	59	- 33	20	10	10	0	0	0.3	17	16.5	SW	23	5	10	15	6.6	67
GREENSBORO	230	112	107	16	12	0	0	0.9	18	17.9	W	24	4	12	14	6.9	54
RALEIGH	122	28	44	9	14	0	0	1.2	19	15.6	28	24	3	13	14	6.9	59
WILMINGTON	236	128	138	11	10	0	0	1.0	17	13.0	NW	24	7	8	15	6.8	66
NORTH DAKOTA																	
BISMARCK	51	- 35	14	12	4	T	T	1.0	36	18.8	N	1	3	9	18	7.5	61
FARGO	52	- 26	25	9	3	0	0	0.7	35	14.8	N	11	4	12	14	6.6	50
WILLISTON	69	- 15	24	12	4	0	0	1.7	1	15.2	NE	25	3	10	17	7.5	66
OHIO																	
AKRON	75	- 34	22	13	6	0	0	1.2	22	13.0	23	30	5	9	16	7.2	
CINCINNATI OBS	96	- 10	25	12		0	0			12.1	SW	12					62
CLEVELAND	117	30	37	13	6	0	0	1.4	22	14.3	SW	27	6	7	17	7.2	55
COLUMBUS	208	102	64	13	10	0	0	0.9	19	13.4	SW	1	3	13	14	7.1	51
DAYTON	150	46	60	12	7	0	0	1.2	20	17.4	W	11	3	9	18	[illegible]	58
MANSFIELD	93	- 14	22	15	8	0		1.8	21	10.3	24	1	4	10	16	6.9	
TOLEDO	122	26	40	17	12	0	0	0.8	23	22.4	W	[illegible]	4	9	17	7.2	50
YOUNGSTOWN	91	T	20	14	7	0	0	0.9	24	10.3	35	14+	4	8	18	7.5	
OKLAHOMA																	
OKLAHOMA CITY	125	11	82	9	12	0	0	2.4	17	15.2	SW	26	12	8	10	4.9	72
TULSA	163	43	52	11	11	0	0	2.4	19	21.0	[illegible]	22	11	11	8	5.2	54
OREGON																	
ASTORIA	92	15	24	16	2	0	0	2.5	26	9.4	31	2	3	4	23	8.3	
BURNS U	34	11	8	15		0	0	1.7	33				8	13	9	[illegible]	
EUGENE	80	43	22	9	0	0	0	1.3	24	9.8	[illegible]	[illegible]	3	8	19	[illegible]	
MEACHAM	102	40	38	15		0	0			11.2	[illegible]	[illegible]	8	9	13	6.1	
MEDFORD	33	7	8	9	3	0	0	1.4	32	8.9	4	15	9	6	15	6.0	
PENDLETON	22	- 8	7	9	6	0	0	1.9	26	14.8	34	10	[illegible]	[illegible]	8	[illegible]	
PORTLAND	76	34	22	10	0	0	0	1.1	29	9.4	W	24+	5	8	17	[illegible]	52
SALEM	75	38	[illegible]	8	[illegible]	0	0	[illegible]	26	9.4	[illegible]	16	5	7	18	[illegible]	
SEXTON SUMMIT R	42	3	11	12		23	25			13.0	34	15	11	6	13	[illegible]	
PACIFIC AREA																	
JOHNSTON	19	- 2	5	9	0	[illegible]	[illegible]	[illegible]	8	12.5	[illegible]	[illegible]	11	14	5	4.9	[illegible]
KOROR R	426	97	78	24	4	[illegible]	[illegible]	[illegible]	13	11.2	W	[illegible]	[illegible]	[illegible]	17	[illegible]	37
KWAJALEIN	319	99	105	21	1	[illegible]	[illegible]	6.6	7	14.3	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]	
MAJURO	330	4	71	19	1	[illegible]	[illegible]	4.5	7	16.5	E	[illegible]	[illegible]	6	14	8.5	[illegible]
PAGO PAGO	101		52	[illegible]	0	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]
PONAPE R	632	208	102	29	3	[illegible]	[illegible]	2.2	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	15	[illegible]	[illegible]
TAGUAC GUAM R	39	-110	11	17	0	[illegible]	[illegible]	4.7	[illegible]	[illegible]	[illegible]	27+	[illegible]	[illegible]	20	[illegible]	74
TRUK MOEN ISLAND	379	77	201	26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.8	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]
WAKE	42	- 7	14	16	[illegible]	[illegible]	[illegible]	6.8	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]	7	[illegible]	[illegible]
YAP R	223	- 49	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]
PENNSYLVANIA																	
ALLENTOWN	81	- 22	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.8	
ERIE	124	46	27	13	[illegible]	[illegible]	[illegible]	[illegible]	23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	6.9	
HARRISBURG	[illegible]	- 22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	7.0	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant speed	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	No. of days: Partly cloudy 4-7	No. of days: Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb	C.	C.	C.	C.	C.		C.				C	%	Mm.	Mm	Mm			Mm.	Mm.	M.p.s		M.p.s							%
PENNSYLVANIA																																
PHILADELPHIA	2	1012.5	1013.6	28.3	17.8	23.0	1.3	34.4	28	11.1	4	3	0	16.1	67	186	83	65	9	7	0	0	1.5	20	25.5	NW	23	3	16	11	6.9	61
PITTSBURGH	347	969.9	1013.1	27.2	14.4	20.7	0.5	33.9	30+	6.1	4	5	0	12.8	63	95	- 1	22	17	10	0	0	1.4	25	13.0	31	30	3	9	18	7.3	47
SCRANTON	283	980.4	1014.1	25.6	14.4	20.1	0.0	32.2	30+	7.8	4	3	0	13.9	69	116	17	72	12	9	0	0	1.1	21	11.6	5	5+	4	17	9	6.4	58
WILLIAMSPORT	160	994.9	1013.6	26.7	15.0	20.8	0.2	33.3	28	8.3	10+	2	0	16.1	78	111	29	36	11	10	0	0	0.7	18	11.6	27	2	4	15	11	6.5	
RHODE ISLAND																																
BLOCK ISLAND	34			21.7	15.0	18.3	1.1	29.4	29	8.9	10+	0	0			44	- 21	23	6		0	0										
PROVIDENCE	16	1011.9	1014.1	25.6	14.4	20.1	1.1	33.9	28	9.4	5	3	0	13.3	69	31	- 39	13	10	2	0	0	1.7	21	9.4	23	28+	7	11	12	6.0	57
SOUTH CAROLINA																																
CHARLESTON	12	1012.2	1014.2	31.7	21.7	26.8	0.6	34.4	26	18.3	7+	14	0	21.1	74	124	- 3	57	9	8	0	0	1.3	15	19.7Y	W	20	7	17	6	5.4	68
CHARLESTON U	3			30.0	23.9	27.0	0.6	32.9	19	20.6	7+	6	0			156	48	43	11		0	0			19.2	NW	20					
COLUMBIA	65	1006.1	1014.0	31.7	19.4	25.7	- 0.8	37.8	28	11.1	4	17	0	20.0	78	119	22	52	8	11	0	0	0.4	14	15.6	32	9	10	8	12	5.7	60
GNVLE-SPARTANBURG	292	980.4	1014.3	30.6	18.9	24.6	- 0.4	35.0	29+	11.1	4	11	0	18.3	72	244	170	107	13	8	0	0	0.3	26	15.6	NW	9	7	13	10	5.8	62
SOUTH DAKOTA																																
ABERDEEN	395	963.8	1010.3	22.2	8.9	15.5	- 3.7	31.7	5	1.1	20+	0	0	8.9	68	86	- 10	73	10	6	0	0	0.9	35	11.2	2	10	7	7	16	6.7	
HURON	390	964.1	1010.2	22.8	8.9	15.8	- 4.0	33.9	5	1.7	14+	1	0	7.2	59	60	- 19	28	8	5	0	0	0.6	31	14.8	W	25	7	8	15	6.4	61
RAPID CITY	964	901.8	1011.3	22.2	8.9	15.4	- 2.8	35.0	5	0.0	14	1	1	6.7	60	52	- 26	16	13	5	13	T	2.3	34	18.8	NW	1	7	10	13	6.5	50
SIOUX FALLS	432	959.4	1010.3	23.3	9.4	16.3	- 3.7	33.9	5	0.6	13	1	0	8.3	62	125	13	35	11	8	0	0	0.6	33	14.8	20	25	6	12	12	6.0	
TENNESSEE																																
BRISTOL	459	961.1	1014.4	29.4	16.7	22.8	- 0.1	34.4	8	7.2	4	7	0	17.2	75	133	47	28	14	14	0	0	0.6	30	13.0	30	2	5	13	12	6.2	
CHATTANOOGA	203	988.8	1013.1	30.6	17.2	23.9	- 1.7	35.0	8	8.9	3	9	0	18.3	74	92	- 2	35	8	7	0	0	0.7	23	13.0	NW	24+	5	16	9	5.9	56
KNOXVILLE	299	979.0	1013.1	28.9	18.3	23.6	- 0.7	33.9	29+	10.6	3	6	0	17.8	73	193	108	46	12	11	0	0	0.8	24	17.0	SW	24+	6	14	10	6.3	73
MEMPHIS	79	1002.4	1012.4	31.7	20.0	26.0	0.2	38.3	30	11.1	3	18	0	18.3	65	41	- 53	15	9	6	0	0	1.7	21	17.0	NW	21	10	13	7	5.0	72
NASHVILLE	180	991.2	1012.5	31.7	18.3	25.1	- 0.1	36.1	28+	7.8	3	16	0	17.8	67	85	2	42	[illegible]	7	0	0	1.7	20	17.0	SW	24	8	13	9	5.6	73
OAK RIDGE R	276			30.0	17.2	23.7	0.1	34.4	28+	8.3	4	11	0			154	72	94	12		0	0			15.2Y		24	6	13	11	6.3	
TEXAS																																
ABILENE	537	949.5	1009.5	31.7	20.0	25.8	- 1.1	40.0	20	11.1	2	15	0	17.2	61	61	- 6	37	8	7	0	0	3.9	17	21.0	N	23	15	10	5	3.9	78
AMARILLO	1098	887.9	1008.3	30.0	15.6	22.7	- 2.3	37.8	21	8.9	14	14	0	11.1	54	104	30	42	8	10	0	0	1.7	18	26.4	NW	7	17	6	7	4.0	77
AUSTIN	182	989.8	1011.4	32.8	21.7	27.1	- 0.7	36.7	21	15.0	5	21	0	18.9	64	68	- 14	41	4	3	0	0	3.0	17	13.9	SE	24	10	16	4	4.5	71
BROWNSVILLE	6	1009.8	1010.3	33.3	23.9	28.8	0.6	36.1	21	17.2	6	25	0	21.7	70	2	- 73	2	2	1	0	0	4.4	14	14.3	SE	24	14	12	4	4.2	90
CORPUS CHRISTI	12	1009.5	1010.9	32.8	22.8	27.8	- 0.1	36.1	20	16.1	6	22	0	21.7	72	3	- 57	2	2	0	0	0	4.8	14	15.6	S	25	14	11	5	4.3	87
DALLAS	147	993.9	1010.8	32.8	22.2	27.4	0.1	38.9	21	14.4	2	20	0	17.8	58	11	- 71	7	4	3	0	0	3.3	16	13.9	S	26	13	13	4	4.1	75
DEL RIO	313	973.6	1008.7	35.6	22.8	29.1	0.0	40.6	23+	16.7	4	24	0	18.3	57	5	- 53	3	2	2	0	0	5.1	12	10.7	12	30+	9	16	5	5.0	
EL PASO	1194	878.1	1005.9	35.6	19.4	27.5	0.3	40.6	30	14.4	4	27	0	5.0	26	T	- 18	T	0	3	0	0	1.7	22	18.8	NW	3	26	3	1	1.3	93
FORT WORTH	164	991.2	1011.3	32.8	20.6	26.6	- 0.9	38.3	21	13.3	5+	19	0	19.4	68	16	- 60	8	5	6	0	0	3.3	18	17.0	36	18	12	14	4	4.3	
GALVESTON U	2			29.4	25.6	27.4	- 0.2	33.3	30	17.8	5+	2	0			88	20	56	3		0	0			12.1	NE	2					83
HOUSTON INTERCON	30	1008.8	1012.4	32.8	20.6	26.7	- 0.4	37.2	30	13.3	5	21	0	21.1	76	38	- 52	33	3	1	0	0	1.8	15	9.4	17	26	12	13	5	4.5	78
LUBBOCK	992	900.1	1008.3	32.8	17.2	24.9	- 0.3	41.1	21	10.0	2	18	0	11.1	49	36	- 28	33	4	6	0	0	1.9	16	19.7	36	13	15	8	7	3.8	
MIDLAND	869	912.3	1008.3	32.8	18.3	25.7	- 1.7	40.0	21+	12.8	4	17	0	11.1	47	68	27	65	7	6	0	0	2.8	16	17.9	35	3	22	2	6	3.0	
PORT ARTHUR	5	1011.9	1012.5	32.2	22.2	27.2	0.2	36.7	30	16.7	16+	18	0	22.2	78	53	- 56	36	4	4	0	0	2.0	16	14.8	S	26	12	13	5	4.1	75
SAN ANGELO	580	943.8	1008.6	35.6	20.0	27.8	- 0.3	43.3	20	11.1	5	23	0	15.6	54	7	- 40	4	2	6	0	0	2.7	17	16.5	16	17	19	5	6	3.8	
SAN ANTONIO	240	983.7	1011.1	32.8	22.2	27.3	- 0.4	37.2	23+	15.6	5	20	0	20.0	68	59	- 16	30	3	4	0	0	3.3	14	13.0	N	24	11	16	3	4.4	72
VICTORIA	32	1007.5	1011.5	32.8	22.8	27.7	0.3	35.6	30+	15.6	5	21	0	21.7	74	59	- 18	59	2	2	0	0	3.3	15	17.0Y	S	25	11	12	7	4.7	
WACO	153	993.6	1011.2	33.9	22.2	28.2	0.4	38.9	23+	15.6	5+	24	0	20.0	64	11	- 57	9	2	6	0	0	4.0	16	24.6	16	24	19	6	5	3.4	
WICHITA FALLS	303	973.9	1009.8	33.3	18.9	26.2	- 1.4	40.6	21	11.1	4	20	0	18.3	67	79	- 2	52	7	8	0	0	3.3	15	17.4	30	13	11	11	8	4.6	
UTAH																																
MILFORD	1533	843.2		26.7	8.3	17.3	- 1.3	32.8	4	2.2	26	2	0			31	20	13	8		0	0						11	8	11	5.1	
SALT LAKE CITY	1286	868.3	1009.9	25.6	11.1	18.2	- 1.4	33.3	5	3.3	1	2	0	6.1	51	72	47	29	12	13	0	0	0.6	17	15.6	E	7	4	14	12	6.4	78
WENDOVER	1291	867.9	1010.9	24.4	13.9	19.2	- 1.8	32.2	5	7.8	26	1	0			33	22	20	10		0	0										
VERMONT																																
BURLINGTON	101	1000.0	1012.5	23.3	12.2	17.8	- 0.1	31.1	28	4.4	1	0	0	12.8	74	102	13	28	14	8	0	0	1.8	19	11.6	S	19	6	9	15	6.6	70
VIRGINIA																																
LYNCHBURG	279			28.3	16.1	22.4	- 0.4	34.4	29+	6.7	4	6	0			83	- 20	25	12		0	0			12.5	NW	2	5	13	12	6.5	52

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground) M	Pressure: Station Ø Mb	Pressure: Sea level Mb.	Temperature: Average maximum C	Average minimum C	Average C	Departure from normal C	Highest C.	Date	Lowest C.	Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point C	Average relative humidity %
VIRGINIA															
NORFOLK	7	1013.2	1014.2	29.4	20.6	25.1	0.8	34.4	30+	16.7	5	7	0	18.3	68
RICHMOND	50	1008.1	1014.1	30.0	18.9	24.3	0.3	36.7	28	11.7	4	11	0	18.3	75
ROANOKE	350	972.9	1014.1	28.9	16.7	22.8	- 0.2	35.6	8	7.2	4	8	0	16.1	71
WALLOPS ISLAND	3			26.1	19.4	22.6		35.0	29	15.6	10+	2	0		
WASHINGTON															
OLYMPIA	59	1006.8	1014.1	23.9	11.7	17.8	2.7	33.9	17	7.2	1	2	0		
QUILLAYUTE	55	1007.1	1014.7	19.4	10.6	15.1	1.9	33.3	17	6.1	27	1	0	11.7	85
SEATTLE TACOMA	122	998.0	1014.3	22.8	12.8	17.9	2.5	32.8	17	9.4	26	1	0	11.7	70
SPOKANE	718	928.5	1010.9	25.6	11.1	18.4	1.8	33.9	18	6.1	28	4	0	7.2	51
STAMPEDE PASS R	1206	878.8		17.8	9.4	13.4	4.0	27.8	3	2.2	25	0	0		
WALLA WALLA U	289			28.3	15.0	21.8	2.3	36.7	4	10.6	28+	8	0		
YAKIMA	321	972.9	1010.8	28.3	12.8	20.5	2.5	35.0	4	4.4	26	8	0	7.2	45
WEST INDIES															
SAN JUAN P.R.	4	1012.9	1015.3	31.1	24.4	27.8	1.1	33.9	24+	23.3	10+	8	0	22.2	75
SWAN ISLAND	9			31.1	26.1	28.6	0.7	31.7	24+	23.3	25+	0	0		
WEST VIRGINIA															
BECKLEY	763	927.9	1014.0	25.6	14.4	19.8	- 0.1	31.1	26	4.4	4+	0	0	15.0	77
CHARLESTON	286	979.7	1013.1	30.0	16.7	23.2	0.9	36.1	27	6.7	4	11	0	17.2	74
ELKINS	600	944.5		26.1	12.8	19.4	- 0.1	33.3	30	3.3	4	2	0		
HUNTINGTON	252	983.7	1013.4	28.9	16.7	22.6	0.3	34.4	30+	6.7	4	8	0	16.7	73
PARKERSBURG U	187			28.3	16.1	22.1	- 0.4	34.4	27+	7.8	4	7	0		
WISCONSIN															
GREEN BAY	208	985.4	1010.9	19.4	8.3	14.0	- 4.6	28.3	26	3.3	4	0	0	8.9	74
LA CROSSE	198	986.5	1010.6	21.7	11.1	16.3	- 4.1	30.6	5	5.6	13	0	0	11.1	75
MADISON	262	979.7	1010.9	21.1	9.4	15.3	- 3.7	29.4	26	2.2	9	0	0	11.1	77
MILWAUKEE	205	986.1	1011.3	20.6	9.4	14.9	- 2.4	31.1	26	2.2	4	0	0	10.0	74
WYOMING															
CASPER	1627	835.8	1011.4	21.1	6.7	13.9	- 3.4	33.3	5	- 2.2	13	1	4	4.4	61
CHEYENNE	1867	811.0	1011.6	20.6	7.2	13.9	- 3.3	32.8	5	1.1	14+	1	0	3.9	58
LANDER	1696	827.6	1011.5	20.6	7.2	13.8	- 2.9	32.8	5	0.0	13	1	1	4.4	58
SHERIDAN	1208	877.1	1012.8	21.1	7.2	14.1	- 2.5	32.8	5	- 0.6	13	1	2	7.2	66

State and Station	Precipitation: Total Mm.	Departure from normal Mm.	Greatest in 24 hours Mm.	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total Mm	Snow, Sleet: Maximum depth on ground Mm	Wind: Resultant direction M.p.s	Resultant direction	Fastest mile (1.6 kilometers): Speed M.p.s	Direction	Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine %
VIRGINIA																	
NORFOLK	105	13	65	9	9	0	0	1.3	15	17.9	W	2	2	15	13	6.6	[illegible]
RICHMOND	111	15	73	12	7	0	0	1.0	19	15.2	N	18	4	14	[illegible]	[illegible]	[illegible]
ROANOKE	126	29	57	13	10	0	0	0.5	23	13.0	[illegible]	24	4	11	15	[illegible]	
WALLOPS ISLAND	46		31	7		0	0			17.0Y	W	15					
WASHINGTON																	
OLYMPIA	43	- 3	11	10	1	0	0			9.4	23	[illegible]	6	[illegible]	18	[illegible]	
QUILLAYUTE	52	- 34	17	13	0	0	0	1.3	24	7.6	N	3	3	8	19	7.9	34
SEATTLE TACOMA	23	- 17	15	5	0	0	0	1.3	25	8.5	N	16	6	6	18	6.9	53
SPOKANE	30	8	17	6	3	0	0	[illegible]	16	13.4	SW	12	7	13	10	6.9	68
STAMPEDE PASS R	132	28	32	11		0	0						5	6	19	7.4	
WALLA WALLA U	19	12	12	6		0	0			[illegible]	[illegible]	10	[illegible]	11	[illegible]	5.6	7[illegible]
YAKIMA	15	- 5	7	5	2	0	0	1.8	32	[illegible]	[illegible]	24	9	13	8	5.7	
WEST INDIES																	
SAN JUAN P.R.	103	- 41	22	16	5	0	0	2.9	11	12.1	N	23	[illegible]	[illegible]	[illegible]	6.5	[illegible]
SWAN ISLAND	145	- 19	26	22		0	0						[illegible]	[illegible]	19	[illegible]	
WEST VIRGINIA																	
BECKLEY	179	71	41	18	16	0	0	1.7	22	10.7	[illegible]	22	2	[illegible]	16	[illegible]	
CHARLESTON	62	- 32	19	15	10	0	0	1.3	21	[illegible]	[illegible]	24	4	11	[illegible]	[illegible]	
ELKINS	97	- 35	40	17		0	0			13.4	31	8	1	14	15	[illegible]	
HUNTINGTON	62	- 42	18	13	9	0	0	1.2	19	11.2	[illegible]	24	1	17	12	[illegible]	
PARKERSBURG U	131	22	46	15		0	0			[illegible]	N	2					[illegible]
WISCONSIN																	
GREEN BAY	194	108	67	18	8	0	0	0.7	25	[illegible]	N	[illegible]+	4	7	[illegible]	7.4	[illegible]
LA CROSSE	162	56		13	6	0		0.6	[illegible]								
MADISON	202	[illegible]	69	13	9	0	0	0.7	25	14.8	[illegible]	25	[illegible]	[illegible]	18	6.9	[illegible]
MILWAUKEE	191	99	59	20	6	0	0	0.9	24	17.4	N	19	5	[illegible]	[illegible]	7.0	[illegible]
WYOMING																	
CASPER	61	29	42	14	7	76	51	1.1	31	[illegible]	[illegible]	[illegible]	7	7	[illegible]	[illegible]	
CHEYENNE	69	15	[illegible]	13	6	T	1	1.7	[illegible]	[illegible]	N	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LANDER	134	[illegible]	79	12	8	[illegible]	T	1.2	27	[illegible]	W	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SHERIDAN	62	- [illegible]	15	17	5	102	[illegible]	1.7	32	17.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1 C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F) 1968 - 1969

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ALABAMA														
BIRMINGHAM	0	0	1	148	434	723	687	566	563	95	26	4	3247	2551
HUNTSVILLE	0	0	7	161	429	806	788	649	655	116	21	0	3632	3070
MOBILE	0	0	0	50	284	474	420	320	342	8	0	0	1898	1560
MONTGOMERY	0	0	0	102	349	594	536	456	459	42	8	0	2546	2291
ALASKA														
ANCHORAGE	153	208	530	982	1280	1816	1869	1312	1124	761	527	217	10779	10648
ANNETTE	136	161	342	565	664	1038	1354	809	770	619	348	125	6931	7069
BARROW	697	718	958	1478	2061	2422	2412	2364	2377	1888	1372	942	19689	20174
BARTER ISLAND	683	739	974	1465	2040	2425	2526	2523	2423	1737	1278	953	19766	19862
BETHEL	221	343	681	1102	1385	1986	1729	1605	1475	1131	600	372	12630	13196
BETTLES	98	262	836	1517	1952	2575	2755	2093	1929	1065	568	170	15820	
BIG DELTA	88	245	708	1356	1714	2352	2726	1790	1507	860	532	104	13982	
COLD BAY	368	394	538	804	865	1053	1025	1028	999	907	714	537	9232	9880
FAIRBANKS	50	208	657	1320	1881	2567	2849	2024	1698	855	475	80	14664	14279
FAREWELL	227	353	833	1443	1730	2201	2285	1731	1513	1038	665	313	14332	
GULKANA	238	388	689	1247	1807	2606	2659	1862	1419	897	600	182	14594	
HOMER	356	327	586	915	1004	1535	1601	1189	1033	796	652	416	10410	
ILIAMNA	237	254	560	1037	1108	1878	1893	1431	1187	911	690	426	11612	
JUNEAU	248	281	516	802	920	1405	1801	1219	1054	727	464	218	9655	9075
KING SALMON	286	314	647	1128	1155	1908	1800	1463	1193	914	642	370	11820	11343
KOTZEBUE	247	282	753	1299	1774	2171	1967	1803	1986	1439	803	450	14974	16105
MC GRATH	142	275	735	1331	1863	2490	2407	1908	1545	982	510	226	14414	14283
NENANA	105	263	752	1386	615	688	2869	2044	1762	959	521	172	15172	
NOME	335	396	760	1137	1508	2026	1653	1675	1760	1295	681	515	13741	14171
ST. PAUL ISLAND	589	539	652	858	946	1079	1022	1135	1216	1056	872	681	10645	11199
SHEMYA	576	512	541	761	936	973	1018	980	1023	921	830	677	9748	9687
SUMMIT	323	412	810	1329	1598	2132	2258	1618	1540	1057	746	333	14156	
TALKEETNA	165	251	621	1048	1418	2056	2046	1412	1284	796	532	222	11851	11559
TANANA	149	275	823	1405	1877	2601	2797	2070	1804	1004	533	171	15509	14990
UNALAKLEET	224	323	737	1183	1583	2106	1883	1667	1537	1137	636	428	13444	
YAKUTAT	354	381	587	896	974	1418	1802	1201	1087	848	652	450	10650	9092
ARIZONA														
FLAGSTAFF	38	164	267	554	872	1234	1021	1105	1164	693	383	207	7702	7152
PHOENIX	0	0	0	0	173	473	306	327	265	12	13	0	1569	1765
TUCSON	0	0	0	4	204	440	288	328	339	34	35	0	1672	1800
WINSLOW	0	3	43	253	669	1145	784	738	722	302	99	1	4759	4782
YUMA	0	0	0	0	67	403	167	219	146	3	9	0	1014	1217
ARKANSAS														
FORT SMITH	0	0	0	161	508	795	745	613	604	75	13	3	3517	3292
LITTLE ROCK	0	0	3	124	412	700	665	611	595	108	16	1	3235	3219
CALIFORNIA														
BAKERSFIELD	0	0	3	34	277	553	492	384	274	88	13	0	2118	2122
BISHOP	0	15	47	194	567	958	812	971	765	322	53	15	4719	4227
BLUE CANYON	6	163	93	326	656	988	929	971	848	677	254	206	6117	5507
EUREKA U	260	179	220	354	388	566	644	519	508	449	352	246	4685	4643
FRESNO	0	0	12	73	387	665	619	480	366	168	30	0	2800	2492
LONG BEACH	0	0	0	17	122	335	246	311	270	136	42	7	1486	1711
LOS ANGELES	3	0	1	26	104	328	250	306	266	143	64	7	1498	1799
LOS ANGELES U	0	0	0	4	76	267	219	277	186	68	25	1	1123	1349
MT SHASTA R	5	145	140	454	737	1038	1053	903	775	593	211	115	6169	5722
OAKLAND	72	17	16	123	290	497	514	402	350	292	157	110	2840	2870
RED BLUFF	0	3	1	87	364	661	690	522	347	210	11	4	2900	2515
SACRAMENTO	0	3	2	97	374	662	644	486	384	230	41	6	2929	2773
SANDBERG R	5	91	90	241	558	870	720	771	618	468	181	134	4747	4209
SAN DIEGO	0	0	0	9	104	306	214	274	248	101	63	9	1328	1439
SAN FRANCISCO	108	42	56	167	311	525	547	443	391	322	167	113	3192	3012
SAN FRANCISCO U	213	98	92	148	258	462	505	412	333	315	242	185	3263	3001
SANTA MARIA	34	25	54	116	225	462	359	386	419	328	207	124	2739	2967
STOCKTON	0	4	2	75	385	707	649	516	407	210	26	1	2982	2676
COLORADO														
ALAMOSA	49	134	370	616	1087	1509	1263	1155	1144	648	361	240	8576	8529
COLORADO SPRINGS	22	52	149	409	906	1096	969	868	1090	477	260	180	6478	6423
DENVER	10	35	145	399	871	1114	925	821	1011	378	204	144	6057	6283
GRAND JUNCTION	0	12	86	346	804	1302	1125	874	826	332	52	34	5793	5641
PUEBLO	7	10	20	228	731	1052	879	753	883	260	83	42	4948	5462
CONNECTICUT														
BRIDGEPORT	0	1	12	209	579	1005	1061	978	862	421	184	13	5325	5617
HARTFORD	0	16	56	326	775	1219	1262	1063	938	415	221	27	6318	6172
NEW HAVEN	0	8	38	247	641	1040	1118	994	915	462	202			
DELAWARE														
WILMINGTON	0	0	7	205	532	949	1052	874	780	298	92	1	4790	4930
DIST.OF COLUMBIA														
WASH NATL AP	0	0	0	162	445	875	949	780	671	208	40	0	4130	4224
FLORIDA														
APALACHICOLA U	0	0	0	42	217	405	387	321	301	7	0	0	1680	1308
DAYTONA BEACH	0	0	0	27	152	301	216	275	228	2	0	0	1201	879
FORT MYERS	0	0	0	5	70	157	96	130	106	0	0	0	564	442
JACKSONVILLE	0	0	0	41	189	346	328	327	287	12	0	0	1530	1239
KEY WEST	0	0	0	0	4	28	1	13	17	0	0	0	63	108
LAKELAND U	0	0	0	18	114	225	173	201	177	0	0	0	908	661
MIAMI	0	0	0	0	32	80	18	54	49	0	0	0	233	214
ORLANDO	0	0	0	19	120	237	168	206	169	0	0	0	919	766
TALLAHASSEE	0	0	0	75	306	462	410	372	355	15	3	0	1998	1485
TAMPA	0	0	0	27	138	264	201	252	220	0	0	0	1102	683
WEST PALM BEACH	0	0	0	6	60	129	55	110	88	0	0	0	448	253
GEORGIA														
ATHENS	0	2	1	152	424	764	717	597	535	100	26	0	3318	2929
ATLANTA	0	2	0	157	441	760	761	620	555	93	28	0	3417	2983
AUGUSTA	0	0	0	113	339	659	645	555	460	70	8	0	2849	2397
COLUMBUS	0	0	0	104	382	654	602	517	467	41	8	0	2775	2383
MACON	0	0	0	128	379	648	631	550	449	58	12	0	2855	2136
SAVANNAH	0	0	0	73	309	533	539	498	395	48	3	0	2398	1819
IDAHO														
BOISE	0	59	119	382	684	918	945	797	689	432	147	75	5247	5809
LEWISTON	0	30	115	444	690	1044	1274	842	666	423	134	38	5700	5542
POCATELLO	9	143	260	581	942	1240	1105	1094	1104	594	223	167	7462	7033
ILLINOIS														
CAIRO U	0	0	3	197	494	848	903	700	700	177	27	0	4049	3821
CHICAGO O HARE	14	12	59	355	740	1146	1355	976	941	419	204	124	6345	6639

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ILLINOIS														
CHICAGO MIDWAY	4	9	41	331	691	1116	1336	966	941	406	197	101	6139	6155
MOLINE	8	15	96	404	826	1247	1458	1032	1010	398	172	57	6723	6408
PEORIA	5	7	68	377	732	1150	1377	962	984	367	172	73	6274	6025
ROCKFORD	15	21	95	393	809	1224	1453	1017	1047	490	210	120	6894	6830
SPRINGFIELD	1	2	31	353	703	1107	1282	934	995	314	130	31	5883	5429
INDIANA														
EVANSVILLE	0	[illegible]	15	292	569	946	1029	793	819	269	80	13	4825	4435
FORT WAYNE	7	23	82	393	713	1131	1285	1036	982	423	191	82	6348	6205
INDIANAPOLIS	4	13	49	354	656	1057	1211	925	904	329	121	38	5661	5699
SOUTH BEND	11	27	69	372	724	1171	1316	1034	988	433	226	105	6476	6439
IOWA														
BURLINGTON	2	2	65	367	797	1209	1395	1002	995	356	169	67	6436	6114
DES MOINES	2	11	92	378	898	1351	1508	1086	1135	368	159	50	7038	6808
DUBUQUE	13	22	149	463	869	1368	1578	1140	1094	452	235	139	7522	7376
SIOUX CITY	5	2	102	388	868	1408	1625	1185	1236	379	165	75	7438	6951
WATERLOO	14	35	163	464	935	1430	1610	1196	1201	492	217	132	7889	7320
KANSAS														
CONCORDIA	0	6	47	267	769	1217	1307	992	960	322	128	55	6070	5479
DODGE CITY	0	1	17	225	718	1127	1028	826	1021	241	70	36	5310	4986
GOODLAND	5	22	82	314	803	1249	1106	885	1040	353	171	104	6134	6141
TOPEKA	0	1	35	282	745	1108	1210	866	857	282	94	42	5522	5182
WICHITA	[illegible]	5	22	224	691	1054	1076	804	887	254	77	20	5114	4620
KENTUCKY														
COVINGTON	0	4	32	316	576	965	1072	872	852	298	84	29	5100	5265
LEXINGTON	0	5	20	296	552	938	1011	799	800	261	77	17	4776	4683
LOUISVILLE	0	1	10	276	511	903	987	778	771	213	61	14	4525	4660
LOUISIANA														
BATON ROUGE	0	0	0	44	330	437	369	325	345	13	0	0	1863	1560
LAKE CHARLES	0	0	0	28	255	391	352	312	338	8	0	0	1684	1459
NEW ORLEANS	0	0	0	55	303	435	353	304	339	12	0	0	1801	1385
SHREVEPORT	0	0	0	57	346	560	495	438	455	44	2	0	2397	2184
MAINE														
CARIBOU	48	191	199	515	1097	1452	1534	1316	1219	876	512	167	9126	9767
PORTLAND	8	46	110	375	841	1228	1259	1112	1043	652	377	118	7169	7511
MARYLAND														
BALTIMORE	0	1	4	197	500	934	1028	835	748	273	69	0	4589	4654
MASSACHUSETTS														
BLUE HILL OBS R	2	21	81	330	739	1172	1189	1066	994	481	263	46	6384	6368
BOSTON	1	9	46	247	630	1050	1099	987	911	430	208	21	5638	5634
NANTUCKET	14	34	78	247	588	968	991	849	848	558	345	64	5584	5891
WORCESTER	8	31	79	375	830	1264	1286	1111	1056	487	282	49	6858	6969
MICHIGAN														
ALPENA	82	119	143	484	875	1326	1377	1239	1251	695	466	262	8319	8506
DETROIT	4	4	42	331	705	1123	1232	1018	922	474	262	117	6234	6232
DETROIT M WAYNE CO	3	17	71	384	714	1137	1289	1024	972	464	259	102	6436	6516
FLINT	36	52	118	447	804	1191	1309	1085	1042	529	339	187	7139	6885
GRAND RAPIDS	30	36	90	434	805	1254	1360	1132	1102	550	300	151	7244	6998
HOUGHTON LAKE	71	100	159	510	903	1353	1444	1272	1290	651	378	254	8385	8342
LANSING	24	57	111	451	818	1218	1331	1103	1068	531	286	152	7150	6909
MARQUETTE U	81	106	166	465	890	1262	1349	1182	1214	692	435	297	8139	8393
MUSKEGON	35	40	103	402	778	1184	1296	1092	1059	538	272	162	6961	6696
SAULT STE MARIE	149	165	172	527	996	1442	1532	1300	1294	805	555	360	9297	9048
MINNESOTA														
DULUTH	90	140	254	576	1073	1644	1780	1411	1346	725	449	332	9820	10000
INTERNATIONAL FALLS	70	149	272	630	1154	1778	1990	1524	1427	649	489	353	10485	10606
MINNEAPOLIS	10	28	143	451	922	1486	1723	1274	1261	461	204	136	8099	8382
ROCHESTER	33	68	214	494	930	1478	1706	1294	1353	525	262	181	8538	8295
ST CLOUD	31	53	188	529	996	1627	1856	1374	1341	555	263	209	9022	8879
MISSISSIPPI														
JACKSON	0	0	0	93	369	592	523	470	476	65	3	0	2591	2203
MERIDIAN	0	0	[illegible]	116	390	619	560	443	494	49	8	0	2679	2289
MISSOURI														
COLUMBIA	0	0	16	269	664	1051	1150	852	851	231	101	26	5211	5046
KANSAS CITY	0	1	13	224	706	1090	1186	857	845	258	86	24	5290	4711
ST JOSEPH	1	0	39	225	730	1094	1188	884	775	226	61	8	5228	5484
ST LOUIS	0	2	14	293	640	1008	1106	826	834	247	85	15	5070	4900
SPRINGFIELD	0	0	33	296	678	997	975	792	795	248	71	31	4916	4561
MONTANA														
BILLINGS	16	42	147	394	793	1394	1818	1134	1044	438	283	218	7721	7049
GLASGOW	38	78	235	589	956	1706	2236	1584	1440	515	361	219	9959	8996
GREAT FALLS	38	93	261	520	867	1511	2104	1350	1198	432	292	199	8865	7750
HAVRE	42	69	273	620	975	1741	2370	1631	1403	465	315	170	10074	8700
HELENA	23	102	294	633	954	1493	1788	1407	1348	543	301	226	9095	8129
KALISPELL	80	133	354	737	999	1458	1658	1246	1172	556	339	211	8943	8191
MILES CITY	11	34	159	498	909	1628	2038	1352	1217	415	260	172	8693	7723
MISSOULA	10	97	305	705	935	1333	1456	1234	1109	546	325	201	8256	8125
NEBRASKA														
GRAND ISLAND	1	9	84	346	840	1374	1483	1121	1102	357	154	82	6953	[illegible]
LINCOLN U	0	4	48	275	799	1263	1400	1054	1026	321	129	53	6372	5864
NORFOLK	4	6	129	407	886	1432	1596	1165	1219	404	171	87	7506	6979
NORTH PLATTE	17	18	150	428	911	1421	1509	1133	1106	399	178	122	7392	6684
OMAHA	2	1	60	313	824	1268	1430	1066	1028	353	140	56	6541	6218
SCOTTSBLUFF	11	35	171	434	878	1306	1278	906	1052	419	219	149	6858	6673
VALENTINE	15	24	179	451	896	1497	1618	1188	1278	401	223	132	7902	7425
NEVADA														
ELKO	3	94	195	438	799	1137	1119	1100	1051	581	225			
ELY	10	151	316	559	900	1268	1039	1087	1198	649	244	229	7650	7733
LAS VEGAS	0	0	1	28	304	743	536	518	381	74	16	0	2601	2709
RENO	0	91	180	441	721	1033	861	856	745	494	208	104	5734	6332
WINNEMUCCA	3	118	217	483	736	1087	979	938	837	521	194	110	6223	6761
NEW HAMPSHIRE														
CONCORD	18	92	133	424	899	1311	1330	1165	1128	613	389	119	7621	7383
MT WASHINGTON OBS	484	651	640	1011	1434	1782	1766	1587	1733	1230	1022	569	13909	13817

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1968 - 1969

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
NEW JERSEY														
ATLANTIC CITY	0	18	45	314	629	1031	1068	926	847	354	150	29	5411	4812
ATLANTIC CITY U	0	0	1	180	490	903	1005	872	810	358	141	2	4762	4741
NEWARK	0	0	6	193	573	1003	1039	938	804	317	101	2	4976	5067
TRENTON U	0	0	9	221	555	965	1036	898	789	297	98	1	4869	4980
NEW MEXICO														
ALBUQUERQUE	2	0	12	208	660	1080	831	735	735	228	84	0	4575	4348
CLAYTON	11	13	68	247	734	969	802	773	973	348	142	72	5152	5158
ROSWELL	0	0	26	171	603	823	615	564	672	109	38	2	3623	3793
NEW YORK														
ALBANY	7	45	76	359	787	1281	1360	1122	1043	518	284	55	6937	6875
BINGHAMTON	29	62	106	465	843	1279	1323	1171	1081	536	292	100	7287	7286
BUFFALO	11	29	58	374	722	1180	1233	1125	1052	540	325	102	6751	7062
J.F. KENNEDY	0	0	3	221	545	983	1038	950	822	374	144	0	5080	5219
NEW YORK U	0	0	3	183	538	944	1023	902	768	285	74	0	4720	4871
NEW YORK LA GUARDIA	0	0	3	196	554	969	1051	933	795	336	111	2	4950	4811
ROCHESTER	15	36	67	369	710	1150	1229	1087	1013	517	302	86	6581	6748
SYRACUSE	27	41	54	391	745	1163	1256	1152	1063	536	306	103	6837	6756
NORTH CAROLINA														
ASHEVILLE	0	20	42	258	563	884	873	755	729	246	70	9	4449	4466
CAPE HATTERAS R	0	0	0	73	228	594	686	594	601	166	41	0	2983	2612
CHARLOTTE	0	0	0	175	462	811	829	702	610	141	45	0	3775	3191
GREENSBORO	0	1	0	180	476	848	878	689	637	175	48	0	3932	3805
RALEIGH	0	0	0	151	396	805	848	667	667	195	61	0	3790	3393
WILMINGTON	0	0	0	103	312	609	670	554	458	102	27	0	2835	2347
NORTH DAKOTA														
BISMARCK	34	82	238	612	982	1658	2040	1405	1461	563	314	169	9558	8851
FARGO	31	66	201	565	1015	1736	2066	1460	1536	582	348	230	9836	9226
WILLISTON	26	90	225	603	1028	1769	2149	1480	1361	475	326	223	9755	9243
OHIO														
AKRON	9	19	48	338	655	1067	1156	963	959	441	215	81	5951	6037
CINCINNATI OBS	1	6	31	300	580	993	1100	858	815	293	82	29	5088	4806
CLEVELAND	26	34	93	414	672	1080	1220	1032	946	471	234	100	6322	6196
COLUMBUS	6	20	57	362	624	1043	1173	933	916	402	143	54	5733	5660
DAYTON	6	14	56	366	629	1062	1181	933	908	371	139	55	5720	5622
MANSFIELD	9	17	48	354	655	1086	1196	982	923	396	168	70	5904	6403
TOLEDO	8	17	71	424	726	1184	1340	1047	976	470	239	107	6609	6494
YOUNGSTOWN	32	39	73	400	710	1150	1243	1066	1032	491	275	116	6627	6417
OKLAHOMA														
OKLAHOMA CITY	0	0	0	152	561	829	808	629	708	158	38	2	3885	3725
TULSA	0	0	1	160	543	864	863	652	680	127	24	2	3916	3860
OREGON														
ASTORIA	124	151	216	438	531	782	944	687	633	540	351	161	5558	5186
BURNS U	11	162	234	598	866	1129	1205	1079	952	615	250	148	7249	6957
EUGENE	9	39	100	366	497	738	867	673	536	438	160	44	4467	4726
MEACHAM	90	224	299	670	935	1245	1309	1051	948	746	414	232	8163	7874
MEDFORD	0	31	56	252	599	826	900	670	599	459	133	37	4562	5008
PENDLETON	0	15	73	434	664	977	1327	820	623	450	140	32	5555	5127
PORTLAND	17	43	123	395	544	852	1022	703	570	442	178	51	4940	4635
SALEM	47	49	142	413	581	860	987	685	575	469	195	49	5052	4754
SEXTON SUMMIT R	78	201	184	498	763	1045	1095	944	782	718	318	236	6862	6254
PENNSYLVANIA														
ALLENTOWN	0	7	33	293	670	1091	1141	967	852	369	133	14	5570	5810
ERIE	20	26	55	333	671	1063	1169	1093	1020	528	324	145	6447	6451
HARRISBURG	0	3	18	277	593	1038	1083	882	809	345	123	8	5179	5251
PHILADELPHIA	0	0	14	234	576	1008	1084	918	782	290	84	2	4992	5101
PITTSBURGH	8	31	54	400	703	1152	1181	988	944	394	182	35	6072	5987
PITTSBURGH U	1	9	25	308	591	1034	1117	926	882	330	129	29	5381	5291
SCRANTON	0	28	55	359	725	1165	1204	1068	943	434	188	38	6207	6254
WILLIAMSPORT	4	22	46	337	656	1063	1162	1022	909	444	171	24	5860	5934
RHODE ISLAND														
BLOCK ISLAND	7	10	40	239	583	992	1060	959	931	572	318	45	5756	5804
PROVIDENCE	2	16	59	295	672	1072	1117	1010	923	452	241	22	5881	5954
SOUTH CAROLINA														
CHARLESTON	0	0	0	80	334	564	624	551	444	90	6	0	2693	2033
CHARLESTON U	0	0	0	60	244	502	550	462	359	42	3	0	2222	1794
COLUMBIA	0	0	0	121	339	684	683	594	430	71	13	0	2935	2484
GNVLE SPARTANBURG	0	1	1	168	461	801	785	668	585	142	44	0	3656	3044
SOUTH DAKOTA														
ABERDEEN	21	60	207	562	970	1580	1882	1312	1505	550	273	169	9091	8473
HURON	13	35	190	511	926	1515	1769	1239	1366	473	280	162	8479	8223
RAPID CITY	26	46	176	428	881	1438	1516	1102	1145	458	264	176	7656	7345
SIOUX FALLS	14	14	152	489	938	1511	1742	1283	1373	493	217	143	8369	7839
TENNESSEE														
BRISTOL	0	4	19	245	590	920	947	813	814	300	113	9	4774	4143
CHATTANOOGA	0	0	1	169	452	805	821	634	628	141	48	1	3700	3254
KNOXVILLE	0	0	5	215	501	859	879	710	704	175	50	4	4102	3494
MEMPHIS	0	0	1	149	423	716	733	601	608	103	12	0	3346	3232
NASHVILLE	0	0	4	220	484	825	855	700	692	149	38	3	3970	3578
OAK RIDGE R	0	0	11	219	523	878	902	731	728	181	48	7	4228	3817
TEXAS														
ABILENE	0	0	0	42	387	599	520	468	541	53	15	1	2626	2624
AMARILLO	0	0	6	159	583	865	726	681	808	176	69	24	4097	3985
AUSTIN	0	0	0	7	294	446	368	345	346	6	1	0	1813	1711
BROWNSVILLE	0	0	0	0	73	96	141	45	115	0	0	0	470	600
CORPUS CHRISTI	0	0	0	3	144	219	237	146	226	0	0	0	975	914
DALLAS	0	0	0	36	343	517	484	414	465	33	3	0	2295	2363
DEL RIO	0	0	0	0	225	419	324	240	266	1	0	0	1475	1504
EL PASO	0	0	0	61	414	728	503	464	477	43	24	0	2714	2700
FORT WORTH	0	0	0	47	348	540	492	416	468	49	6	4	2370	2405
GALVESTON U	0	0	0	4	142	283	296	236	281	0	0	0	1242	1235
HOUSTON	0	0	0	5	199	297	284	234	281	1	0	2	1303	1396
LUBBOCK	0	1	31	151	543	770	614	601	723	126	45	7	3612	3578
MIDLAND	0	0	0	60	456	665	535	467	534	52	30	0	2799	2591
PORT ARTHUR	0	0	0	20	207	343	331	289	317	4	0	0	1511	1447
SAN ANGELO	0	0	0	38	362	542	399	372	416	33	9	0	2171	2255
SAN ANTONIO	0	0	0	9	278	437	394	319	315	5	3	0	1760	1546

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1968 - 1969

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
TEXAS														
VICTORIA	0	0	0	6	188	287	281	208	261	1	0	0	1232	1173
WACO	0	0	0	22	294	484	438	382	405	15	1	0	2041	2030
WICHITA FALLS	0	0	0	68	431	676	646	543	609	91	14	4	3082	2832
UTAH														
MILFORD	1	35	179	429	806	1227	983	907	920	499	125	87	6198	6497
SALT LAKE CITY	3	49	166	407	786	1174	1009	1010	818	433	75	67	5997	6052
WENDOVER	0	38	122	439	773	1207	1069	965	795	419	44	53	5924	5778
VERMONT														
BURLINGTON	32	104	127	472	979	1451	1496	1298	1256	700	422	107	8444	8269
VIRGINIA														
LYNCHBURG	0	2	7	233	523	953	1009	793	745	239	74	15	4593	4166
NORFOLK	0	0	0	124	361	726	814	697	624	192	44	0	3582	3421
RICHMOND	0	0	0	161	403	864	957	783	695	237	66	0	4166	3865
ROANOKE	0	12	11	244	502	963	1005	772	746	227	77	9	4568	4150
WALLOPS ISLAND	0	0	0	155	449	883	955	817	793	344	124	0	4520	
WASHINGTON														
OLYMPIA	64	113	214	503	610	903	1048	746	633	498	274	76	5682	5236
QUILLAYUTE	147	195	261	487	576	871	1036	729	661	578	358	188	6087	5745
SEATTLE TACOMA	33	70	179	415	538	871	983	627	554	478	230	71	5048	5145
SPOKANE	19	89	199	607	897	1245	1504	1080	905	559	236	88	7428	6655
STAMPEDE PASS R	212	359	424	833	1023	1389	1525	1126	990	885	536	286	9588	9283
WALLA WALLA U	0	12	67	384	633	975	1256	816	566	376	109	27	5221	4805
YAKIMA	20	64	132	572	751	1130	1447	1016	711	495	161	43	6542	5941
WEST VIRGINIA														
BECKLEY	10	53	124	392	661	1078	1124	955	961	351	140	50	5899	5390
CHARLESTON	2	11	35	298	541	946	994	828	807	264	98	9	4833	4476
ELKINS	16	46	122	425	673	1121	1147	964	996	430	194	57	6191	5675
HUNTINGTON	0	11	26	290	532	960	1028	819	810	268	95	18	4857	4446
PARKERSBURG U	0	3	31	287	539	958	1070	837	828	311	99	19	4982	4754
WISCONSIN														
GREEN BAY	39	82	130	467	899	1327	1580	1234	1252	641	346	247	8244	8029
LA CROSSE	7	15	120	423	869	1398	1626	1236	1200	447	196	135	7672	7589
MADISON	34	66	159	460	873	1305	1548	1152	1143	535	282	197	7754	7863
MILWAUKEE	31	23	82	403	799	1214	1434	1053	1087	596	317	215	7254	7635
WYOMING														
CASPER	30	81	251	520	984	1426	1164	998	1127	541	304	252	7678	7410
CHEYENNE	40	82	221	481	924	1137	1034	919	1118	498	297	248	6999	7278
LANDER	18	89	251	522	1031	1467	1223	1025	1096	534	252	258	7766	7870
SHERIDAN	35	75	267	557	947	1519	1692	1181	1121	522	345	236	8497	7683

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Note: "Heating Degree Days" has been discontinued in the June issues of this publication. Data which would usually be shown in that table for June are shown in the last three columns of the above Table.

COOLING DEGREE DAYS

(Base 65°F.)

JUNE 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	346	535	
HUNTSVILLE	431	678	
MOBILE	527	983	
MONTGOMERY	441	735	
ALASKA			
ANCHORAGE	5	5	
ANNETTE	49	56	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	1	2	
BETTLES	47	47	
BIG DELTA	57	57	
COLD BAY	0	0	
FAIRBANKS	83	83	
FAREWELL	11	11	
GULKANA	11	11	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	7	7	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	9	9	
NENANA	13	13	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	1	1	
TALKEETNA	11	11	
TANANA	27	27	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	1	1	
PHOENIX	582	1160	
TUCSON	477	927	
WINSLOW	222	331	
YUMA	555	1323	
ARKANSAS			
FORT SMITH	338	577	
LITTLE ROCK	386	587	
CALIFORNIA			
BAKERSFIELD	360	742	
BISHOP	138	217	
BLUE CANYON	14	28	
EUREKA U	0	0	
FRESNO	241	466	
LONG BEACH	61	120	
LOS ANGELES	29	59	
LOS ANGELES U	73	242	
MT SHASTA R	28	36	
OAKLAND	1	5	
RED BLUFF	279	523	
SACRAMENTO	136	245	
SANDBERG R	20	65	
SAN DIEGO	31	49	
SAN FRANCISCO	3	6	
SAN FRANCISCO U	1	7	
SANTA MARIA	1	4	
STOCKTON	159	305	
COLORADO			
ALAMOSA	1	1	
COLORADO SPRINGS	27	38	
DENVER	44	79	
GRAND JUNCTION	124	231	
PUEBLO	141	209	
CONNECTICUT			
BRIDGEPORT	108	137	
HARTFORD	131	170	
DELAWARE			
WILMINGTON	258	339	
DIST. OF COLUMBIA			
WASH NATL AP	367	542	
FLORIDA			
APALACHICOLA U	505	904	
DAYTONA BEACH	473	974	
FORT MYERS	522	1320	
JACKSONVILLE	530	996	
KEY WEST	539	1828	
LAKELAND U	518	1160	
MIAMI	526	1675	
ORLANDO	544	1206	
TALLAHASSEE	533	937	
TAMPA	521	1122	
WEST PALM BEACH	471	1325	
GEORGIA			
ATHENS	408	597	
ATLANTA	379	573	
AUGUSTA	433	673	
COLUMBUS	446	729	
MACON	445	719	
SAVANNAH	450	742	
HAWAII			
HILO	341	1534	
HONOLULU	428	1749	
KAHULUI	393	1562	
LIHUE	406	1336	
IDAHO			
BOISE	121	153	
LEWISTON	186	217	
POCATELLO	23	38	
ILLINOIS			
CAIRO U	372	565	
CHICAGO O HARE	108	178	
CHICAGO MIDWAY	125	214	
MOLINE	130	208	
PEORIA	122	189	
ROCKFORD	82	127	
SPRINGFIELD	206	322	
INDIANA			
EVANSVILLE	300	393	
FORT WAYNE	109	169	
INDIANAPOLIS	190	273	
SOUTH BEND	109	168	
IOWA			
BURLINGTON	123	197	
DES MOINES	129	228	
DUBUQUE	61	104	
SIOUX CITY	85	157	
WATERLOO	47	88	
KANSAS			
CONCORDIA	161	231	
DODGE CITY	219	319	
GOODLAND	102	145	
TOPEKA	158	269	
WICHITA	208	299	
KENTUCKY			
COVINGTON	240	341	
LEXINGTON	260	364	
LOUISVILLE	277	392	
LOUISIANA			
BATON ROUGE	509	979	
LAKE CHARLES	460	859	
NEW ORLEANS	462	907	
SHREVEPORT	470	783	
MAINE			
CARIBOU	45	45	
PORTLAND	56	59	
MARYLAND			
BALTIMORE	304	413	
MASSACHUSETTS			
BLUE HILL OBS R	101	119	
BOSTON	156	178	
NANTUCKET	36	37	
WORCESTER	98	120	
MICHIGAN			
ALPENA	23	41	
DETROIT	97	135	
DETROIT M WAYNE CO	98	127	
FLINT	48	61	
GRAND RAPIDS	61	82	
HOUGHTON LAKE	18	28	
LANSING	65	98	
MARQUETTE U	14	49	
MUSKEGON	52	77	
SAULT STE MARIE	7	10	
MINNESOTA			
DULUTH	4	15	
INTERNATIONAL FALLS	8	21	
MINNEAPOLIS	49	125	
ROCHESTER	24	63	
ST CLOUD	21	68	
MISSISSIPPI			
JACKSON	465	778	
MERIDIAN	417	681	
MISSOURI			
COLUMBIA	195	306	
KANSAS CITY	188	318	
ST JOSEPH	262	420	
ST LOUIS	246	368	
SPRINGFIELD	216	324	
MONTANA			
BILLINGS	34	63	
GLASGOW	26	46	
GREAT FALLS	34	49	
HAVRE	47	62	
HELENA	18	19	
KALISPELL	6	6	
MILES CITY	51	105	
MISSOULA	25	25	
NEBRASKA			
GRAND ISLAND	122	184	
LINCOLN U	165	281	
NORFOLK	105	174	
NEBRASKA			
NORTH PLATTE	63	121	
OMAHA	149	246	
SCOTTSBLUFF	48	94	
VALENTINE	61	141	
NEVADA			
ELY	6	7	
LAS VEGAS	500	965	
RENO	19	21	
WINNEMUCCA	37	39	
NEW HAMPSHIRE			
CONCORD	65	69	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	170	252	
ATLANTIC CITY U	181	219	
NEWARK	243	338	
TRENTON U	232	319	
NEW MEXICO			
ALBUQUERQUE	263	396	
CLAYTON	96	129	
ROSWELL	372	567	
NEW YORK			
ALBANY	95	120	
BINGHAMTON	71	101	
BUFFALO	88	89	
J.F. KENNEDY	192	241	
NEW YORK U	250	358	
NEW YORK LA GUARDIA	186	249	
ROCHESTER	94	112	
SYRACUSE	94	116	
NORTH CAROLINA			
ASHEVILLE	262	351	
CAPE HATTERAS R	312	423	
CHARLOTTE	373	538	
GREENSBORO	345	488	
RALEIGH	295	412	
WILMINGTON	381	586	
NORTH DAKOTA			
BISMARCK	11	50	
FARGO	5	44	
WILLISTON	14	37	
OHIO			
AKRON	115	154	
CINCINNATI OBS	234	353	
CLEVELAND	120	171	
COLUMBUS	165	213	
DAYTON	154	224	
MANSFIELD	148	221	
TOLEDO	101	151	
YOUNGSTOWN	101	128	
OKLAHOMA			
OKLAHOMA CITY	310	467	
TULSA	312	526	
OREGON			
ASTORIA	4	5	
BURNS U	36	40	
EUGENE	60	72	
MEACHAM	22	24	
MEDFORD	131	189	
PENDLETON	183	228	
PORTLAND	102	115	
SALEM	66	78	
SEXTON SUMMIT R	34	67	
PACIFIC AREA			
JOHNSTON	483	2383	
KOROR R	532	3091	
KWAJALEIN	523	3120	
MAJURO	496	2927	
PAGO PAGO	472	2908	
PONAPE R	479	2821	
TAGUAC GUAM R	475	2504	
TRUK MOEN ISLAND	503	2953	
WAKE	510	2637	
YAP R	510	2914	
PENNSYLVANIA			
ALLENTOWN	172	235	
ERIE	81	95	
HARRISBURG	235	309	
PHILADELPHIA	259	345	
PITTSBURGH	170	214	
PITTSBURGH U	197	285	
SCRANTON	141	182	
WILLIAMSPORT	167	217	
RHODE ISLAND			
BLOCK ISLAND	52	60	
PROVIDENCE	125	148	
SOUTH CAROLINA			
CHARLESTON	465	677	
CHARLESTON U	474	760	
COLUMBIA	406	683	
GNVLE-SPARTANBURG	344	496	
SOUTH DAKOTA			
ABERDEEN	17	65	
HURON	31	67	
RAPID CITY	29	64	
SIOUX FALLS	43	101	
TENNESSEE			
BRISTOL	261	321	
CHATTANOOGA	311	463	
KNOXVILLE	294	434	
MEMPHIS	422	710	
NASHVILLE	378	576	
OAK RIDGE R	300	452	
TEXAS			
ABILENE	412	690	
AMARILLO	264	441	
AUSTIN	476	922	
BROWNSVILLE	570	1608	
CORPUS CHRISTI	521	1122	
DALLAS	501	893	
DEL RIO	590	1164	
EL PASO	501	823	
FORT WORTH	453	757	
GALVESTON U	500	989	
HOUSTON	456	1010	
LUBBOCK	370	566	
MIDLAND	402	638	
PORT ARTHUR	484	965	
SAN ANGELO	513	838	
SAN ANTONIO	494	924	
VICTORIA	512	1072	
WACO	537	988	
WICHITA FALLS	438	701	
UTAH			
MILFORD	35	49	
SALT LAKE CITY	68	122	
WENDOVER	108	235	
VERMONT			
BURLINGTON	86	88	
VIRGINIA			
LYNCHBURG	239	342	
NORFOLK	369	536	
RICHMOND	328	439	
ROANOKE	256	344	
WALLOPS ISLAND	238	275	
WASHINGTON			
OLYMPIA	51	58	
QUILLAYUTE	18	20	
SEATTLE TACOMA	55	74	
SPOKANE	99	106	
STAMPEDE PASS R	25	25	
WALLA WALLA U	223	289	
YAKIMA	166	174	
WEST INDIES			
SAN JUAN P.R.	517	2476	
SWAN ISLAND	560	2966	
WEST VIRGINIA			
BECKLEY	139	175	
CHARLESTON	277	363	
ELKINS	122	140	
HUNTINGTON	255	336	
PARKERSBURG U	226	320	
WISCONSIN			
GREEN BAY	17	38	
LA CROSSE	35	101	
MADISON	39	64	
MILWAUKEE	38	62	
WYOMING			
CASPER	18	30	
CHEYENNE	12	26	
LANDER	19	32	
SHERIDAN	16	25	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS
Alabama	1	1	0	0	3	0	0	0	4	0	3	5	0	0	0	5	0												
Alaska *																													
Arizona *																													
Arkansas						0	0	4	6	1	10	6	5	0	0	3	0												
California *																													
Colorado	1	1	0	0	2	0	0	5	5	0	1	5	C	0	0	3	0									0	0	4	C
Connecticut						0	0	0	3	0	0	4	3	0	0	3	0									0	0	4	3
Delaware																										0	0	4	0
Florida	9	7	0	0	3	0	0	0	6	0	0	2	6	1	0	2	0									0	0	2	0
Georgia						0	0	°4	C	0	0	5	0	1	3	4	0												
Hawaii *																													
Idaho	1	1	0	0	0	0	0	0	5	0	0	4	0	0	0	5	2									0	0	4	6
Illinois	2	2	0	0	5	0	0	?	?	1	7	°6	C	0	0	4	0									0	0	5	?
Indiana	2	1	0	0	4	0	0	2	5	0	0	4	4	1	3	4	0												
Iowa	18	7	0	0	6	0	0	5	6	0	21	7	7	1	2	4	0									1	0	6	6
Kansas	5	5	0	72	7	0	0	6	7	0	56	6	6	0	2	5	3									0	0	6	6
Kentucky						0	0	?	?	2	6	°5	C	1	18	5	0									3	0	°7	C
Louisiana										0	0	3	0	0	0	4	3												
Maine										0	0	4	3	0	0	4	0									0	0	4	3
Maryland						0	0	°5	C	0	1	°6	C	0	0	3	0												
Massachusetts						0	0	0	2	0	3	5	0	0	0	5	0									0	0	5	3
Michigan	2	2	0	0	5	0	0	0	5	3	5	5	0	1	0	5	0												
Minnesota	3	1	0	5	5	0	0	4	5	0	0	5	?	0	1	4	0									1	0	6	?
Mississippi	4	3	0	1	5	0	0	?	4	0	1	?	?																
Missouri	12	4	6	47	5	0	0	4	5	0	13	5	0	0	2	0	0												
Montana														0	3	4	0	0	0	0	C					0	0	?	0
Nebraska	8	4	1	0	5	0	0	5	6	0	3	5	5	0	1	3	0												
Nevada										?	0	4	4																
New Hampshire	1	1	0	0	3					0	0	4	0	0	0	4	0									0	0	5	4
New Jersey								4	5			4	4															4	
New Mexico	3	3	0	0	1	0	0	6	5	0	1	4	0	0	1	0	0									0	0	6	C
New York	3	2	0	0	6				4	1	6	°6	C	1	9	5											3	°6	C
North Carolina						0	0	5	7	0	3	6	5	2	3	5	0									0	0	6	5
North Dakota	1	1	0	1	4	0	0	0	4	0	0	4	0																
Ohio	2	2			4			°4	C	0	1	6			5	6											2	5	C
Oklahoma	13	8	0	0	[illegible]	0	0	5	6	0	0	5	5	1	2	5	0									0	1	2	3
Oregon						0	0	4	5	0	Few	4	5	2	0	6	4									0	S	5	5
Pacific Area *																													
Pennsylvania								3	4			5	4		11	6	4											5	4
Puerto Rico *																													
Rhode Island *																													
South Carolina						0	0	0	5	0	1	3	2	2	0	5	0												
South Dakota	7	3	0	8	5	0	0	5	5	0	0	4	0	0	0	3	0												
Tennessee	1	1	0	0	4	0	0	°5	C	0	0	°5	C	0	4	4	0									2	1	°7	C
Texas	16	9	0	0	4	0	44	7	7	1	4	6	4	1	0	4	0									4	0	3	0
Utah						0	0	0	5	0	0	0	3	0	4	3	3												
Vermont										0	0	4	0	0	0	4	0									0	0	4	3
U. S. Virgin Is. *																													
Virginia	2	2	0	0	3	0	0	0	?	0	0	4	0	0	5	4	0									0	0	3	0
Washington									4			4		1															
West Virginia						0	0	4	?	0	0	4	0	0	0	3	0									0	0	5	0
Wisconsin	17	5	0	7	6	0	0	6	6	3	0	6	0	0	0	6	0									1	0	7	7
Wyoming	2	2	0	0	0									1	4	2	0												

C Crop damage
° Includes crop damage
S Several

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JUNE 1969

Elmer R. Nelson, Office of Hydrology

Near record overflows occurred on tributary streams in the lower Smoky Hill River Basin in Kansas during June. Record stages occurred in the headwaters of the Marais des Cygnes River. Severe flooding occurred on tributary streams of the Missouri in northwestern Missouri where nearly 200,000 acres of farmland were flooded.

Severe flash floods occurred on the Barren River in Kentucky and on Salt Lick Creek in northern Tennessee. Discharge ratings on the upper Barren River were reported as the greatest of record.

ATLANTIC SLOPE DRAINAGE

Heavy showers and thunderstorms on the 15th caused some flash flooding in western Connecticut and central New Hampshire. The rainfall totaled over 3 inches in about a 6-hour period in sections from southern Maine to western Connecticut. Much of the flooding was due to culvert overflow. Minor property and road damage resulted.

Heavy local thunderstorms during the night of the 23d caused minor flooding on the Tioughnioga River at Whitney Point, N. Y.

Flash floods were reported in the upper Lehigh Valley in Pennsylvania on the 14th. Rainfall in excess of 4 inches was recorded from Freeland eastward to Long Pond, Pa., where flooding and some road washouts occurred during the evening of the 14th and the morning of the 15th. A severe thunderstorm on the 23d caused flash flooding over a wide area from the southern sections of Philadelphia, Pa., eastward to the Woodbury-Berlin area of central New Jersey. The Weather Bureau at Philadelphia, Pa., reported 1.27 inches of rain in 10 minutes. Heavy rains occurred again on the morning of the 25th with 2.09 inches of rain in 2 hours. Localized flash flooding occurred during the predawn hours.

A series of thunderstorms from the 13th through the 16th caused a one-foot overflow of Tunkhannock Creek at Dixon, Pa., on the 15th. The total precipitation during this period was 5.98 inches. The Tunkhannock crested at Dixon after 2.52 inches of this total fell on the 15th.

Heavy thunderstorms in the Greensboro, N. C., area during the afternoon of the 15th caused flooding of the main stems of North Buffalo and South Buffalo Creeks. Some of the major tributaries also flooded, although the smaller tributaries were not generally at flood stage. Property damage was estimated at $1.3 million.

Locally heavy thundershowers caused the Lumber River at Lumberton, N. C., to rise above flood stage on the 9th. Continued scattered thundershowers kept the Lumber River above flood stage until July 17. The highest stage reported (13.0 ft.) occurred on June 18 and was 5 ft. above flood level. The flooding on the Little Pee Dee River at Galivants Ferry, S. C., on the 18-30th was due to scattered thundershowers from the 11th to the 15th. The Edisto River at Givhans Ferry, S. C., continued in flood from May 23 to June 3. Flood damage was minor.

Light flooding occurred on the Satilla River near Atkinson, Ga., from May 30 to June 7. The crest on June 1 was 2.3 ft. above flood stage.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--June was a cold month in the Upper Mississippi Basin above Guttenberg, Iowa, with temperatures 4° to 8° below normal. The first three weeks were dry, although quite cloudy with light day-to-day precipitation.

The dry period ended late on the 22d and early on the 23d when rain began falling over southern Minnesota, northern Iowa, and central and eastern Wisconsin. The rains on the 22-23d had barely soaked into the ground when 2 to 5 inches of rain fell over northern Iowa and southwestern Minnesota early on the 25th. The rains continued to the 26th with additional rain of 2 to 5 inches in southeastern Minnesota, northern Iowa, and central and eastern Wisconsin on the 27th. Runoff was greatest along the Root River in southeastern Minnesota, the upper Iowa in northeast Iowa, and the Black and Wisconsin Rivers in central Wisconsin. Little or no damage resulted from the minor flooding on the Root, upper Iowa, and Wisconsin Rivers.

Widespread heavy showers on the 25-29th caused flooding on the Turkey, Maquoketa, and Wapsipinicon Rivers in Iowa and on the Pecatonica River in Wisconsin. Many stations reported over 2 inches of rain on the 26th and 27th. Darlington, Wis., recorded 6.35 inches in 4 hours on the 29th. The Wapsipinicon and the Pecatonica at Martintown, Wis., were still rising at the end of the month.

Frequent and heavy rains during June over the northeast quadrant in Iowa and adjacent areas caused considerable flooding in the Iowa-Cedar and Skunk River Basins. Crest stages in the upper Cedar were higher than during the 1969 spring flood. The crest at Waterloo, Iowa, was the 3d highest crest of record, exceeded only in 1961 and 1965.

Missouri Basin.--Heavy precipitation during the latter half of June caused local flooding on East Gallatin River and Sourdough Creek in the Zortman, Mont., area during the last week in June. Several mountain roads and metal culverts were washed out.

The James River at Columbia and Stratford, S. Dak., continued above flood stage through June. At the end of the month, it was 0.8 ft. above flood stage at Columbia and a little over 1 ft. above flood stage at Stratford. Thunderstorms on the 28-29th caused flooding on the Rock River in Iowa. Rainfall amounts up to 6.5 inches were reported in the upper reaches in southwestern Minnesota. At Rock Rapids, Iowa, the river rose about 6.5 ft. above flood stage and 5 ft. over flood stage at Rock Valley, Iowa, on the 29th and 30th. Dikes used during the spring snowmelt flood alleviated urban flooding. Minor damage resulted to parks near the river.

Heavy rains during the night of the 24-25th in the Little Sioux Basin in Iowa caused flooding in the upper and middle reaches during the latter part of June and early July. The rainfall amounts averaged about 3 inches with the greatest falls of near 5 inches between Cherokee and Peterson, Iowa. Damage was slight and confined mostly to debris over some low places on roads from Cherokee to Correctionville, Iowa.

Heavy rains during the early morning hours of the 25th caused flash flooding and light to moderate lowland flooding in the Elkhorn Basin in Nebraska. Rainfall amounts which ranged up to 4 to 5 inches in about 6 hours caused flash flooding on Union, Battle, South Logan, and Taylor Creeks. Light to moderate lowland flooding occurred on the North Branch Elkhorn from Pierce, Nebr., downstream to the diversional channel at Norfolk, Nebr., and on the Elkhorn River in the Norfolk and Scribner vicinities.

Minor local flooding occurred in the South Platte River in the Denver, Colo., metropolitan area from a severe thunderstorm during the afternoon of the 8th.

Severe flooding occurred in some of the underpasses along Interstate Highway 25 because of hail-clogged drains. Numerous automobiles were trapped in the underpasses that were completely filled with water. Unofficial precipitation amounts up to 4 inches were reported during the storm. General showers continued over eastern mountain slopes and plains of the South Platte drainage through the 17th. Most of this precipitation resulted in runoff since Denver Water Board reservoirs and others had been filled by heavy rains in May. The South Platte above Denver, Colo., rose slowly to a crest below flood stage on the 19th and 20th. Extensive flooding occurred in the drainage below Denver the following week. This flooding was due to heavy flows from the St. Vrain, Big Thompson, and Cache La Poudre Rivers.

Near record overflows developed on tributary streams in the lower Smoky Hill River Basin in Kansas. Lyon Creek near Woodbine, Kans., crested 13.74 ft. above flood stage on the 12th. This was the second highest stage of record and had been exceeded only in October 1967 when it reached a stage of 31.50 ft. Turkey Creek near Abilene, Kans., which crested 11.5 ft. above flood stage, on the 12th had a recurrence interval of 10 years by USGS data. In the Kansas River Basin, stages on the Wakarusa River near Lawrence, Kans., exceeded flood stage by 7.3 ft. on the 27th. This stage had been exceeded materially in June 1967 by 0.6 ft. and by the record crest of 31.59 ft. in July 1951 by 1.3 ft. Major flooding occurred on the Marais des Cygnes River in Kansas. Record stages were reached in the headwaters at Reading, Kans., with a crest of 27.5 ft. on the 27th. This was 9.5 ft. above flood stage and 0.7 ft. above the previous highest stage of record (26.80 ft.) in Oct. 1967. Crests along the main stem which ranged from 5 ft. to as much as 11 ft. above flood stage at Osawatomie, Kans., have been rather infrequent. Dragoon Creek near Burlingame, Kans., approached record levels on the 27th. Damages were heavy due to the lateness of the season and consequent crop losses.

Rainfall over most of the State of Missouri was well above normal during June. The ground became saturated by midmonth and by the end of June runoff was excessive. Heavy rainfall continued the entire period after the 22d. Flooding became general when 3 to 4 inches of rain occurred in less than 24 hours. Flooding was the most severe in the northwestern quadrant where nearly 200,000 acres of farmland were flooded and damages were estimated at over $13 million.

Ohio Basin.--Locally heavy thundershowers caused some overflow of small creeks in Boone and Raleigh Counties in West Virginia in the Coal River Drainage during June.

Excessive rainfall in a matter of a few hours on the 23d caused flash flooding on the Barren River at Bowling Green, Ky., on the 24-26th. The crest on the 24th was 13.8 ft. above flood stage. Discharge ratings on the upper Barren River were reported as the greatest of record by the USGS and are regarded as greater than those likely to occur (on the average) once in 50 years. Several feeder streams which flow northward into the Barren River, such as Big Trammel and Little Tramell Creeks in northern Sumner County were flooded. Flood damage in Macon and surrounding counties was the result of rampaging small feeder streams, most of which flow northward into the Barren River.

Damaging flooding occurred in extreme northern Tennessee from torrential rains on the 23d. Rainfall reports (unofficial) were estimated at about 10 inches in the Salt Lick Creek Basin in the southern part of Red Boiling Springs. Torrential rains during a 6-hour period exceeded the estimated 6-hour, 50-year storm total at most places in the immediate storm area. Rain continued most of the night and before dawn on the 23d, Salt Lick Creek emptied such a torrent, that a wall of water 5 to 7 feet in height came swirling and crushing through the town. Houses, automobiles, street pavement, and small buildings were swept downstream like children's toys in a drainage ditch. The water was still 3 to 4 feet higher than most bridges remaining in Boiling Springs. By about midday, most of the water had receded. Property damage in Red Boiling Springs was estimated in excess of $2 million.

Minor flooding occurred on the White River at Anderson, Ind., on the 25th. The Skillet Fork at Wayne City, Ill., crested 3.2 ft. above flood stage on the 24th.

Heavy rain on the 22d to the 24th caused some flash flooding of the smaller tributaries of the Cumberland River in the North Springs, Tenn., area. The Red River at Port Royal, Tenn., crested 0.2 foot below flood stage on the 25th. Damage was light and confined to farmlands.

Rainfall, averaging 4 inches in the headwaters of the French Broad River late on the 15th and early on the 16th, caused minor flooding at Rosman, N. C. The crest on the 15th was 1.6 ft. above flood stage. No flooding occurred at downstream points.

Arkansas Basin.--Light to moderate flooding occurred on the Whitewater and Walnut Rivers in Kansas on the 24th and 25th. The first flooding since August 1968 occurred on the Chikaskia River at Blackwell, Okla., on the 24-26th. The Cimarron River at Dover, Okla., reached bankfull stage on the 18th. Bird Creek crested about 10 feet above flood stage at Avant, Okla. This was the highest stage reported at this point since September 1961. Downstream the crests ranged from 1 1/2 to 3 ft. above flood stage. Brief flash flooding occurred on Red Rock Creek west of Red Rock, Okla., on the 18th.

The Dunlap-Bushong, Kans., area in the upper Neosho Basin and the Elk-Diamond Springs area in the Cottonwood Basin are part of a 4-county area in which several unofficial 10-inch rains were reported during the evening of the 26th. The resulting flooding extended downstream to John Redmond Reservoir and was rather extensive and locally severe. Damages along the Little Caney and Caney Rivers were estimated at $85,000 and along Bird Creek at $44,000.

Heavy rains in the Texas and Oklahoma Panhandles early on the morning of the 11th caused the North Canadian River to rise above flood stage at Woodward, Okla., on the 12th and at Seiling, Okla., on the 13th. The crests on the 13th and 14th were 1.3 and 1.0 ft., above flood stage. No significant damages occurred from the bottomland flooding. Heavy thunderstorms moving across southwestern and central Oklahoma during the night of the 13-14th caused brief local flooding of some small creeks and tributaries.

Minor flooding occurred along the main stem of the Arkansas River in the reach from Arkansas City, Kans., to Ralston, Okla., a distance of 108 miles. Damages, if any, were insignificant.

Red Basin.--Two- to 3-inch rains over the Ouachita Basin on the 1st and 2d caused minor flooding at Arkadelphia, Ark., on the 2d. No damage resulted from the overflow.

WEST GULF OF MEXICO DRAINAGE

The Sabine River receded within its banks in the reach from Mineola to Longview, Tex., on June 2-5.

Minor flooding occurred on the Neches River at Beaumont, Tex., on the 1st and again on the 4th to the 13th. The crest on the 9th was 0.5 ft. above flood stage.

Flooding on the lower Trinity at Liberty, Tex., continued from May 7 to June 11. The crest on May 27 was nearly 5 feet above flood stage. At Moss Bluff, Tex., the Trinity continued in flood from Feb. 21 to June 27. The highest crest (4.2 ft. above flood stage) occurred on May 28-30.

The San Jacinto continued over the top of the spillway at Lake Houston, Tex., from Dec. 1 to June 16. The highest crest (2.2 ft. above the spillway) occurred on Feb. 23. The crest during June was 0.25 foot above spillway elevation on the 5th and 6th.

Heavy rains up to 6 inches on the 2d to the 3d caused extensive flooding on Turkey Creek above Crystal City, Tex., and minor flooding below. Chapparosa Creek, a tributary of Turkey Creek, was reported highest in several years. Minor damage was caused by soil erosion and breaks on terraces.

Great Basin.--Following one of the driest springs (March-May) of record, June, in sharp contrast, was exceptionally wet from the Rocky Mountains westward across the Great Basin, including the northern mountains in New Mexico and Arizona. In northern Utah, 10 stations reported maximum June monthly totals (some with nearly 100 years of record) and several more were the second wettest.

Heavy rain (0.90 inch in 30 minutes) in downtown Salt Lake City on the 16th caused street flooding as drainage systems could not handle the runoff. Traffic was halted briefly and a few business houses and basements were flooded. No damage of any consequence was reported.

Minor flooding occurred on Grove and Battle Creek east of Pleasant Grove, Utah, on the 17th. Some damages resulted to roads and one residence.

PACIFIC SLOPE DRAINAGE

The San Joaquin River at Vernalis, Calif., was one foot above danger level on June 1. It continued to rise during the month, cresting 1.4 ft. above danger level on the 11th. The river dropped below the danger level on the 16th and by the end of the month was 6 ft. below this level. The levee breaks on the Stanislaus River continued to cause flooding of Reclamation District 2031, but the flooded area decreased as the river fell.

A considerable portion of Sherman Island remained under water at month's end with evaporation gaining on the pumps at removing water from this area. Some planting has been done on the dry portion of the island. Replanting of orchards and asparagus will await complete drying out of the island. Bypass islands are back to normal farm operations.

Severe thunderstorms in the Cascade Mountain areas in Oregon on the evening of the 4th caused flash flooding. The town of Ashland, Oreg., suffered the greatest damage in the form of mud and rock-filled streets, flooded stores, flooded streets, downed trees, disrupted communications, and loss of power.

Hot, dry weather during the first 3 weeks of June caused significant snowmelt runoff in the northern Columbia Basin. The Kootenai River at Bonners Ferry, Idaho, crested at 30.15 ft. (flood stage, 31 ft.) on the 8th, exceeding the previous high of 29.9 ft. recorded on May 25. Other tributary streams which equalled or exceeded peak flows recorded a month earlier were Lake Chelan on the 5th and Wenatchee River at Peshastin, Wash., on the 6th.

FLOOD STAGE DATA

(All dates in June unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	Above flood stages -dates To–	Crest * Stage	Crest * Date
HUDSON BAY DRAINAGE	Ft.			Ft.	
Red River of the North Basin					
Souris: Bantry (nr), N. Dak.	7b	Apr. 11	14	13.8	May 4
Westhope (nr), N. Dak.	7b	Apr. 9	27	17.6	Apr. 19
ATLANTIC SLOPE DRAINAGE					
Tioughnioga: Whitney Point, N. Y.	12	24	24	12.2	24
Tunkhannock Creek: Dixon, Pa.	9	15	15	10.0	15
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	18	19	20.9	18
Lumber: Lumberton, N. C.	8	9	Jul. 17	#13.0	18
Little Pee Dee: Galivants Ferry, S. C.	9	18	30	#9.7	23
Edisto: Givhans Ferry, S. C.	10	May 23	3	12.9	May 26
Satilla: Atkinson (nr), Ga.	13	May 30	7	15.3	1
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Root: Hokah (nr), Minn.	47	27	28	47.4	28
				46.8	Jul. 1
Upper Iowa: Dorchester (nr), Iowa	14	26	Jul. 2	16.0	27
				18.1	Jul. 1
Wisconsin: Portage, Wis.	17	29	Jul. 2	18.3	Jul. 1
Turkey: Garber, Iowa	17	28	Jul. 1	E23.0	29
Maquoketa: Maquoketa, Iowa	13	27	28	16.3	28
Wapsipinicon: Independence, Iowa	12	30	Jul. 3	15.8	Jul. 2
DeWitt, Iowa	10	29	Jul. 29	12.3	Jul. 9
Pecatonica: Darlington, Wis.	11	27	30	19.2	30
Martintown, Wis.	11	27	Jul. 9	21.5	Jul. 1
Shell Rock: Marble Rock, Iowa	4	26	30	E9.6	29
Shell Rock, Iowa	12	27	30	15.5	30
Black Hawk Creek: Hudson, Iowa	12	27	29	14.8	28
Cedar: Charles City, Iowa	12	26	28	15.9	27
		30	Jul. 2	17.9	30
Janesville, Iowa	11	28	Jul. 3	13.6	Jul. 1
Waterloo, Iowa	15	28	Jul. 3	20.15	29
				20.1	Jul. 2
Iowa: Marshalltown, Iowa	13	27	Jul. 20	19.4	Jul. 9
Skunk: Ames, Iowa	10	30	30	11.3	30
Oskaloosa, Iowa	15	12	14	16.3	12
		29	Jul. 5	16.8	30
				16.7	Jul. 2
West Fork Des Moines: Estherville, Iowa	7	29	Jul. 15	14.3	29
Humbolt, Iowa	8	27	Jul. 16	11.3	Jul. 6
				10.0	Jul. 12
East Fork Des Moines: Burt, Iowa	10	26	Jul. 15	12.9	Jul. 2
Boone: Webster City, Iowa	10	30	30	11.1	29
North Raccoon: Jefferson, Iowa	10	9	10	10.9	9
		27	Jul. 4	12.9	30
Des Moines: Boone, Iowa	12	30	Jul. 1	13.2	30
Des Moines (SE 14th), Iowa	21	30	Jul. 6	23.7	Jul. 2
Salt: New London, Mo.	19	2	3	21.8	3
		22	25	22.65	25
Big Muddy: Murphysboro, Ill.	16	24	1/	21.2	28
Missouri Basin					
James: Columbia, S. Dak.	11	Apr. 9	Jul. 27	16.4	Apr. 11
				17.1	Apr. 23
Stratford, S. Dak.	14	Apr. 11	Aug. 29	18.2	Apr. 19
Rock: Rock Rapids, Iowa	9	29	Jul. 1	15.6	29
Rock Valley, Iowa	11	30	Jul. 2	16.0	30
Little Sioux: Spencer, Iowa	10	26	27	10.3	26
		30	Jul. 14	14.4	Jul. 2
Linn Grove, Iowa	12	25	Jul. 18	16.4	27
				17.2	Jul. 4
Peterson, Iowa	15	26	29	16.1	27
Cherokee, Iowa	17	25	26	20.4	25
Correctionville, Iowa	19	26	27	19.8	27

River and station	Flood stage	Above flood stages -dates From–	Above flood stages -dates To–	Crest * Stage	Crest * Date
MISSISSIPPI SYSTEM	Ft.			Ft	
North Branch Elkhorn: Pierce (nr), Nebr.	12	25	26	13.5	25
Hadar (nr), Nebr.	12	25	26	14.5	25
Elkhorn: Norfolk, Nebr	10	25	26	E10.5	25
Little Platte: Smithville, Mo.	24	22	23	26.85	22
Turkey Creek: Abilene (nr), Kans.	15	12	12	26.5	12
Lyon Creek: Woodbine (nr), Kans.	17	12	12	30.7	12
		22	22	23.9	22
Clarks Creek: Junction City (nr), Kans.	16	12	12	18.05	12
Wakarusa Creek: Lawrence (nr), Kans.	23	27	28	30.3	27
Stranger Creek: Easton, Kans.	15	27	27	16.45	27
Tonganoxie (nr), Kans.	22	22	23	25.35	27
		27	27	23.8	27
Blue: Kansas City (Bannister Rd), Mo.	21	26	27	33.2	27
Grand: Sumner, Mo.	26	22	23	26.2	23
		27	28	27.7	27
		30	Jul. 16	35.9	Jul. 12
Brunswick, Mo.	12	27	Jul. 17	16.85	29
				21.0	Jul. 12
Chariton: Prairie Hill (nr), Mo.	15	30	Jul. 1	17.5	30
Lamine: Clifton City, Mo.	19	22	26	27.7	23
		29	29	20.0	29
Blackwater: Valley City, Mo.	20		2	28.0	2
		15	15	23.35	15
		22	25	30.5	23
		27	Jul. 6	29.8	27
				30.5	3
Blue Lick, Mo.	25		7	29.7	5
		23	Jul. 14	34.4	Jul. 5
Dragoon Creek: Burlingame (nr), Kans.	15	27	27	21.0	27
Pottawatomie Creek: Garnett (nr), Kans.	26	24	24	27.45	24
		26	26	27.5	26
Lane, Kans.	23	25	28	#26.5	27
Little Osage: Horton (nr), Mo.	23	2	3	23.8	2
Big Creek: Blairstown, Mo.	20	1	3	22.5	2
		22	25	23.3	23
		26	1/	23.1	28
South Grand: Brownington, Mo.	19	24	Jul. 6	28.8	26
Urich, Mo.	22	22	29	24.95	25
Marais des Cygnes: Reading (nr), Kans.	18	24	24	19.5	24
	9	27	27	27.5	27
Melvern, Kans.	23	24	24	23.75	24
		27	28	28.4	27
Owenemo, Kans.	28	24	29	32.3	24
				34.25	28
Ottawa, Kans.	27	25	30	#31.7	26
				34.6	27
Osawatomie, Kans.	28	24	Jul. 4	38.9	28
LaCygne, Kans.	25	24	Jul. 6	32.3	29
Trading Post, Kans.	24	25	Jul. 6	29.95	30
Kansas-Missouri State Line, Mo.	25	25	1/	#32.2	30
Osage: Schell City, Mo.	25	2	6	26.6	4
		24	Jul. 13	32.1	Jul. 6
Missouri: Rulo, Nebr.	17	28	28	17.4	28
St. Joseph, Mo.	17	27	29	18.1	28
Lexington, Mo.	22	27	30	24.9	29
Waverly, Mo.	18	23	23	18.6	23
		27	Jul. 4	22.2	28
Glasgow, Mo.	25	27	Jul. 4	27.2	29
Boonville, Mo.	21	28	Jul. 6	24.0	Jul. 4
Jefferson City, Mo.	23	24	25	23.9	25
		29	Jul. 15	26.7	Jul. 12
Hermann, Mo.	21	23	Jul. 17	27.65	Jul. 12
St. Charles, Mo.	25	24	26	E27.5	25
		29	Jul. 18	31.3	Jul. 14
Ohio Basin					
Barren: Bowling Green, Ky.	28	24	26	41.8	24
Green: Lock 4, Woodbury, Ky.	33	24	27	40.1	26

FLOOD STAGE DATA

(All dates in June unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	Above flood stages -dates To–	Crest * Stage	Crest * Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Green. Lock 2, Calhoun, Ky.	23	27	30	24.0	28
White Anderson, Ind.	10	25	25	10.2	25
Skillet Fork: Wayne City, Ill.	15	23	26	18.2	24
French Broad Rosman, N. C.	8	15	15	9.6	15
Arkansas Basin					
Whitewater: Towanda, Kans.	22	24	24	#24.0	24
Walnut: El Dorado, Kans.	18	24	24	18.15	24
Augusta, Kans.	23	24	25	29.85	25
Arkansas City, Kans.	18	24	24	18.0	24
Chikaskia: Blackwell, Okla.	26	24	26	30.5	25
Cimarron: Dover, Okla.	17	18	18	#17.0	18
Little Caney: Copan, Okla.	21	May 31 24	4 27	22.5 23.0	2 25
Caney: Ramona, Okla.	27	24	29	29.65	27
Bird Creek: Avant, Okla.	16	27	27	26.0	27
Sperry, Okla.	21	25 27	25 29	22.0 24.3	25 29
Owasso, Okla.	24.5	26 28	26 30	#24.55 #26.0	26 29
Virdigris: Altoona, Kans.	23	1	1	23.2	1
Cottonwood: Cottonwood Falls, Kans.	9	26	27	16.2	27
Plymouth (nr), Kans.	28	1 27	1 28	#31.35 #34.0	1 27
Emporia (nr), Kans.	20	28	30	25.1	28
Neosho Americus (nr), Kans.	26	27	28	29.7	27
Neosho Rapids, Kans.	22	27	30	27.0	28
Iola (nr), Kans.	20	1	2	#20.6	1
Chanute (nr), Kans.	24	1	2	#25.15	1
Parsons (nr), Kans.	22	2	2	#23.7	2
MISSISSIPPI SYSTEM	Ft.			Ft.	
Neosho: Oswego, Kans.	17	2	4	20.0	3
Commerce, Okla.	15	2 24	5 26	16.8 16.8	4 25
North Canadian: Woodward, Okla.	10	12	13	11.3	13
Seiling, Okla.	11	13	14	12.0	14
Arkansas: Arkansas City, Kans.	16	24	24	17.4	24
Ponca City, Okla.	914	25	25	914.5	25
Ralston, Okla.	16	27	27	16.5	27
Red Basin					
Ouachita: Arkadelphia, Ark.	17	2	2	17.9	[illegible]
WEST GULF OF MEXICO DRAINAGE					
Sabine: Mineola, Tex.	14	May 7	2	19.5	May 9
Gladewater, Tex.	26	May 11	3	36.2	May 14
Longview, Tex.	25	May 14	5	32.9	May 17
Neches: Beaumont, Tex.	5	1 4	1 13	5.0 5.5	1 9
Trinity: Liberty, Tex.	24	May 7	11	28.7	May 27
Moss Bluff, Tex.	4	Feb. 21	27	7.2 7.8 8.1 8.2	Feb. 28 Mar. 24 Apr. 21-22 May 28-30
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	16	45.3 44.8 46.7 46.2 45.9 44.75	Dec. 3 Jan. 17-19 Feb. 23 Mar. 19 Apr. 16 5-6
PACIFIC SLOPE DRAINAGE					
San Joaquin: Vernalis, Calif.	29	May 18	16	30.0 30.35	May 30 11

* Provisional
\# Highest stage observed
b Bankfull stage
E Estimated
_ Exceeded previous maximum stage of record
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. — 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	86	15.9	13.5	[illegible]	1.5
1000	30	120			21	1.6
950	30	556	15.0	9.2	23	3.8
900	30	1,013	13.5	6.7	24	5.7
850	30	1,492	11.1	4.0	27	7.2
800	30	1,997	8.6	.4	27	8.7
750	30	2,526	6.4	-4.8	26	11.1
700	30	3,092	3.9	-9.1	26	12.6
650	30	3,691	1.3	-13.4	26	14.3
600	30	4,332	-2.4	-17.4	26	15.6
550	30	5,013	-6.3	-21.0	26	16.8
500	30	5,757	-10.8	-26.2	26	17.0
450	30	6,555	-16.4	-31.0	26	19.0
400	30	7,435	-22.4	-36.0	26	20.1
350	30	8,402	-29.6	-43.1	26	21.2
300	30	9,482	-37.8	-49.1	26	23.0
250	30	10,713	-47.3		26	24.2
200	30	12,160	-55.8		26	27.4
175	30	13,004	-57.7		26	25.3
150	30	13,977	-57.8		26	22.8
125	30	15,123	-58.8		26	18.0
100	30	16,519	-59.8		26	13.6
80	30	17,918	-58.2		26	6.9
70	30	18,761	-57.1		25	3.4
60	30	19,740	-55.3		19	1.3
50	30	20,908	-53.7		10	2.7
40	29	22,350	-52.0		10	4.9
30	28	24,222	-49.7		09	6.8
25	28	25,421	-47.8		08	8.7
20	27	26,906	-45.0		09	10.3
15	24	28,846	-40.9		09	12.0
10	14	31,646	-34.9		10	12.8
7						
5						

ALBUQUERQUE, N. MEX. — 836 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,619	15.9	2.5	[illegible]	2.6
1000	30	64				
950	30	509				
900	30	986				
850	30	1,479				
800	30	1,997	17.0	-.7	17	1.7
750	30	2,542	13.6	-3.5	26	3.7
700	30	3,12[illegible]	9.5	-6.4	26	5.6
650	30	3,729	4.9	-10.2	25	7.2
600	30	4,378	-.2	-14.0	25	9.1
550	30	5,064	-5.4	-19.1	26	11.8
500	30	5,810	-10.2	-26.2	25	14.1
450	30	6,615	-14.7	-33.1	25	15.4
400	30	7,499	-21.2	-37.9	25	16.1
350	30	8,470	-28.9	-43.5	25	16.9
300	30	9,554	-37.3	-50.8	25	18.7
250	30	10,789	-46.5		25	21.4
200	30	12,242	-54.5		26	23.7
175	30	13,091	-57.9		26	23.7
150	29	14,051	-60.0		26	22.7
125	29	15,187	-62.9		26	19.0
100	29	16,551	-65.4		26	13.1
80	29	17,912	-63.9		27	4.9
70	29	18,737	-61.3		29	1.4
60	29	19,698	-59.3		05	1.4
50	29	[illegible]	-56.7		08	4.2
40	29	22,272	-54.1		09	6.2
30	29	24,134	-50.5		09	7.8
25	29	25,330	-48.3		09	7.9
20	28	26,807	-46.3		09	8.4
15	26	28,730	-41.9		09	10.1
10	14	31,512	-37.3		10	10.2
7	6	34,002	-34.2			
5						

AMARILLO, TEXAS — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	[illegible]	[illegible]	[illegible]	1.1
1000	30	[illegible]				
950	30	513				
900	30	[illegible]				
850	30	1,475	17.6	8.4	22	4.5
800	30	1,993	16.5	2.7	24	5.4
750	30	2,534	13.6	-1.4	25	6.3
700	30	3,117	9.6	-4.7	25	[illegible]
650	30	3,724	5.2	-7.4	25	8.6
600	30	4,376	.3	-10.5	24	9.3
550	30	5,059	-4.4	-16.2	24	11.1
500	30	5,813	-9.1	-23.1	24	12.7
450	30	6,615	-14.4	-29.9	26	14.6
400	30	7,503	-20.8	-36.3	26	15.8
350	30	8,475	-28.2	-42.1	26	18.2
300	30	9,562	-36.8	-49.3	26	19.7
250	30	10,799	-45.8		26	23.4
200	30	12,254	-54.8		26	26.8
175	30	13,10[illegible]	-58.3		26	26.9
150	30	14,065	-60.3		26	25.4
125	29	15,199	[illegible]		26	21.1
100	27	16,553	-65.2		27	12.9
80	29	17,917	-62.8		27	4.6
70	29	18,744	-60.6		32	1.2
60	29	19,706	-58.9		08	2.1
50	29	20,857	-55.3		09	3.7
40	29	22,263	-53.8		09	7.2
30	28	24,144	-50.6		08	7.8
25	26	25,338	-48.5		09	8.1
20	28	26,815	-45.6		09	7.5
15	25	28,750	-41.9		07	10.2
10	[illegible]	31,335	-36.2		09	10.2
7						
5						

* ANCHORAGE, ALASKA — 101[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	45	11.8	6.6	17	[illegible]
1000	30	123	[illegible]	5.4	17	[illegible]
950	30	[illegible]	10.7	3.5	15	4.7
900	30	[illegible]	6.4	.6	14	4.1
850	30	1,472	5.6	-.4	13	[illegible]
800	30	[illegible]	2.6	-4.1	14	5.7
750	30	[illegible]	-.1	-6.5	15	[illegible]
700	30	[illegible]	-3.3	-9.5	14	7.2
650	30	3,616	-6.8	-12.0	[illegible]	7.7
600	30	4,239	-10.0	-16.8	17	7.9
550	30	4,903	-13.9	-22.9	17	8.4
500	30	5,624	-18.2	-27.9	17	9.8
450	30	6,400	-23.5	-33.8	17	10.0
400	30	7,255	-29.7	-39.7	19	10.0
350	30	8,193	-36.7	-44.4	19	11.1
300	30	9,242	-44.7		19	12.6
250	30	10,440	-52.3		20	13.4
200	30	11,873	-53.0		20	10.4
175	30	12,741	-49.7		19	8.9
150	30	13,752	-49.0		19	7.1
125	30	14,947	-49.7		18	6.2
100	30	[illegible]	-49.6		17	4.7
80	30	17,866	-49.7		15	3.5
70	30	18,741	-49.4		13	3.9
60	30	19,752	-49.0		12	4.6
50	30	20,950	-48.5		11	4.9
40	30	22,421	-47.7		10	6.4
30	30	24,325	-45.3		09	7.5
25	29	25,537	-45.1		09	8.1
20	29	27,034	-42.8		10	8.4
15	26	28,992	-39.4		09	9.3
10	19	31,825	-33.3		09	12.6
7						
5						

* ANNETTE, ALASKA — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	[illegible]	37	[illegible]	[illegible]	[illegible]	[illegible]
1000	[illegible]	128	12.9	9.5	[illegible]	[illegible]
950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
900	30	1,013	11.8	3.0	[illegible]	.3
850	[illegible]	[illegible]	[illegible]	-1.0	[illegible]	[illegible]
800	[illegible]	[illegible]	[illegible]	-4.3	[illegible]	[illegible]
750	30	2,515	4.0	-7.8	[illegible]	[illegible]
700	[illegible]	3,076	.7	-11.7	[illegible]	[illegible]
650	30	3,661	-2.7	-16.1	21	2.7
600	30	4,299	-6.4	-22.4	23	[illegible]
550	[illegible]	4,965	[illegible]	-26.2	[illegible]	3.1
500	[illegible]	[illegible]	-15.4	[illegible]	[illegible]	[illegible]
450	30	6,484	-21.2	[illegible]	21	[illegible]
400	30	[illegible]	[illegible]	[illegible]	22	[illegible]
350	30	8,295	[illegible]	-46.8	[illegible]	[illegible]
300	30	[illegible]	-43.2	[illegible]	23	[illegible]
250	30	[illegible]	[illegible]		23	[illegible]
200	30	12,000	[illegible]		24	[illegible]
175	[illegible]	[illegible]	-53.3		27	5.5
150	[illegible]	13,653	-52.8		27	4.1
125	[illegible]	[illegible]	[illegible]		29	3.1
100	[illegible]	[illegible]	-53.9		[illegible]	[illegible]
80	[illegible]	[illegible]	[illegible]		[illegible]	1.9
70	[illegible]	[illegible]	-52.4		04	2.5
60	27	19,755	-51.6		07	3.4
50	27	20,943	[illegible]		07	4.6
40	27	22,400	-49.5		08	6.6
30	27	24,294	-47.3		08	[illegible]
25	[illegible]	[illegible]	-45.8		08	[illegible]
20	[illegible]	[illegible]	-43.7		[illegible]	[illegible]
15	24	[illegible]	[illegible]		08	[illegible]
10	[illegible]	31,737	-34.5		[illegible]	12.8
7	[illegible]	34,261	-29.5		07	13.7
5	[illegible]	[illegible]	-24.5			

ATHENS, GEORGIA — 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	246	20.2	18.2	02	.8
1000	30	120				
950	30	566	21.6	16.3	27	1.8
900	30	1,034	19.6	13.5	25	2.7
850	30	1,524	16.6	10.0	22	3.7
800	30	2,038	13.4	4.4	23	3.3
750	30	2,576	10.1	-1.0	24	3.1
700	30	3,150	7.2	-5.3	23	3.6
650	30	3,754	3.5	-10.2	25	3.9
600	30	4,402	-.5	-14.2	26	3.6
550	30	5,089	-4.2	-19.5	26	3.8
500	30	5,840	-8.3	-25.3	26	5.5
450	30	6,648	-13.3	-30.6	27	7.1
400	30	7,539	-19.3	-36.2	28	7.9
350	30	8,519	-26.4	-41.7	27	9.2
300	30	9,613	-35.0	-48.9	27	10.3
250	30	10,860	-44.5		27	12.0
200	29	12,320	-54.4		28	14.9
175	29	13,168	-57.8		28	16.6
150	29	14,131	-61.5		27	15.9
125	29	15,250	-65.2		28	14.4
100	29	16,599	-67.5		28	9.2
80	29	17,947	-65.9		26	1.7
70	28	18,759	-63.5		15	1.6
60	27	19,712	-60.6		08	4.3
50	27	20,852	-58.2		08	7.2
40	27	22,270	-54.6		09	10.0
30	27	24,127	-51.0		10	10.0
25	25	25,322	-49.0		09	10.8
20	25	26,796	-46.2		09	11.7
15	22	28,720	-43.5		09	12.0
10	21	31,481	-37.3		09	14.7
7	9	33,964	-32.0			
5						

BARROW, ALASKA — 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	8	-.9	-1.5	09	4.3
1000	30	141	1.6	-1.4	09	6.4
950	30	559	4.7	-3.4	11	7.3
900	30	999	4.1	-6.1	11	6.1
850	30	1,462	2.3	-8.3	12	5.1
800	30	1,950	.0	-11.2	12	4.2
750	30	2,464	-2.7	-13.2	14	3.3
700	30	3,009	-5.6	-16.4	17	2.9
650	30	3,585	-8.8	-19.6	19	2.5
600	30	4,202	-12.6	-23.7	19	3.4
550	30	4,857	-16.8	-28.0	19	4.0
500	30	5,570	-21.6	-33.1	21	4.5
450	30	6,336	-27.1	-38.6	21	5.3
400	30	7,177	-33.1	-43.0	21	6.5
350	30	8,104	-39.5	-47.7	22	8.3
300	30	9,144	-46.0		22	9.7
250	30	10,342	-50.8		22	8.3
200	30	11,804	-47.3		22	5.7
175	30	12,690	-45.9		21	4.0
150	29	13,713	-45.6		22	3.9
125	29	14,927	-46.2		20	3.0
100	28	16,403	-46.3		19	2.4
80	29	17,897	-45.9		18	2.1
70	29	18,776	-45.7		13	2.1
60	25	19,805	-45.5		11	2.5
50	23	21,037	-45.2		10	3.5
40	21	22,541	-44.4		10	4.8
30	16	24,505	-43.5		09	[illegible]
25	14	25,745	-42.5		09	6.7
20	10	27,251	-40.6		09	7.3
15	5	29,195	-37.4			
10						
7						
5						

BARTER IS., ALASKA — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	15	-.6	-1.6	09	4.5
1000	30	134	.4	-1.1	09	6.2
950	30	553	6.3	-1.6	10	7.3
900	30	995	7.2	-4.7	11	4.6
850	30	1,463	5.6	-6.3	13	2.1
800	30	1,956	2.7	-8.3	18	1.4
750	30	2,476	-.2	-10.3	22	1.9
700	30	3,025	-3.7	-12.7	23	3.0
650	30	3,602	-7.3	-16.6	25	4.3
600	30	4,226	-11.1	-21.2	25	5.5
550	30	4,882	-15.1	-25.5	25	6.4
500	30	5,604	-19.7	-30.1	25	6.9
450	30	6,375	-24.9	-35.1	25	7.7
400	30	7,226	-31.0	-41.6	25	8.9
350	30	8,159	-38.0	-46.3	25	9.9
300	30	9,203	-45.5		25	10.4
250	30	10,400	-51.4		25	10.1
200	30	11,850	-49.0		26	8.4
175	30	12,731	-47.0		26	6.1
150	30	13,753	-46.6		27	5.0
125	30	14,961	-47.1		27	3.4
100	30	16,437	-46.9		28	1.7
80	30	17,917	-46.5		29	.7
70	30	18,804	-46.3		05	.8
60	28	19,828	-45.7		07	1.8
50	28	21,044	-45.3		08	2.4
40	27	22,543	-44.7		08	3.9
30	27	24,472	-43.9		09	5.5
25	25	[illegible]	-42.7		09	[illegible]
20	25	27,214	-40.9		04	6.5
15	23	29,181	-37.0		08	7.8
10	21	32,024	-30.8		07	8.4
7	17	34,606	-25.6			
5						

BETHEL, ALASKA — 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	39	6.3	6.0	01	.9
1000	30	88			34	1.6
950	30	511	7.0	2.0	12	3.3
900	30	955	5.0	-1.3	14	5.5
850	30	1,419	2.8	-2.6	15	[illegible]
800	30	1,908	.0	-3.6	15	7.0
750	30	2,421	-2.9	[illegible]	15	7.8
700	30	2,967	-6.1	-10.7	15	8.2
650	30	3,541	-9.4	-13.9	15	8.2
600	30	4,159	-12.8	-19.4	15	9.3
550	30	4,814	-16.6	-24.6	16	10.2
500	30	5,530	-21.3	-28.7	16	10.8
450	30	6,293	-25.6	-33.8	16	11.9
400	30	7,142	-32.5	-40.6	16	13.2
350	30	8,070	-39.2	-45.0	16	14.4
300	30	9,109	-46.5		17	15.1
250	30	10,303	-52.4		16	14.9
200	30	11,753	-46.9		16	10.9
175	30	12,634	-47.3		16	[illegible]
150	30	13,654	-47.4		16	8.6
125	30	14,858	-48.2		16	6.9
100	30	16,326	-48.6		15	5.4
80	30	17,792	-49.1		14	5.4
70	30	18,667	-49.4		13	4.9
60	30	19,677	-47.5		12	5.2
50	30	20,873	-49.1		11	6.1
40	30	22,340	[illegible]		11	6.3
30	29	24,235	-47.2		10	7.7
25	27	25,444	-46.1		10	8.5
20	26	26,927	-44.0		10	5.4
15	24	28,861	-40.5		09	9.2
10	22	31,579	-34.9		08	10.6
7	5	[illegible]	-31.2			
5						

* BISMARCK, N. DAK. — 952 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	[illegible]	[illegible]	01	[illegible]
1000	30	[illegible]				
950	30	514			35	[illegible]
900	30	965	[illegible]	2.5	32	3.3
850	30	[illegible]	[illegible]	[illegible]	32	4.8
800	30	[illegible]	5.5	-2.4	32	6.6
750	30	[illegible]	2.4	-5.4	31	[illegible]
700	30	3,019	-.5	-8.6	31	9.1
650	30	3,605	-3.6	-12.8	30	9.9
600	30	[illegible]	-6.9	-16.6	30	11.1
550	30	4,905	-10.7	-21.5	29	12.6
500	30	5,640	-15.2	-26.5	29	13.7
450	30	6,422	-20.4	-32.0	29	14.3
400	30	7,291	-26.6	-37.9	29	15.9
350	30	8,241	-33.9	-44.1	29	[illegible]
300	30	[illegible]	-42.3	[illegible]	29	[illegible]
250	30	10,513	-50.3		28	22.4
200	30	11,952	-54.5		29	21.9
175	29	[illegible]	[illegible]		28	20.5
150	29	[illegible]	-53.4		28	17.7
125	29	[illegible]	-54.6		28	14.1
100	[illegible]	[illegible]	-55.3		29	[illegible]
80	29	[illegible]	-54.9		29	5.5
70	[illegible]	[illegible]	-54.1		31	3.9
60	29	19,664	-53.3		35	2.2
50	[illegible]	[illegible]	-52.3		05	1.9
40	[illegible]	[illegible]	-50.7		08	3.9
30	[illegible]	[illegible]	-48.2		09	5.2
25	[illegible]	25,375	[illegible]		09	[illegible]
20	[illegible]	[illegible]	-44.8		09	[illegible]
15	[illegible]	[illegible]	-41.3		07	[illegible]
10	21	31,597	-36.5		09	11.8
7	14	34,092	-31.4		09	15.3
5	5	[illegible]	-28.2			

BOISE, IDAHO — 912 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	867	13.4	7.8	15	1.7
1000	30	81				
950	30	517				
900	30	979	15.4	7.0	16	.9
850	30	1,464	14.2	3.4	32	2.0
800	30	1,973	11.2	.9	33	1.4
750	30	2,504	7.5	-1.5	32	1.9
700	30	3,074	3.5	-4.6	30	2.1
650	30	3,666	-.5	-9.0	28	2.7
600	30	4,307	-4.8	-12.6	28	3.0
550	30	4,978	-9.6	-17.6	27	3.8
500	30	5,715	-14.4	-23.1	27	4.4
450	30	6,498	-19.6	-29.6	26	4.6
400	30	7,370	-25.9	-36.7	26	4.7
350	30	8,323	-33.4	-42.8	25	5.7
300	30	9,386	-41.7	-47.2	26	7.8
250	30	10,601	-49.6		26	9.7
200	30	12,040	-55.4		28	9.8
175	30	12,893	-55.0		27	9.4
150	30	13,878	-55.1		27	8.6
125	30	15,038	-56.7		27	8.3
100	30	16,449	-57.6		28	6.6
80	30	17,857	-57.4		29	3.2
70	30	18,702	-57.0		33	1.7
60	30	19,679	-56.1		04	1.7
50	30	20,841	-54.9		07	3.3
40	30	22,275	-52.8		07	4.8
30	29	24,142	-50.2		08	6.9
25	29	25,338	-48.3		08	7.7
20	29	26,816	-46.0		08	10.0
15	27	28,743	-42.4		08	11.0
10	16	31,530	-36.2		09	13.0
7						

BOOTHVILLE, LA. — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	25.4	22.7	01	.5
1000	30	110	25.4	21.9	04	.7
950	30	[illegible]	22.5	18.6	[illegible]	.7
900	30	1,031	19.9	14.5	17	2.1
850	30	1,523	17.5	9.4	14	2.6
800	30	2,039	14.6	5.1	14	2.5
750	30	2,584	11.8	-.3	14	1.9
700	30	3,157	8.7	-5.5	14	1.1
650	30	3,762	5.2	-9.6	09	.3
600	30	4,415	1.6	-13.7	34	2.2
550	30	5,104	-2.1	-20.3	34	3.0
500	30	5,862	-6.7	-25.4	32	3.4
450	30	6,675	-12.2	-31.1	31	3.9
400	30	7,568	-18.2	-35.6	30	5.0
350	30	8,551	-25.2	-41.8	30	6.1
300	30	[illegible]	-33.2	-47.8	29	7.8
250	30	10,911	-42.2	-54.4	29	11.9
200	30	12,397	-51.8		29	14.6
175	30	13,244	-56.4		28	16.5
150	30	14,212	-61.3		28	15.1
125	30	15,329	-66.6		28	11.8
100	30	16,664	-70.5		28	7.5
80	30	17,994	-68.0		03	1.6
70	30	[illegible]	-65.2		09	4.8
60	30	[illegible]	-62.2		09	[illegible]
50	30	[illegible]	-58.6		09	8.4
40	29	22,299	-55.3		09	11.8
30	29	24,152	-51.0		09	11.2
25	29	25,346	-48.4		09	12.6
20	29	26,824	-45.8		09	12.6
15	25	28,760	-42.1		09	13.3
10	17	[illegible]	[illegible]		09	15.8
7	6	34,038	-34.7			

* BROWNSVILLE, TEXAS — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	7	24.4	21.9	15	2.4
1000	30	[illegible]	25.0	[illegible]	15	[illegible]
950	30	535	22.1	[illegible]	[illegible]	[illegible]
900	30	1,009	20.9	13.4	17	[illegible]
850	30	1,503	[illegible]	7.2	17	[illegible]
800	30	2,022	17.2	1.6	16	5.8
750	30	2,571	14.5	-3.4	13	3.7
700	30	[illegible]	11.8	-7.0	09	2.2
650	30	3,764	7.7	-9.5	04	[illegible]
600	30	4,420	3.2	-13.8	01	[illegible]
550	30	5,113	-1.6	-19.3	33	[illegible]
500	30	[illegible]	-6.4	[illegible]	33	[illegible]
450	30	6,682	-11.4	[illegible]	32	[illegible]
400	30	[illegible]	-17.2	-35.4	30	[illegible]
350	30	8,569	-24.0	-40.2	29	[illegible]
300	29	9,676	-32.0	[illegible]	28	[illegible]
250	29	10,941	-41.2	-54.4	28	[illegible]
200	29	12,421	-51.9		28	[illegible]
175	[illegible]	13,272	-57.6		28	[illegible]
150	27	14,227	-64.1		27	[illegible]
125	27	15,326	[illegible]		27	[illegible]
100	27	[illegible]	-75.0		27	[illegible]
80	27	17,935	-71.7		[illegible]	[illegible]
70	27	18,731	[illegible]		09	9.5
60	27	19,667	-64.0		[illegible]	[illegible]
50	27	20,795	-59.9		08	[illegible]
40	26	22,199	-56.4		07	14.9
30	25	24,042	-52.5		08	14.1
25	25	25,277	-50.0		08	[illegible]
20	24	26,692	-47.1		08	[illegible]
15	22	28,616	-43.1		09	16.5
10	16	31,384	-39.2		09	[illegible]
7	12	33,855	-34.9		09	21.3

BUFFALO, N. Y. — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	218	15.4	[illegible]	23	1.9
1000	30	110				
950	30	549	15.2	[illegible]	23	6.4
900	30	1,002	12.8	6.9	25	[illegible]
850	30	[illegible]	10.4	3.5	26	9.1
800	30	[illegible]	6.0	-1.3	26	9.7
750	30	2,513	5.7	-5.6	25	[illegible]
700	30	3,077	[illegible]	-8.3	25	12.2
650	30	3,669	-.4	-11.5	26	13.1
600	30	4,310	-3.8	-15.5	26	[illegible]
550	30	4,989	-7.6	-20.9	26	[illegible]
500	30	5,728	-11.9	[illegible]	26	[illegible]
450	30	6,522	-17.3	[illegible]	26	[illegible]
400	30	7,399	-23.4	[illegible]	26	20.9
350	30	8,362	-30.5	[illegible]	26	[illegible]
300	30	9,440	-38.7	-49.5	26	[illegible]
250	30	[illegible]	-47.5		26	[illegible]
200	30	12,115	-54.6		27	[illegible]
175	30	12,965	-56.4		27	[illegible]
150	30	13,942	-57.2		27	[illegible]
125	30	15,092	[illegible]		27	18.7
100	30	16,491	-59.2		26	13.1
80	30	17,893	-58.0		26	[illegible]
70	30	18,736	-56.8		26	[illegible]
60	30	19,715	-55.4		27	2.3
50	30	20,881	-53.9		[illegible]	[illegible]
40	[illegible]	[illegible]	-52.2		[illegible]	[illegible]
30	27	24,191	-49.6		[illegible]	[illegible]
25	27	[illegible]	-47.8		[illegible]	[illegible]
20	27	[illegible]	-44.8		[illegible]	9.1
15	21	[illegible]	[illegible]		[illegible]	[illegible]
10	[illegible]	31,676	[illegible]			
7						

CAPE HATTERAS, N. C. — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	22.0	20.5	19	[illegible]
1000	30	125	22.4	19.3	23	[illegible]
950	30	574	21.0	15.3	25	[illegible]
900	30	[illegible]	18.8	12.5	26	[illegible]
850	30	[illegible]	16.1	9.4	27	3.4
800	30	[illegible]	13.1	5.3	26	[illegible]
750	30	[illegible]	10.4	-.3	26	[illegible]
700	30	[illegible]	7.3	[illegible]	25	[illegible]
650	30	[illegible]	3.8	[illegible]	26	[illegible]
600	30	[illegible]	.1	[illegible]	26	[illegible]
550	30	[illegible]	-3.7	[illegible]	25	[illegible]
500	30	[illegible]	-7.7	-25.2	25	[illegible]
450	30	[illegible]	-12.6	-29.7	25	[illegible]
400	30	[illegible]	-18.6	-35.7	26	[illegible]
350	30	[illegible]	-25.6	[illegible]	26	[illegible]
300	30	9,632	-34.0	[illegible]	26	[illegible]
250	30	[illegible]	-43.7		26	[illegible]
200	30	[illegible]	-54.5		26	[illegible]
175	30	[illegible]	[illegible]		27	[illegible]
150	30	[illegible]	-61.3		28	[illegible]
125	30	[illegible]	-64.1		28	[illegible]
100	30	[illegible]	-65.5		28	[illegible]
80	30	[illegible]	[illegible]		28	[illegible]
70	30	[illegible]	-61.9		03	[illegible]
60	30	[illegible]	-59.6		07	[illegible]
50	29	[illegible]	-57.0		[illegible]	[illegible]
40	[illegible]	[illegible]	-53.8		[illegible]	[illegible]
30	[illegible]	[illegible]	-50.1		[illegible]	[illegible]
25	[illegible]	[illegible]	-47.7		[illegible]	[illegible]
20	[illegible]	[illegible]	-44.9		[illegible]	[illegible]
15	[illegible]	[illegible]	-41.7		[illegible]	[illegible]
10	[illegible]	[illegible]	-36.7		[illegible]	[illegible]
7	[illegible]	[illegible]	-30.7			

See reference note at end of table

Columns in every station table: Standard pressure surface (mb) | No. of observations | Dynamic height | Temperature | Dew Point | Resultant Wind: Direction | Resultant Wind: Speed M.p.s.

CARIBOU, MAINE 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	191	13.2	10.9	28	1.0
1000	30	115				
950	30	543	12.1	5.7	26	3.2
900	30	992	10.6	3.5	26	5.3
850	30	1,467	8.3	.8	26	6.7
800	30	1,966	5.3	-2.7	26	8.8
750	30	2,496	2.7	-6.9	26	11.1
700	30	3,047	.4	-11.3	26	13.8
650	30	3,642	-2.2	-13.6	26	16.[illegible]
600	30	4,272	-5.6	-16.7	26	19.1
550	30	4,945	-9.2	-21.7	26	20.9
500	30	5,683	-13.6	-26.8	26	22.8
450	30	6,480	-18.8	-33.3	26	24.9
400	30	7,346	-24.6	-38.9	26	27.2
350	30	8,304	-31.3	-45.3	26	29.4
300	30	9,379	-38.9	-50.4	25	30.1
250	29	10,603	-47.5		26	31.8
200	29	12,054	-53.9		26	31.5
175	29	12,910	-54.3		26	27.0
150	29	13,907	-54.8		26	23.8
125	28	15,085	-55.5		26	19.4
100	28	16,486	-55.7		26	11.7
80	28	17,910	-54.8		26	6.8
70	28	18,765	-54.1		24	3.9
60	28	19,756	-53.2		22	.9
50	28	20,934	-52.0		10	1.8
40	27	22,381	-50.3		10	5.4
30	27	24,267	-48.4		09	6.4
25	26	25,467	-47.0		09	7.7
20	25	26,951	-44.5		09	9.0
15	22	28,995	-40.6		09	12.4
10	19	31,695	-35.1		09	12.5
7	[illegible]	34,209	-29.2			
5						
4						
3						
2						

CHARLESTON, S.C. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	13	23.0	20.8	34	.5
1000	30	12[illegible]	23.3	21.5	31	.3
950	30	517	21.9	16.4	27	2.1
900	30	1,0[illegible]	19.5	13.2	27	1.6
850	30	1,529	16.6	9.7	19	1.1
800	30	2,043	13.6	6.3	19	1.0
750	30	2,593	11.0	.1	19	1.0
700	30	3,156	7.7	-5.0	21	.8
650	30	3,764	4.1	-8.5	28	1.3
600	30	4,412	.2	-13.7	25	1.5
550	30	5,09[illegible]	-3.8	-18.9	24	2.1
500	30	5,841	-8.1	-23.5	24	3.1
450	30	6,659	-12.9	-28.4	27	3.3
400	30	7,553	-18.7	-33.9	27	5.1
350	30	8,534	-25.6	-41.1	27	5.4
300	30	9,633	-34.1	-47.9	27	6.4
250	30	10,8[illegible]	-43.7		27	8.2
200	30	12,361	-53.3		27	11.7
175	30	13,203	-57.6		27	13.0
150	30	14,167	-61.5		28	13.7
125	30	15,2[illegible]	-65.4		28	11.2
100	30	16,595	-67.1		23	5.5
80	30	17,984	-66.3		21	.6
70	30	18,79[illegible]	-63.7		19	1.5
60	30	19,751	-60.8		08	4.8
50	30	20,892	-58.1		08	7.1
40	30	22,3[illegible]	-54.4		09	9.6
30	30	24,172	-50.3		09	9.6
25	30	25,389	-48.1		09	10.1
20	29	26,845	-45.8		09	10.6
15	23	28,761	-42.3		09	11.2
10	11	31,503	-36.9			

CHIHUAHUA, MEXICO 884 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,428	2[illegible].3	8.1	25	.3
1000	30	41				
950	30	453				
900	30	972				
850	30	1,473	2[illegible].6	7.9	23	.8
800	30	1,998	19.7	4.6	27	1.0
750	30	2,54[illegible]	16.4	1.5	27	.8
700	30	3,133	12.7	-1.9	27	1.7
650	30	3,743	8.0	-5.3	26	2.7
600	30	4,404	2.6	-9.6	21	3.9
550	30	5,092	-2.7	-13.7	22	6.1
500	30	5,831	-7.7	-21.3	24	7.5
450	30	6,655	-12.7	-29.9	28	8.8
400	30	7,553	-18.4	-35.7	26	10.2
350	30	8,575	-25.7	-41.4	26	11.8
300	30	9,633	-34.2	-47.9	24	15.2
250	30	10,8[illegible]	-43.4		26	20.2
200	29	12,356	-53.2		26	22.1
175	29	13,206	-58.3		26	24.4
150	29	14,160	-64.0		25	22.2
125	28	15,287	-69.1		25	18.2
100	26	16,576	-72.7		25	12.5
80	23	17,893	-68.5		25	6.5
70	23	18,858	-65.6		01	.9
60	22	19,642	-62.5		07	4.1
50	22	20,775	-59.2		07	3.3
40	21	22,2[illegible]	-55.9		08	5.3
30	19	24,327	-52.6		09	6.3
25	19	25,211	-49.9		09	4.9
20	19	26,678	-47.2		08	2.0
15	7	28,566	-43.2			

COLD BAY, ALASKA 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	30	6.6	4.[illegible]	17	1.8
1000	30	63			25	.9
950	30	462	4.2	1.9	14	4.3
900	30	922	2.9	.7	14	4.7
850	30	1,384	1.6	-1.8	14	5.3
800	30	1,872	-.7	-4.4	14	5.1
750	30	2,385	-3.2	-6.5	15	4.7
700	30	2,930	-5.8	-12.2	15	4.9
650	30	3,507	-8.9	-16.0	15	5.2
600	30	4,124	-12.5	-20.6	15	5.7
550	30	4,790	-15.4	-24.7	16	6.5
500	30	5,495	-20.9	-29.2	16	7.6
450	30	6,260	-26.2	-34.7	16	8.1
400	30	7,108	-32.1	-40.7	17	8.2
350	30	8,037	-39.1	-45.0	17	9.7
300	30	9,076	-45.8		17	11.2
250	30	10,28[illegible]	-49.4		17	12.8
200	30	11,747	-47.7		18	9.3
175	30	12,632	-46.4		18	8.1
150	30	13,654	-46.9		19	7.3
125	30	14,860	-47.7		18	6.1
100	30	16,329	-48.9		17	5.7
80	30	17,793	-49.5		15	4.8
70	30	18,667	-49.7		14	4.6
60	30	19,675	-49.9		12	4.6
50	30	20,870	-49.5		11	5.8
40	30	22,323	-49.2		10	7.0
30	30	24,225	-48.2		10	8.3
25	30	25,429	-47.1		10	9.6
20	30	26,913	-45.3		10	10.2
15	30	28,844	-42.7		09	11.2
10	30	31,610	-36.0		09	12.7
7	26	34,100	-34.6		09	16.4
5	23	36,494	-30.1		09	19.2
4	17	38,083	-28.8		09	23.2
3	14	40,176	-26.6		10	27.0
2	9	43,125	-25.1			

COLUMBIA, MO. 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	238	17.1	14.5	17	1.0
1000	30	92				
950	30	530	18.3	13.0	24	3.7
900	30	996	17.3	9.9	26	6.7
850	30	1,483	15.1	5.7	26	7.9
800	30	1,994	12.2	3.1	26	8.5
750	30	2,527	9.1	-.2	26	9.2
700	30	3,103	5.8	-4.1	26	9.6
650	30	3,698	2.4	-9.4	26	10.9
600	30	4,349	-1.6	-13.2	26	11.8
550	30	5,029	-5.8	-19.2	26	12.2
500	30	5,778	-10.3	-24.5	26	13.6
450	30	6,572	-15.6	-30.1	26	15.2
400	30	7,461	-21.8	-34.8	27	16.8
350	30	8,429	-29.1	-40.8	27	17.5
300	30	9,512	-37.3	-48.2	27	18.4
250	30	10,746	-46.6		27	20.8
200	30	12,196	-55.4		26	23.2
175	30	13,042	-58.1		26	22.9
150	29	14,011	-59.4		26	21.7
125	29	15,149	-60.6		27	18.2
100	29	16,530	-63.1		27	12.1
80	28	17,908	-61.0		27	6.4
70	27	18,744	-59.6		26	3.1
60	27	19,712	-57.8		26	.7
50	25	20,873	-55.6		10	1.7
40	25	22,302	-53.4		09	3.7
30	24	24,166	-50.6		09	5.6
25	23	25,359	-48.9		09	6.5
20	20	26,843	-46.2		09	8.0
15	19	28,779	-41.8		09	9.9
10	10	31,566	-36.7			

DAYTON, OHIO 976 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	297	15.9	14.1	15	1.1
1000	30	110				
950	30	540	16.9	12.2	22	3.5
900	30	1,0[illegible]	15.9	9.3	25	6.9
850	30	1,493	13.4	5.5	25	7.9
800	30	2,001	10.8	.8	26	8.7
750	30	2,532	8.1	-2.9	26	10.2
700	30	3,104	5.1	-6.7	26	11.7
650	30	3,704	1.6	-9.9	25	13.2
600	30	4,346	-2.1	-14.0	26	13.5
550	30	5,029	-6.2	-19.7	26	14.0
500	30	5,773	-10.4	-24.8	26	15.9
450	30	6,570	-15.6	-30.1	26	16.9
400	30	7,456	-21.7	-36.0	27	17.4
350	30	8,425	-29.0	-42.2	27	18.7
300	30	9,509	-37.3	-48.7	27	19.6
250	30	10,743	-46.8		27	21.9
200	30	12,191	-55.7		27	24.2
175	30	13,037	-57.9		27	23.9
150	30	14,006	-59.0		27	21.0
125	30	15,147	-60.2		27	18.0
100	30	16,532	-61.6		26	12.9
80	30	17,918	-60.4		26	7.8
70	30	18,784	-58.5		24	4.0
60	30	19,726	-56.9		21	.3
50	30	20,899	-55.1		10	2.2
40	30	22,321	-53.0		09	4.9
30	30	24,189	-50.2		09	6.6
25	27	25,383	-48.5		09	8.5
20	19	26,867	-45.8		09	10.0
15	13	28,797	-41.1		09	12.3
10	5	31,554	-35.0			
7						

DEL RIO, TEXAS 974 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	314	23.9	19.4	11	5.3
1000	30	40				
950	30	531	22.7	18.6	13	8.8
900	30	1,001	20.5	17.0	15	10.7
850	30	1,496	19.4	12.8	17	9.3
800	30	2,016	17.9	7.5	17	7.1
750	30	2,565	15.6	.7	17	4.2
700	30	3,149	12.0	-3.6	22	2.5
650	30	3,762	7.6	-7.7	27	2.8
600	30	4,419	2.7	-11.5	29	3.8
550	30	5,108	-2.7	-16.6	30	5.1
500	30	5,846	-7.6	-23.4	29	5.2
450	30	6,673	-12.9	-29.9	29	5.9
400	30	7,567	-18.8	-36.5	29	7.5
350	30	8,549	-25.7	-42.1	28	10.8
300	30	9,648	-34.0	-48.3	27	14.0
250	30	10,900	-43.1		27	17.6
200	30	12,372	-52.8		27	23.6
175	30	13,223	-57.8		27	25.4
150	30	14,184	-63.0		27	22.4
125	30	15,291	-68.4		26	18.1
100	30	16,612	-72.8		26	12.5
80	30	17,923	-68.4		30	1.0
70	29	18,736	-65.5		09	3.4
60	25	19,681	-61.4		10	6.5
50	29	20,818	-58.7		09	8.2
40	25	22,233	-55.1		09	11.5
30	25	24,0[illegible]	-51.8		09	11.0
25	24	25,273	-49.9		09	12.7
20	23	26,742	-46.3		09	12.6
15	23	28,670	-42.6		08	13.3
10	21	31,433	-38.2		09	15.0
7	14	33,919	-32.5			

DENVER, COLO. 836 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	29	1,611	10.8	6.4	19	1.6
1000	29	91				
950	29	526				
900	29	990				
850	29	1,474				
800	29	1,992	11.4	2.2	24	2.6
750	29	2,517	6.4	-.7	28	3.2
700	29	3,086	5.1	-3.4	28	5.3
650	29	3,695	1.6	-7.4	27	7.9
600	29	4,326	-2.9	-11.7	28	9.5
550	29	5,004	-7.3	-17.2	27	12.8
500	29	5,748	-12.2	-23.0	27	12.1
450	29	6,538	-17.6	-30.0	26	13.2
400	29	7,417	-24.2	-36.1	26	13.1
350	29	8,376	-31.8	-42.8	26	15.6
300	29	9,447	-39.9	-50.2	26	16.7
250	29	10,668	-48.9		26	18.8
200	29	12,108	-55.8		26	20.6
175	29	12,956	-56.7		26	21.9
150	29	13,932	-57.1		26	19.0
125	29	15,081	-58.9		27	15.7
100	29	16,474	-60.8		27	10.6
80	29	17,861	-60.4		27	4.5
70	29	18,696	-59.0		28	2.1
60	29	19,667	-57.2		06	2.1
50	29	20,825	-55.5		07	3.0
40	29	22,265	-53.2		09	5.0
30	28	24,112	-50.8		09	7.7
25	27	25,299	-48.9		09	7.8
20	26	26,771	-46.2		08	9.6
15	19	28,705	-42.4		09	10.7
10	[illegible]	31,463	-35.5			

DODGE CITY, KANS. 921 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	791	15.7	12.5	19	1.1
1000	30	78				
950	30	517				
900	30	981	16.3	10.5	20	2.9
850	30	1,469	16.7	7.4	24	6.3
800	30	1,984	14.6	3.5	26	6.0
750	30	2,522	11.9	-1.1	26	7.1
700	30	3,101	8.1	-3.7	26	8.7
650	30	3,704	3.7	-6.9	26	9.7
600	30	4,354	-.7	-11.7	25	10.2
550	30	5,036	-5.5	-16.6	24	11.2
500	30	5,784	-10.2	-23.1	25	12.3
450	30	6,582	-15.5	-30.4	25	13.8
400	30	7,468	-21.9	-36.1	26	15.1
350	30	8,436	-29.4	-42.6	25	17.5
300	30	9,518	-38.0	-49.6	26	19.9
250	30	10,749	-47.1		25	22.4
200	30	12,197	-55.6		26	25.0
175	29	13,036	-57.9		25	26.7
150	29	14,006	-59.2		25	24.9
125	29	15,142	-61.6		26	20.3
100	29	16,520	-62.8		27	13.2
80	29	17,894	-61.7		27	5.1
70	29	18,723	-60.6		29	2.8
60	28	19,687	-58.3		31	.6
50	28	20,840	-56.2		07	2.8
40	27	22,257	-54.4		08	5.4
30	25	24,116	-50.9		09	6.7
25	25	25,311	-48.8		08	6.4
20	24	26,789	-46.4		09	7.4
15	24	28,713	-43.0		09	9.3
10	20	31,470	-36.8		09	10.9
7	5	33,679	-33.6			

EL PASO, TEXAS 879 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,193	20.7	4.2	23	1.2
1000	30	56				
950	30	509				
900	30	987				
850	30	1,481	21.8	4.5	25	2.2
800	30	2,005	18.9	1.6	26	4.7
750	30	2,550	15.0	-1.0	26	5.9
700	30	3,134	10.8	-4.3	25	5.6
650	30	3,743	6.4	-8.2	23	6.2
600	30	4,399	1.6	-13.2	23	8.2
550	30	5,088	-3.5	-18.3	24	9.7
500	30	5,840	-8.6	-24.1	24	11.4
450	30	6,645	-14.1	-30.4	25	12.7
400	30	7,534	-20.4	-37.2	25	14.6
350	30	8,508	-27.6	-44.1	26	16.7
300	30	9,599	-35.7	-50.7	26	19.3
250	30	10,843	-44.7		26	21.7
200	30	12,305	-53.9		26	24.9
175	30	13,154	-58.1		26	25.6
150	30	14,115	-62.3		26	24.8
125	30	15,229	-66.3		26	19.7
100	30	16,569	-69.3		26	13.5
80	30	17,908	-66.2		27	4.3
70	30	18,723	-63.5		07	2.1
60	29	19,673	-61.2		08	4.1
50	29	20,815	-57.8		08	7.5
40	29	22,234	-54.7		09	9.3
30	28	24,087	-51.6		09	9.4
25	28	25,276	-49.5		09	10.3
20	28	26,748	-46.7		09	10.3
15	26	28,672	-43.3		09	12.1
10	23	31,446	-37.0		08	11.9
7	8	33,925	-33.1			

ELY, NEV. 807 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	1,9[illegible]	7.3	2.2	19	1.8
1000	30	93				
950	30	531				
900	30	993				
850	30	1,475				
800	30	1,980	9.2	2.5	20	1.5
750	30	2,513	6.7	.1	17	.4
700	30	3,0[illegible]	5.1	-3.2	24	2.1
650	30	3,6[illegible]	1.0	-6.7	25	3.9
600	30	4,30[illegible]	-3.6	-11.1	24	5.8
550	30	4,996	-8.2	-15.7	25	6.4
500	30	5,73[illegible]	-12.9	-21.6	25	7.3
450	30	6,527	-18.4	-28.4	26	9.0
400	30	7,405	-24.3	-35.5	26	10.9
350	30	8,365	-31.5	-42.2	27	11.5
300	30	9,4[illegible]	-39.6	-50.5	26	11.5
250	30	10,861	-48.7		25	12.3
200	30	12,101	-55.6		26	14.4
175	30	12,95[illegible]	-56.6		26	13.9
150	30	13,927	-56.8		26	12.6
125	30	15,079	-58.6		27	10.3
100	30	16,473	-61.0		26	8.1
80	30	17,8[illegible]	-60.3		27	3.5
70	30	18,693	-59.4		28	1.0
60	30	19,6[illegible]	-58.3		08	1.7
50	30	20,612	-56.3		09	3.2
40	30	22,237	-54.1		08	4.7
30	30	24,096	-50.9		08	7.0
25	30	25,287	-49.3		09	[illegible]
20	[illegible]	26,758	-46.8		09	[illegible]
15	27	[illegible]	-42.5		09	[illegible]
10	27	[illegible]	-37.1		09	12.4
7	24	[illegible]	-31.3		[illegible]	14.7
5	5	[illegible]	-26.[illegible]			

EMPALME, MEXICO 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	12	21.3	17.3	04	1.9
1000	30	95	22.7	18.6	10	1.9
950	30	538	22.5	13.1	16	2.5
900	30	1,013	22.4	3.0	16	2.9
850	30	1,5[illegible]	20.7	-1.2	19	3.7
800	30	2,028	18.5	-6.0	19	4.8
750	30	2,579	15.9	-9.2	21	5.1
700	30	3,153	12.6	-11.5	22	5.1
650	30	3,772	8.8	-14.1	23	5.6
600	30	4,430	4.0	-16.7	22	7.0
550	30	5,127	-.9	-21.8	24	7.4
500	30	5,884	-6.2	-26.2	24	7.1
450	30	6,697	-11.6	-31.5	25	9.0
400	30	7,593	-17.9	-37.2	26	10.5
350	30	8,576	-25.5	-43.3	26	12.6
300	30	9,676	-33.9	-49.8	26	16.1
250	30	10,9[illegible]	-43.2		26	19.9
200	29	12,396	-53.4		26	24.2
175	29	13,245	-58.5		26	24.8
150	29	14,202	-63.6		25	23.0
125	29	15,305	-69.0		25	16.0
100	29	16,625	-72.5		25	11.2
80	29	17,943	-69.1		25	3.3
70	29	18,748	-66.0		09	3.2
60	[illegible]	19,692	-62.[illegible]		09	6.8
50	29	[illegible]	-58.8		09	8.4
40	29	22,241	-55.5		09	10.6
30	29	[illegible]	-51.6		09	12.1
25	[illegible]	25,279	-49.5		09	13.0
20	[illegible]	[illegible]	-46.0		08	12.[illegible]
15	17	[illegible]	-42.7		09	12.9
10	11	31,456	-37.5			

FAIRBANKS, ALASKA 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	135	13.2	5.8	35	1.9
1000	30	95				
950	30	531	15.0	2.3	20	1.2
900	30	986	12.7	.2	24	1.7
850	30	1,463	9.5	-1.7	24	1.6
800	30	1,962	3.6	-3.9	22	1.0
750	30	2,4[illegible]	1.3	-6.3	21	3.6
700	30	3,039	-2.5	-10.3	20	4.7
650	30	3,624	-5.3	-14.6	19	5.7
600	30	4,245	-9.9	-19.3	20	5.7
550	30	4,910	-14.1	-24.8	20	6.4
500	30	5,630	-19.5	-29.8	21	7.3
450	30	6,406	-23.9	-34.8	21	8.4
400	30	7,259	-30.1	-40.2	21	8.9
350	30	8,[illegible]	-37.3	-45.6	22	9.4
300	30	9,242	-45.3		22	10.5
250	30	10,435	-[illegible]3.2		22	12.0
200	30	11,870	-[illegible]2.3		22	9.4
175	30	12,74[illegible]	-49.4		22	8.1
150	30	13,75[illegible]	-48.4		21	6.8
125	30	14,951	-49.1		21	5.0
100	30	16,414	-49.3		19	2.9
80	29	17,879	-48.7		14	2.2
70	29	18,757	-48.3		12	2.6
60	[illegible]	19,77[illegible]	-47.8		11	3.0
50	[illegible]	20,975	-47.1		10	3.7
40	27	22,453	-46.4		09	5.7
30	26	24,3[illegible]	-45.2		09	7.4
25	25	25,5[illegible]	-43.9		09	7.0
20	[illegible]	[illegible]	-42.0		08	8.4
15	23	29,054	-3[illegible].5		09	9.1
10	1[illegible]	[illegible]	-32.8		08	12.1
7	[illegible]	34,521	-26.1			

FLINT, MICH. 984 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	236	12.7	9.7	18	1.9
1000	30	103				
950	30	535	13.1	7.2	22	3.2
900	30	969	11.9	5.2	24	6.0
850	30	1,467	9.6	2.4	26	8.2
800	30	1,969	7.8	-1.7	26	10.1
750	30	2,497	5.5	-5.1	26	12.3
700	30	3,061	2.6	-9.1	26	13.2
650	30	3,653	-.6	-12.2	26	15.0
600	30	4,294	-3.9	-16.2	26	16.1
550	30	4,968	-7.8	-20.3	25	17.1
500	30	5,711	-12.4	-26.2	26	18.5
450	30	6,501	-17.6	-32.5	26	19.4
400	30	7,380	-23.8	-39.0	26	20.1
350	30	8,342	-30.9	-44.9	26	23.0
300	30	9,417	-39.1	-50.4	27	24.2
250	30	10,645	-47.8		27	28.3
200	30	12,091	-54.8		27	28.6
175	29	12,932	-56.0		27	26.5
150	29	13,912	-56.5		26	22.2
125	29	15,066	-57.7		26	17.0
100	29	16,471	-58.9		26	11.8
80	[illegible]	17,877	-57.8		26	7.1
70	[illegible]	18,722	-56.9		25	3.7
60	27	19,703	-55.5		25	1.5
50	26	20,870	-53.8		12	1.5
40	26	22,308	-52.2		09	4.1
30	21	24,190	-49.6		09	4.9
25	[illegible]	25,390	-47.7		09	7.9
20	[illegible]	26,872	-45.4		09	9.3
15	[illegible]	28,798	-41.8		09	10.8
10	[illegible]	31,590	-35.8			
7	6	34,101	-31.9			

FORT WORTH, TEXAS 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	180	21.9	18.8	18	2.2
1000	30	96				
950	30	545	21.0	16.2	18	7.1
900	30	1,011	19.4	12.6	20	9.1
850	30	1,503	18.9	7.4	21	8.6
800	30	2,022	16.5	3.1	23	6.5
750	30	2,569	13.6	-1.2	24	5.1
700	30	3,147	10.1	-5.3	26	4.1
650	30	3,759	5.9	-8.8	27	5.2
600	30	4,408	1.2	-13.1	29	6.4
550	30	5,099	-3.8	-19.0	29	6.8
500	30	5,848	-8.3	-25.0	28	7.9
450	30	6,656	-13.5	-32.1	27	8.8
400	30	7,545	-19.7	-37.8	27	9.8
350	30	8,522	-26.9	-43.8	28	11.6
300	30	9,616	-35.2	-49.4	28	14.0
250	30	10,862	-44.3		27	17.8
200	30	12,325	-54.2		27	21.9
175	29	13,173	-58.6		27	21.6
150	29	14,133	-62.3		27	21.5
125	29	15,248	-66.3		27	18.7
100	29	16,590	-68.8		27	11.8
80	29	17,933	-66.0		29	2.1
70	29	18,747	-63.6		10	1.6
60	29	19,701	-60.5		10	3.3
50	29	20,844	-57.9		09	6.3
40	29	22,260	-55.0		09	8.3
30	29	24,114	-51.1		09	9.3
25	29	25,306	-48.7		09	9.4
20	29	26,781	-45.9		09	10.0
15	27	28,707	-42.9		09	11.0
10	23	31,476	-36.0		09	12.7
7	6	33,921	-33.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT. 932 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	696	9.0	4.7	04	1.7
1000	30	101				
950	30	533				
900	30	983	11.8	3.7	34	1.7
850	30	1,460	9.7	1.5	34	2.3
800	30	1,962	6.9	-1.5	34	4.3
750	30	2,487	3.5	-4.2	33	6.3
700	30	3,047	.2	-7.9	33	7.5
650	30	3,635	-3.5	-11.6	33	7.9
600	30	4,266	-7.3	-16.6	32	8.9
550	30	4,935	-11.1	-22.9	32	8.9
500	30	5,666	-15.5	-26.1	31	10.1
450	30	6,444	-20.9	-31.8	31	11.7
400	30	7,313	-26.9	-37.3	31	12.5
350	30	8,262	-33.9	-43.4	30	13.3
300	30	9,323	-42.2	-50.1	30	14.0
250	30	10,533	-50.9		30	14.0
200	30	11,965	-55.2		30	14.7
175	30	12,821	-53.7		29	14.4
150	30	13,812	-53.6		30	12.7
125	30	14,984	-54.2		29	10.9
100	30	16,411	-54.9		30	8.1
80	30	17,838	-54.4		31	5.2
70	30	18,695	-53.9		33	3.8
60	30	19,686	-53.0		36	2.5
50	29	20,865	-52.0		05	3.1
40	29	22,314	-50.8		08	4.1
30	28	24,199	-48.6		08	6.2
25	27	25,403	-46.7		08	7.9
20	25	26,885	-44.7		09	9.6
15	23	28,819	-41.0		09	10.6
10	20	31,599	-35.8		09	12.2
7	14	34,132	-30.0			
5						

GRAND JUNCTION, COLO. 849 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,472	13.8	3.6	12	3.4
1000	30	66				
950	30	506				
900	30	977				
850	30	1,463			11	2.9
800	30	1,976	14.1	.4	14	4.0
750	30	2,511	11.0	-2.0	20	3.0
700	30	3,090	7.1	-4.4	24	4.4
650	30	3,690	2.4	-7.1	25	6.0
600	30	4,336	-2.5	-10.8	25	7.6
550	30	5,015	-7.4	-16.0	25	9.4
500	30	5,757	-12.3	-22.4	25	10.8
450	30	6,551	-17.7	-28.2	25	12.1
400	30	7,427	-23.7	-35.2	25	11.9
350	30	8,357	-31.2	-41.4	25	13.1
300	30	9,461	-39.4	-49.1	25	13.4
250	30	10,685	-48.2		26	14.9
200	30	12,131	-54.7		26	18.1
175	30	12,982	-55.9		26	17.0
150	30	13,960	-56.6		26	15.9
125	30	15,111	-58.4		26	13.8
100	30	16,505	-61.2		26	9.7
80	30	17,890	-60.6		27	5.0
70	30	18,723	-59.3		27	2.5
60	30	19,692	-58.0		24	.8
50	30	20,846	-55.5		07	1.6
40	30	22,276	-53.4		08	3.5
30	30	24,140	-50.4		09	6.4
25	29	25,334	-48.4		09	7.2
20	27	26,811	-45.8		09	7.4
15	17	28,728	-41.9		09	8.5
10	6	31,541	-37.4			
7						
5						

GREAT FALLS, MONT. 887 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,118	9.7	5.3	28	2.0
1000	30	103				
950	30	540				
900	30	999				
850	30	1,471	10.8	2.5	27	3.3
800	30	1,974	6.1	-.2	31	2.9
750	30	2,522	4.6	-2.7	33	2.4
700	30	3,063	.9	-6.6	33	2.3
650	30	3,657	-2.4	-10.8	30	3.9
600	30	4,267	-6.2	-14.4	30	4.5
550	30	4,957	-10.4	-19.7	31	6.0
500	30	5,691	-15.1	-25.1	31	6.7
450	30	6,477	-20.3	-32.2	31	7.4
400	30	7,342	-26.6	-38.9	31	7.9
350	30	8,292	-33.7	-44.3	32	8.1
300	30	9,354	-42.0	-50.3	31	8.8
250	30	10,564	-50.5		31	9.4
200	30	11,997	-55.8		30	10.1
175	30	12,849	-54.4		29	10.2
150	30	13,838	-54.0		29	9.3
125	30	15,007	-54.8		29	8.0
100	30	16,429	-55.7		29	6.6
80	30	17,654	-54.8		32	4.1
70	30	18,709	-54.2		33	2.7
60	30	19,699	-53.6		02	2.2
50	30	20,873	-52.8		05	3.5
40	30	22,371	[illegible]		07	4.8
30	30	24,206	-48.4		08	6.5
25	30	25,410	-46.9		05	8.2
20	30	26,897	-44.6		08	9.3
15	28	28,840	-41.2		09	11.2
10	24	31,618	-35.6		09	12.9
7	18	34,137	-30.0		08	14.0
5	6	36,547	-24.9			

GREEN BAY, WIS. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	[illegible]	[illegible]	23	1.1
1000	30	[illegible]				
950	30	515	11.5	[illegible]	[illegible]	2.7
900	30	969	9.8	[illegible]	26	3.7
850	30	1,443	[illegible]	[illegible]	27	[illegible]
800	30	1,941	5.5	[illegible]	27	7.5
750	30	2,462	3.1	-7.4	27	[illegible]
700	30	3,024	.5	[illegible]	27	11.9
650	29	3,609	-2.2	-14.3	27	[illegible]
600	29	4,247	-5.7	-17.6	27	[illegible]
550	29	4,917	-9.6	-23.3	26	17.4
500	29	5,651	-13.9	-26.9	26	19.1
450	[illegible]	6,433	-19.4	-33.2	26	21.6
400	[illegible]	7,309	[illegible]	-39.4	26	[illegible]
350	[illegible]	8,264	-32.1	-44.5	26	25.1
300	[illegible]	9,335	-39.7	[illegible]	26	27.7
250	29	[illegible]	[illegible]		26	[illegible]
200	28	[illegible]	-54.2		27	[illegible]
175	28	12,843	[illegible]		27	[illegible]
150	29	13,852	[illegible]		27	24.9
125	[illegible]	15,018	-55.4		27	17.4
100	[illegible]	16,438	[illegible]		26	12.4
80	[illegible]	17,854	-56.3		26	8.3
70	29	18,704	-55.3		26	5.5
60	28	[illegible]	-54.4		27	2.5
50	28	[illegible]	-53.3		17	.6
40	27	22,305	-51.2		09	3.2
30	26	24,183	-49.2		09	5.4
25	26	25,384	-47.5		09	[illegible]
20	25	26,870	-45.0		09	7.7
15	17	28,796	-41.2		09	[illegible]
10	8	31,627	-33.6			
7						
5						

GREENSBORO, N. C. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	273	20.2	[illegible]	23	[illegible]
1000	30	125				
950	30	569	20.7	15.6	26	[illegible]
900	30	1,037	16.6	12.8	26	[illegible]
850	30	1,527	15.9	9.5	26	5.1
800	30	2,040	12.9	4.7	25	5.0
750	30	2,581	10.0	-.8	28	5.8
700	30	3,150	6.8	-5.2	26	6.1
650	30	3,754	3.2	-9.2	26	6.2
600	30	4,400	-.8	-14.0	26	6.2
550	30	5,086	-4.4	-19.4	25	7.4
500	30	5,835	-6.8	-25.7	26	7.6
450	30	6,641	-13.8	-32.4	26	8.1
400	30	7,530	-20.0	-38.1	26	[illegible]
350	30	8,506	-26.9	-42.8	27	[illegible]
300	30	9,599	-35.0	[illegible]	27	11.4
250	30	10,845	-44.8		26	[illegible]
200	30	12,302	-55.2		27	15.9
175	30	13,146	-58.7		27	16.7
150	30	14,110	-60.8		27	17.0
125	30	15,234	-63.9		27	13.0
100	30	16,596	-65.5		27	9.4
80	30	17,960	-63.3		29	4.1
70	30	18,784	-61.7		26	1.7
60	30	19,743	-59.9		09	2.4
50	30	20,689	-57.2		09	5.3
40	30	22,311	-54.1		09	7.4
30	30	24,173	-50.3		09	7.6
25	30	25,369	-48.2		09	[illegible]
20	28	26,850	-45.5		09	[illegible]
15	23	28,788	-41.9		10	[illegible]
10	10	[illegible]	-37.0			
7						
5						

GUAM, MARIANA IS. 999 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	111	25.8	23.3	10	4.0
1000	30	105			09	3.5
950	30	555	23.2	21.4	10	9.4
900	30	1,028	20.5	16.9	10	9.5
850	30	1,521	18.6	9.4	10	8.0
800	30	2,040	16.2	6.1	10	7.5
750	30	2,588	13.7	.0	10	7.1
700	30	3,165	11.2	-5.7	10	6.2
650	30	3,777	7.4	-7.9	09	5.4
600	30	4,434	3.7	-13.3	09	5.2
550	30	5,127	-.8	-16.2	09	4.4
500	30	5,887	-5.6	-21.6	09	3.7
450	30	6,703	-10.5	-25.6	08	3.1
400	30	7,602	-16.0	-31.1	04	1.8
350	30	8,595	-22.7	-36.0	34	2.0
300	30	9,707	-30.9	-43.2	30	3.7
250	30	10,972	-41.2	-54.2	27	5.6
200	30	12,446	-53.5		25	8.0
175	30	13,292	-60.4		25	8.0
150	30	14,236	-67.6		26	7.9
125	30	15,313	-74.5		28	4.6
100	29	16,600	-77.7		05	3.5
80	29	17,885	-74.7		08	9.4
70	29	18,668	-71.3		09	11.3
60	27	19,591	-66.5		09	12.3
50	27	20,707	-62.0		09	12.9
40	27	22,102	-57.5		09	11.4
30	27	23,941	-52.6		09	8.6
25	27	25,124	-51.0		08	8.5
20	26	26,587	-48.0		08	10.4
15	25	28,502	-45.0		08	12.8
10	23	31,215	-42.3		08	17.1
7	19	33,640	-40.0		09	22.9
5	9	35,984	-35.9			

HILO, HAWAII 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	11	21.7	18.4	22	2.2
1000	29	146	22.4	18.9	22	1.7
950	29	593	19.3	16.7	11	1.7
900	29	1,055	16.0	13.9	09	2.7
850	29	1,539	12.8	11.2	09	3.1
800	29	2,048	11.0	3.0	09	3.7
750	29	2,591	10.2	-5.0	10	3.9
700	29	3,159	9.2	-12.1	10	3.6
650	29	3,773	6.9	-15.1	10	3.5
600	29	4,425	3.5	-17.9	09	3.1
550	29	5,117	-.5	-21.0	07	2.6
500	29	5,881	-5.5	-24.2	03	1.6
450	29	6,694	-11.4	-29.3	02	1.3
400	29	7,591	-18.2	-35.0	36	1.6
350	29	8,575	-25.5	-41.2	34	2.3
300	29	9,674	-34.0	-48.2	31	4.8
250	29	10,926	-43.8		29	7.3
200	29	12,388	-55.1		28	12.9
175	29	13,229	-60.9		28	14.0
150	29	14,175	-66.4		27	14.1
125	29	15,266	-71.4		27	11.4
100	29	16,574	-74.0		28	4.2
80	29	17,883	-71.3		09	4.3
70	29	18,678	-68.2		09	7.9
60	29	19,612	-64.7		09	10.8
50	29	20,735	-61.0		09	12.3
40	29	22,133	-57.6		09	14.0
30	29	23,970	-53.0		09	13.8
25	29	25,152	-50.7		09	13.8
20	23	26,619	-47.2		09	13.0
15	25	28,535	-44.2		09	15.1
10	23	31,281	-40.0		09	18.5
7						
5						

HUNTINGTON, W. VA. 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	245	17.4	15.4	17	.9
1000	30	121				
950	30	561	19.3	13.6	22	4.4
900	30	1,026	17.4	11.4	25	6.8
850	30	1,512	14.7	7.9	26	8.6
800	30	2,023	11.9	3.8	25	9.4
750	30	2,560	9.0	-1.0	26	9.5
700	30	3,130	5.6	-5.3	26	9.7
650	30	3,734	2.5	-11.0	26	10.3
600	30	4,376	-1.4	-15.6	26	10.6
550	30	5,060	-5.2	-20.3	26	11.7
500	30	5,807	-9.8	-25.1	26	12.9
450	30	6,609	-14.9	-30.8	26	13.3
400	30	7,495	-21.0	-36.7	26	14.4
350	30	8,467	-28.1	-42.7	26	16.3
300	30	9,555	-36.5	-49.1	27	18.1
250	30	10,794	-45.0		26	19.5
200	30	12,245	-55.8		26	22.4
175	30	13,090	-58.1		27	21.6
150	30	14,059	-59.2		27	18.6
125	30	15,195	-61.9		26	15.2
100	30	16,572	-63.0		26	11.0
80	30	17,951	-60.8		25	5.2
70	30	18,784	-59.2		26	1.7
60	29	19,755	-57.6		11	1.1
50	29	20,912	-55.4		09	3.5
40	27	22,342	-52.9		09	5.2
30	26	24,213	-50.0		09	7.3
25	25	25,412	-47.7		09	8.4
20	23	26,895	-45.1		09	9.2
15	15	28,835	-41.1		09	11.4
10	6	31,678	-34.5			
7						
5						

INTERNATIONAL FALLS, MINN. 947 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	360	7.5	4.1	27	.4
1000	30	78				
950	30	501	8.5	3.9	29	1.1
900	30	949	7.2	1.2	30	3.0
850	30	1,418	4.8	-2.2	29	4.1
800	30	1,910	2.1	-5.3	29	4.6
750	30	2,426	-.3	-8.9	29	5.8
700	30	2,978	-3.5	-13.1	29	7.9
650	30	3,553	-6.3	-17.8	29	9.7
600	30	4,164	-9.5	-22.3	29	12.1
550	30	4,842	-13.3	-25.5	29	14.1
500	30	5,571	-17.8	-30.5	29	15.8
450	30	6,344	-23.1	-35.3	29	16.9
400	30	7,205	-29.1	-41.4	29	19.2
350	30	8,147	-35.7	-47.3	29	21.7
300	30	9,203	-42.7	[illegible]	29	23.8
250	30	10,417	-48.5		29	27.3
200	30	11,877	-50.5		27	27.1
175	30	12,749	-49.7		27	22.9
150	30	13,757	-50.3		28	19.4
125	30	14,943	-51.6		28	15.7
100	30	16,384	-53.3		28	11.0
80	30	17,821	-53.0		28	7.0
70	30	18,684	-52.3		29	5.0
60	30	19,582	-51.8		30	2.5
50	29	20,867	-51.1		03	1.3
40	29	22,324	-49.6		09	2.9
30	29	24,215	-47.9		09	5.4
25	27	25,421	-46.5		08	6.3
20	27	26,914	-44.0		09	7.0
15	24	28,659	-40.6		09	8.8
10	22	31,541	-35.4		09	10.2
7	8	34,140	-31.5			
5	6	36,497	-26.8			

JACKSON, MISS. 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	100	20.6	18.9	15	.8
1000	30	114			14	.9
950	30	546	22.2	15.2	23	2.9
900	30	1,030	19.5	12.1	21	3.3
850	30	1,521	16.9	7.2	21	3.7
800	30	2,036	14.2	2.9	22	3.8
750	30	2,577	11.4	-1.9	23	3.7
700	30	3,152	8.0	-6.8	26	4.1
650	30	3,756	4.3	-11.4	27	3.9
600	30	4,406	.7	-16.9	29	4.1
550	30	5,093	-3.5	-21.7	29	3.8
500	30	5,847	-7.9	-27.2	28	5.7
450	30	6,655	-13.0	-31.8	28	7.4
400	30	7,546	-19.3	-36.8	27	8.6
350	30	8,525	-26.6	-42.7	27	9.3
300	30	9,620	-34.9	-50.0	28	10.5
250	30	10,868	-43.9		28	13.6
200	30	12,334	-53.7		29	17.4
175	30	13,183	-58.2		28	17.7
150	30	14,146	-61.5		27	17.2
125	30	15,265	-65.9		27	14.8
100	29	16,607	-69.2		27	9.7
80	29	17,947	-66.6		27	2.4
70	29	18,760	-64.2		11	1.9
60	29	19,710	-61.1		09	3.7
50	29	20,850	-58.5		08	6.5
40	29	22,264	-55.3		09	8.6
30	29	24,114	-51.9		09	[illegible]
25	29	25,302	-49.3		09	9.7
20	29	26,773	-46.9		09	10.9
15	24	28,697	-43.6		09	12.0
10	17	31,423	-37.9		09	12.5
7	7	33,836	-33.8			
5						

JOHN F. KENNEDY INT. AP N.Y. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	19.3	15.2	29	.6
1000	30	129	18.3	12.8	29	1.4
950	30	570	17.2	10.2	28	2.7
900	30	1,030	15.5	8.1	26	5.0
850	30	1,512	13.0	5.1	27	7.1
800	30	2,020	10.7	1.4	26	8.7
750	30	2,551	8.3	-4.3	26	10.1
700	30	3,123	5.3	-7.5	26	11.7
650	30	3,722	2.4	-11.5	26	12.9
600	30	4,369	-1.1	-15.8	26	14.1
550	30	5,051	-5.2	-20.5	26	14.5
500	30	5,800	-9.4	-26.7	26	15.8
450	30	6,601	-14.6	-32.0	26	16.8
400	30	7,488	-20.7	-37.2	26	18.7
350	30	8,462	-27.5	-43.2	26	20.4
300	30	9,553	-36.0	-50.3	26	22.9
250	30	10,793	-45.8		26	25.0
200	29	12,244	-56.4		26	25.5
175	29	13,066	-58.8		27	25.5
150	29	14,053	-59.0		27	20.7
125	29	15,191	-60.9		27	16.8
100	29	16,577	-61.0		26	10.9
80	29	17,968	-59.6		26	5.5
70	29	18,806	-57.9		26	2.3
60	29	19,780	-56.2		12	1.8
50	29	20,944	-54.5		09	4.3
40	29	22,380	-52.2		09	6.4
30	29	24,255	-49.2		09	8.4
25	26	25,456	-46.8		09	9.5
20	25	26,940	-44.0		09	11.3
15	16	28,866	-40.3		09	11.1
10	5	31,589	-34.2			
7						
5						

JOHNSTON IS., PACIFIC AREA 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	25.9	21.8	08	6.4
1000	30	131	24.5	20.8	08	7.3
950	30	581	20.8	18.5	08	8.4
900	30	1,046	17.7	14.7	09	8.9
850	30	1,534	14.6	11.5	09	8.7
800	30	2,046	12.7	5.6	08	7.3
750	30	2,597	11.5	-3.9	08	5.9
700	30	3,183	10.2	-11.4	08	5.0
650	30	3,776	7.8	-14.6	08	4.3
600	30	4,432	4.1	-18.1	09	3.9
550	30	5,126	-.1	-21.7	07	3.4
500	30	5,891	-4.5	-25.4	06	3.1
450	30	6,704	-10.0	-27.5	06	2.5
400	30	7,610	-16.5	-34.4	08	1.7
350	30	8,599	-24.0	-40.7	02	.7
300	30	9,704	-32.7	-47.4	28	2.0
250	30	10,961	-42.4		27	6.1
200	29	12,431	-53.6		26	12.6
175	29	13,279	-59.8		26	14.2
150	29	14,276	-66.1		27	13.0
125	29	15,314	-72.5		26	8.7
100	29	16,610	-76.4		29	1.7
80	29	[illegible]	-72.7		09	4.9
70	29	18,597	-69.1		09	7.9
60	29	19,525	-65.4		09	10.4
50	29	20,747	-61.0		09	12.7
40	28	22,142	-57.4		09	13.0
30	27	23,974	-53.3		09	12.6
25	27	25,155	-50.2		09	12.2
20	27	26,624	-46.9		09	12.9
15	25	28,538	-44.3		09	13.9
10	21	31,279	-40.8		09	19.4
7	6	33,798	-37.1			
5						

KEY WEST, FLA. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	3	27.5	23.7	16	1.2
1000	27	101	26.8	23.3	17	1.3
950	27	548	23.5	20.6	19	2.1
900	27	1,026	20.8	17.0	19	2.5
850	27	1,519	18.3	13.5	19	2.3
800	27	2,037	15.4	[illegible]	20	3.3
750	27	2,577	12.4	5.9	20	2.9
700	27	3,160	9.2	2.1	22	3.4
650	27	3,765	5.8	-3.8	23	3.1
600	27	4,424	2.4	-9.3	23	3.1
550	27	5,119	-1.6	-16.6	25	3.7
500	27	5,877	-5.8	-25.6	24	3.6
450	27	6,691	-10.9	-28.9	25	4.6
400	27	7,591	-16.9	-34.2	25	5.4
350	27	8,581	-23.7	-41.1	25	8.1
300	27	9,688	-31.7	-49.7	26	10.7
250	27	10,944	[illegible]	-56.9	27	14.2
200	27	12,432	-52.8		27	16.1
175	27	13,281	-59.3		26	15.9
150	27	14,231	-65.7		26	13.4
125	27	15,323	-71.0		26	[illegible]
100	26	16,635	-75.0		35	3.5
80	26	17,945	-71.1		07	7.8
70	26	18,740	[illegible]		08	9.8
60	26	[illegible]	-64.0		08	12.6
50	26	20,799	-59.7		08	17.1
40	26	22,210	-55.7		09	16.1
30	26	24,054	-51.7		09	16.2
25	23	[illegible]	-49.3		09	[illegible]
20	23	[illegible]	-46.5		08	[illegible]
15	22	28,535	-42.5		09	15.7
10	[illegible]	31,395	-34.3		09	19.0
7	15	33,844	-35.6		07	[illegible]
5	8	36,144	-33.9			

KING SALMON, ALASKA [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	15	8.2	4.4	14	3.1
1000	30	80	8.2	4.3	15	2.9
950	30	[illegible]	8.1	3.5	13	6.1
900	30	949	6.2	2.0	14	6.8
850	30	1,416	3.4	.0	14	7.8
800	30	1,906	.8	-3.7	15	8.4
750	30	2,422	-1.9	-6.2	14	8.6
700	30	2,969	-4.6	-10.3	15	9.1
650	30	3,547	-7.7	-14.8	14	9.5
600	30	4,169	-11.1	-19.6	15	10.0
550	30	4,828	-15.2	-23.6	15	[illegible]
500	30	5,547	-19.6	-28.3	15	[illegible]
450	30	6,319	-24.7	-34.5	16	13.1
400	30	[illegible]	-30.6	-40.4	16	12.7
350	30	[illegible]	-37.6	-44.3	16	14.4
300	30	9,151	-44.8		17	14.9
250	30	10,351	-51.4		17	16.0
200	30	11,798	-49.9		17	[illegible]
175	30	12,676	-47.7		17	9.2
150	30	13,694	[illegible]		17	7.7
125	30	14,895	-48.6		17	[illegible]
100	30	[illegible]	-49.0		15	5.4
80	28	17,932	-49.5		14	4.3
70	28	18,706	-49.5		13	4.5
60	27	19,717	-49.5		12	4.7
50	27	20,912	-49.1		11	[illegible]
40	27	[illegible]	-48.3		10	[illegible]
30	27	24,279	-47.1		10	[illegible]
25	27	25,490	-45.5		10	[illegible]
20	26	[illegible]	-43.3		10	[illegible]
15	24	28,943	-39.9		09	[illegible]
10	17	31,781	[illegible]		09	[illegible]
7	8	34,359	[illegible]			
5						

KOROR, CAROLINE IS. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	30	28.4	25.0	09	.6
1000	30	94	27.4	23.6	10	.6
950	30	544	23.8	19.6	12	1.7
900	30	1,018	21.2	16.2	12	2.0
850	30	1,513	16.8	12.6	11	2.6
800	30	2,032	16.1	9.7	10	3.4
750	30	2,578	13.4	6.4	10	4.4
700	30	3,158	10.3	2.5	10	5.2
650	30	3,769	6.8	-.5	10	6.2
600	30	4,425	3.0	-4.6	10	6.4
550	30	5,119	-.9	-9.2	09	[illegible]
500	30	5,881	-4.9	-14.5	09	6.7
450	30	6,700	-9.6	-20.0	09	[illegible]
400	30	7,604	-14.9	-26.6	09	6.3
350	30	8,601	-21.5	-34.5	09	6.1
300	30	9,716	-29.9	-43.4	09	[illegible]
250	30	10,989	-40.2	-52.5	09	[illegible]
200	30	12,470	-52.8		07	4.7
175	30	13,318	-59.8		08	5.2
150	30	14,263	-67.4		08	6.1
125	30	15,340	-75.1		06	6.4
100	30	16,618	-78.3		07	7.2
80	30	[illegible]	-74.1		08	7.4
70	30	18,692	-69.7		08	[illegible]
60	30	19,619	-66.0		09	[illegible]
50	30	20,737	-61.9		09	[illegible]
40	30	22,135	-56.6		10	3.1
30	29	23,979	-52.4		13	2.1
25	28	[illegible]	-49.9		13	[illegible]
20	27	26,531	-47.5		[illegible]	2.3
15	25	28,543	-44.9		15	2.9
10	23	31,273	-41.2		10	[illegible]
7	19	33,709	-37.8		10	14.6
5	7	36,022	[illegible]			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JUNE 1969

KOTZEBUE, ALASKA — [illegible] MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	11	5	7.5	4.5	29	3.6
1000	11	[illegible]	7.8	2.9	29	3.9
950	13	314	4.9	1.6	29	1.7
900	13	742	[illegible]	-1.3	23	1.0
850	13	1,433	5.8	-3.0	22	[illegible]
800	13	[illegible]	2.7	-5.7	27	4.1
750	11	[illegible]	-.4	-8.2	19	5.6
700	13	2,995	[illegible]	-10.4	17	5.6
650	13	[illegible]	-7.7	-16.2	18	5.8
600	13	[illegible]	-11.5	-21.1	18	5.7
550	13	4,874	-15.7	-24.6	16	4.9
500	13	[illegible]	[illegible]	-29.7	16	4.9
450	13	[illegible]	-25.5	-34.9	17	5.6
400	13	[illegible]	-31.6	-38.7	17	5.3
350	11	[illegible]	[illegible]	-44.7	16	6.5
300	13	9,162	-45.7		19	7.5
250	13	10,353	-51.4		18	7.2
200	11	[illegible]	-50.0		19	5.8
175	13	[illegible]	-47.1		17	[illegible]
150	12	[illegible]	-46.7		17	5.1
125	12	14,919	-47.4		16	4.9
100	13	[illegible]	-47.5		14	3.3
80	11	17,457	-47.6		13	3.7
70	11	18,723	-46.9		12	4.5
60	11	19,755	-46.6		11	4.5
50	11	20,767	-45.2		11	5.3
40	11	22,452	-45.5		10	6.2
30	11	24,374	-44.6		10	6.6
25	10	25,595	-43.6			
20	9	[illegible]	-41.9			
15	7	[illegible]	-38.3			
10		[illegible]	-33.3			
7						
5						

KWAJALEIN, MARSHALL IS. — 1011 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	[illegible]	23.4	[illegible]	6.7
1000	30	[illegible]	26.3	[illegible]	[illegible]	7.4
950	30	[illegible]	23.2	[illegible]	[illegible]	9.3
900	30	[illegible]	20.4	[illegible]	[illegible]	[illegible]
850	30	1,517	[illegible]	13.4	[illegible]	7.6
800	30	[illegible]	15.6	[illegible]	09	7.1
750	30	[illegible]	13.2	4.3	[illegible]	6.7
700	30	[illegible]	[illegible]	-.3	09	[illegible]
650	30	[illegible]	7.1	[illegible]	09	6.6
600	30	4,429	3.3	-9.3	09	7.6
550	30	[illegible]	-.4	-13.3	09	7.0
500	30	[illegible]	-4.7	[illegible]	09	7.3
450	30	[illegible]	-9.4	-22.6	09	6.7
400	30	7,610	-15.0	-27.6	[illegible]	6.3
350	30	8,607	-21.7	-34.2	10	4.7
300	30	9,723	-30.1	-42.3	09	3.9
250	30	[illegible]	-40.7	-51.6	07	1.4
200	30	12,472	-52.9	-61.9	32	.8
175	30	13,319	-59.9	-69.1	32	3.1
150	30	[illegible]	-67.2		30	3.2
125	30	15,344	-74.8		29	2.6
100	29	16,622	-79.3		12	2.3
80	27	17,898	-74.7		09	5.0
70	26	[illegible]	[illegible]		10	4.5
60	25	[illegible]	-66.7		09	3.8
50	25	20,717	-62.7		07	5.2
40	25	[illegible]	-57.7		08	6.9
30	25	23,946	-52.7		09	3.8
25	23	[illegible]	-50.4		08	2.6
20	23	26,594	-47.4		07	1.9
15	21	[illegible]	-46.0		08	4.8
10	17	31,212	-42.5		10	9.1
7	11	33,643	[illegible]		09	14.7
5						

LAKE CHARLES, LA. — 1012 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	5	21.9	20.7	08	.6
1000	29	[illegible]	23.3	20.9	12	1.3
950	29	556	21.9	17.0	19	3.7
900	29	1,026	19.5	12.5	18	4.8
850	29	1,517	17.2	7.6	18	4.5
800	29	[illegible]	14.7	1.9	19	[illegible]
750	29	2,574	12.0	-3.7	10	2.5
700	29	[illegible]	5.8	-8.1	24	1.3
650	29	3,755	5.3	-10.7	33	1.8
600	29	[illegible]	1.3	-15.4	32	3.1
550	29	5,101	-2.7	-19.7	31	3.7
500	29	[illegible]	-7.4	-24.9	30	4.1
450	29	6,654	-12.7	-30.2	29	5.4
400	29	7,555	-19.0	-35.6	29	6.6
350	29	8,535	-26.1	-40.9	28	7.8
300	29	9,533	-34.0	-47.7	28	10.5
250	29	[illegible]	-42.9		28	14.7
200	29	12,357	-53.1		28	18.9
175	29	[illegible]	-57.8		28	19.1
150	29	14,172	-61.9		27	17.6
125	29	15,286	[illegible]		27	14.5
100	29	16,620	-70.9		27	9.5
80	29	[illegible]	-65.4		33	1.3
70	28	18,753	-66.0		09	3.6
60	28	[illegible]	-61.7		07	5.9
50	28	20,837	-58.8		09	8.3
40	28	22,250	-55.3		09	11.5
30	27	[illegible]	-51.5		09	11.4
25	27	25,298	-49.2		09	11.9
20	26	26,773	-46.6		09	13.0
15	23	28,699	-42.9		05	13.9
10	12	[illegible]	-38.1		10	17.0
7						
5						

LANDER, WYO. — [illegible] MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,696	9.0	4.2	24	1.1
1000	30	[illegible]				
950	30	[illegible]				
900	30	[illegible]				
850	30	1,476				
800	30	[illegible]	9.3	1.2	35	.5
750	30	2,511	6.1	-1.6	34	1.1
700	30	3,077	3.0	-4.7	29	2.8
650	30	3,653	-.8	-7.2	28	4.9
600	30	[illegible]	-5.0	-11.6	29	7.8
550	30	4,975	-9.3	-16.5	27	9.1
500	30	[illegible]	-13.6	-23.6	27	9.5
450	30	6,507	-19.0	-29.6	27	9.7
400	30	[illegible]	-25.3	-36.6	27	10.6
350	30	8,336	-32.8	-42.7	27	12.3
300	30	9,401	-41.2	-51.5	27	13.3
250	30	10,616	-50.0		27	16.0
200	30	12,050	-56.0		26	15.6
175	30	[illegible]	-55.1		26	13.0
150	30	13,883	-55.4		27	11.4
125	30	15,043	-57.0		27	10.0
100	30	16,450	-58.7		27	6.9
80	30	[illegible]	[illegible]		29	4.9
70	30	18,694	-57.8		30	2.5
60	30	19,670	-56.4		01	1.4
50	30	20,632	-54.9		07	2.8
40	30	22,265	-52.9		08	5.6
30	30	24,131	-50.6		09	7.7
25	30	25,325	-48.7		09	8.4
20	29	26,796	-46.2		08	9.9
15	23	28,732	-42.4		09	11.2
10	9	31,557	-36.4			
7						
5						

*** LIHUE KAUAI, HAWAII** — 1014 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	36	23.7	19.3	05	2.5
1000	30	153	23.4	19.3	06	3.6
950	30	596	19.8	17.8	07	5.3
900	30	1,065	16.6	14.3	09	5.2
850	30	1,550	13.6	10.4	08	5.1
800	30	2,060	11.9	.1	08	4.3
750	30	2,596	11.1	-5.8	08	3.6
700	30	3,173	9.2	-11.9	07	2.3
650	30	3,785	7.1	-15.6	06	1.7
600	30	4,439	4.0	-18.6	06	1.5
550	30	5,136	-.2	-21.3	34	.1
500	30	5,897	-4.9	-26.0	26	1.2
450	30	6,711	-10.6	-31.0	29	1.4
400	30	7,613	-17.2	-36.4	32	2.0
350	30	8,599	-24.7	-42.7	31	2.5
300	30	9,700	-33.6	-49.8	31	3.5
250	30	10,951	-43.8		31	3.9
200	30	12,411	-55.2		29	6.9
175	30	13,252	-60.9		29	8.5
150	29	14,197	-66.3		28	9.6
125	29	15,290	-70.1		28	7.9
100	29	16,608	-72.3		28	3.1
80	29	17,925	-70.3		09	2.6
70	29	18,723	-67.8		09	6.5
60	29	19,658	-64.5		09	9.6
50	29	20,780	-61.1		09	11.9
40	29	22,178	-57.5		09	13.7
30	29	24,014	-53.0		09	15.0
25	29	25,197	-50.3		09	15.0
20	29	26,662	-47.7		09	15.7
15	28	28,572	-44.9		09	16.2
10	28	31,306	-41.1		09	18.5
7	24	33,742	-37.7		09	21.3
5	15	36,077	-33.8			

LITTLE ROCK, ARK. — 1003 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	79	19.8	17.7	22	.8
1000	30	106			20	.2
950	30	[illegible]	21.2	14.9	23	4.9
900	30	1,019	18.9	12.0	23	6.7
850	30	[illegible]	16.4	7.6	23	7.0
800	30	2,023	14.1	2.4	24	7.7
750	30	2,558	11.1	-2.7	24	7.6
700	30	3,139	8.2	-9.0	26	6.1
650	30	3,739	4.5	-12.3	27	5.4
600	30	4,394	.0	-15.2	27	6.4
550	30	5,078	-4.5	-19.4	28	7.1
500	30	5,832	-8.8	-26.8	28	8.5
450	30	6,632	-14.1	-31.6	28	10.2
400	30	7,526	-20.4	-37.2	29	12.2
350	30	8,501	-27.3	-42.8	28	13.8
300	30	9,594	-35.2	-49.8	27	15.7
250	30	10,840	-44.6		27	17.1
200	30	[illegible]	-54.2		28	21.2
175	30	13,151	-57.8		28	20.0
150	30	14,116	-60.9		28	19.2
125	30	15,241	-64.2		27	17.1
100	30	16,599	-66.1		27	10.9
80	30	17,957	-64.5		28	3.9
70	29	18,773	-62.1		08	.6
60	29	19,737	-59.7		09	3.3
50	29	20,883	-57.7		09	5.1
40	29	22,299	-55.1		09	7.9
30	28	24,149	-51.8		09	9.2
25	27	25,337	-49.6		09	10.3
20	27	26,805	-46.7		09	11.0
15	26	28,727	-43.4		09	10.7
10	21	31,490	-37.7		09	13.0
7	7	33,945	-32.1			
5						
4						

MCGRATH, ALASKA — [illegible] MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	[illegible]	10.5	5.4	24	.3
1000	29	[illegible]			32	.6
950	29	518	12.2	4.4	09	.9
900	29	970	9.5	2.0	16	2.7
850	29	1,441	6.2	.4	14	3.2
800	29	[illegible]	2.7	-2.5	14	3.9
750	29	2,446	-.8	-5.5	14	4.7
700	29	3,003	-4.0	-9.3	16	5.7
650	29	3,577	-7.6	-12.7	16	6.9
600	29	[illegible]	-11.7	-17.1	16	7.5
550	29	[illegible]	-15.9	-22.4	16	8.2
500	29	5,577	-19.8	-26.2	17	10.0
450	29	6,342	-24.7	-32.4	17	10.3
400	29	[illegible]	-30.7	-38.4	18	10.4
350	29	8,132	-37.7	-44.8	19	11.1
300	29	9,177	-45.6		18	10.1
250	29	10,371	-53.2		18	9.4
200	29	11,811	-50.0		17	8.3
175	29	[illegible]	-48.4		17	6.5
150	29	13,704	-47.6		17	6.0
125	29	[illegible]	-48.0		16	5.5
100	29	16,376	-46.3		15	5.0
80	29	17,846	-46.0		13	4.7
70	29	18,726	-46.0		13	4.0
60	29	19,742	-46.1		12	4.5
50	29	[illegible]	-47.6		11	4.6
40	29	22,421	-46.9		10	6.6
30	29	[illegible]	-45.5		09	7.6
25	28	25,555	-44.2		09	8.2
20	28	[illegible]	-41.9		09	9.1
15	27	29,031	-37.8		09	9.0
10	21	31,853	-32.3		08	10.4
7	5	34,561	-26.4			
5						
4						

+ MAJURO, MARSHALL IS. — 1011 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	26.5	25.3	07	4.5
1000	30	101	27.0	22.1	07	5.4
950	30	553	23.6	18.6	08	7.1
900	30	1,025	21.1	15.4	09	7.2
850	30	[illegible]	18.4	11.9	10	7.2
800	30	2,036	16.0	8.7	09	7.2
750	30	2,567	13.4	4.6	09	7.1
700	30	3,164	10.5	1.3	09	6.9
650	30	3,781	7.1	-2.8	09	7.5
600	30	4,434	3.3	-7.3	09	8.1
550	30	5,130	-.4	-11.5	09	8.4
500	30	5,894	-4.0	-16.2	08	7.9
450	30	6,714	-8.8	-22.4	09	6.9
400	30	7,624	-14.2	-28.9	10	6.9
350	30	8,623	-20.9	-35.0	10	5.6
300	30	9,744	-29.2	-43.1	09	4.5
250	30	11,020	-39.3	-51.8	09	3.3
200	30	12,509	-51.6		36	1.4
175	30	[illegible]	[illegible]		01	.8
150	30	14,313	-66.0		28	1.7
125	30	15,399	-73.4		25	1.2
100	30	16,567	-77.4		09	3.0
80	30	17,976	-73.1		10	3.9
70	29	18,769	-69.0		08	4.0
60	29	19,598	-65.4		09	3.9
50	29	20,819	-61.2		13	2.7
40	29	22,223	-55.9		17	2.1
30	27	24,072	-51.1		18	1.3
25	26	[illegible]	-48.3		22	2.1
20	26	26,745	-45.0		20	2.1
15	24	[illegible]	-43.2		15	1.4
10	14	31,416	-40.0		09	4.0
7	9	[illegible]	-36.4			
5						
4						

*** MEDFORD, OREG.** — 946 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	401	14.0	11.0	28	.4
1000	30	119				
950	30	567	14.7	10.3	28	1.1
900	30	1,012	13.3	6.4	29	1.2
850	30	1,491	11.1	5.4	34	1.2
800	30	1,996	9.1	.5	01	1.5
750	30	2,524	6.1	-4.9	36	2.8
700	30	3,090	2.8	-9.7	35	3.2
650	30	3,683	-.9	-13.5	34	3.0
600	30	4,321	[illegible]	-18.3	32	3.7
550	30	4,991	-9.0	-22.7	32	4.5
500	30	5,731	-13.9	-26.6	32	5.8
450	30	6,517	-19.2	-31.1	31	6.2
400	30	7,390	-25.5	-37.2	31	8.5
350	30	8,345	-32.7	-43.3	32	10.6
300	30	9,413	-40.5	-50.3	31	12.0
250	30	10,633	-49.0		31	12.9
200	30	12,073	-55.2		30	12.1
175	30	12,925	-55.2		29	11.4
150	30	13,909	-55.6		29	9.9
125	30	15,067	-57.1		29	8.7
100	30	16,473	-58.8		29	5.6
80	30	17,875	-56.6		29	3.2
70	30	18,715	-56.0		32	1.0
60	30	19,689	-56.8		07	1.7
50	30	20,648	-55.5		08	3.1
40	30	22,279	-53.2		08	5.4
30	30	24,144	-50.4		08	7.0
25	30	25,338	-48.7		09	7.8
20	27	26,819	-46.0		08	9.4
15	22	28,736	-42.8		09	11.5
10	19	31,515	-36.8		09	12.9
7	14	34,018	-31.9		09	15.8
5	11	36,422	-26.5			
4	6	[illegible]	-23.2			

MERIDA, MEXICO — 1010 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	11	23.6	23.0	09	2.7
1000	30	99	24.3	23.3	10	4.1
950	30	552	23.7	20.6	13	6.8
900	30	1,024	21.7	15.8	13	5.7
850	30	1,520	19.2	12.0	14	4.3
800	30	2,039	16.4	7.8	18	2.7
750	30	2,585	13.6	1.5	18	2.0
700	30	3,165	10.4	-3.0	17	1.1
650	30	3,776	6.8	-6.2	12	.5
600	30	4,433	3.3	-10.7	06	.8
550	30	5,129	-.5	-15.2	04	.9
500	30	5,892	-5.0	-19.3	03	1.5
450	30	6,709	-9.9	-25.4	01	1.5
400	30	7,615	-15.1	-31.3	33	1.9
350	30	8,612	-21.5	-37.7	30	3.4
300	30	9,731	-29.6	-44.7	29	5.2
250	30	11,006	-39.4	-52.9	28	6.6
200	29	12,498	-51.1		27	8.1
175	29	13,353	-57.7		27	6.8
150	29	14,310	-64.5		28	5.6
125	28	15,402	-71.3		35	4.1
100	28	16,705	-75.4		04	5.9
80	28	18,008	-71.5		07	9.2
70	28	18,805	-67.4		09	10.2
60	28	19,742	-63.8		08	11.1
50	27	20,875	-58.8		08	13.6
40	25	22,286	-55.4		09	16.2
30	25	24,141	-51.0		09	14.6
25	25	25,334	-48.3		09	13.7
20	25	26,814	-45.4		08	14.1
15	24	28,751	-41.7		08	15.0
10	15	31,518	-38.4			
7						
5						
4						

MIAMI, FLA. — 1012 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	25.4	22.8	08	.3
1000	30	[illegible]	25.4	23.0	18	.7
950	30	564	23.0	20.4	19	2.5
900	30	1,031	[illegible]	17.0	20	2.7
850	30	1,524	17.9	13.7	21	2.5
800	30	2,042	15.0	10.5	21	2.1
750	30	[illegible]	12.2	7.0	[illegible]	2.3
700	30	3,163	9.3	2.3	21	1.7
650	30	3,773	5.6	-1.9	23	2.6
600	30	4,425	2.0	-6.9	25	3.2
550	30	5,117	-1.8	-13.5	26	3.7
500	30	5,875	-5.9	-19.8	26	4.1
450	30	6,692	-10.9	-24.8	26	5.2
400	30	7,590	-17.0	-31.1	25	7.1
350	30	8,579	-23.4	-36.6	26	8.6
300	30	9,688	-31.7	-44.1	26	9.7
250	30	10,954	-40.7	-51.1	26	13.3
200	29	12,438	-51.7		27	14.9
175	29	13,292	-57.8		27	14.9
150	29	14,250	-64.0		29	12.2
125	29	15,352	-69.4		30	9.7
100	29	[illegible]	-71.1		34	4.1
80	29	[illegible]	-70.6		07	5.5
70	29	18,790	-67.6		[illegible]	8.0
60	29	19,727	-63.4		[illegible]	10.2
50	29	20,857	-59.2		09	[illegible]
40	29	[illegible]	-54.8		10	14.9
30	[illegible]	24,126	-51.3		09	13.3
25	27	25,317	-46.6		[illegible]	14.0
20	25	26,791	-45.7		[illegible]	14.7
15	[illegible]	28,714	-42.4		[illegible]	15.8
10	[illegible]	31,504	-36.3		[illegible]	17.2
7						

MIDLAND, TEXAS — 912 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	874	19.9	15.1	13	1.9
1000	3	74				
950	30	522				
900	30	992	20.9	15.2	15	4.0
850	30	1,498	21.1	11.4	19	8.9
800	30	2,012	19.5	5.6	22	6.1
750	30	2,566	16.0	1.6	24	4.6
700	30	3,146	11.8	-2.6	24	4.4
650	30	3,741	7.2	-6.7	25	[illegible]
600	30	4,415	2.3	-11.9	26	6.4
550	30	5,105	-2.9	-16.7	27	[illegible]
500	30	[illegible]	-7.8	-22.4	26	9.3
450	30	6,671	-12.6	-29.4	25	9.9
400	30	7,561	-19.1	-34.5	26	10.7
350	30	[illegible]	-26.5	-40.4	26	12.9
300	30	9,675	[illegible]	-46.6	26	16.2
250	30	[illegible]	-44.6		26	19.0
200	30	12,342	-53.9		26	24.2
175	30	13,191	-58.1		26	25.6
150	29	14,156	-61.9		26	24.6
125	29	15,274	[illegible]		26	20.1
100	29	16,611	[illegible]		26	13.7
80	29	17,952	[illegible]		27	2.7
70	29	18,766	-63.7		09	1.9
60	29	19,720	[illegible]		09	4.2
50	29	20,862	[illegible]		09	[illegible]
40	29	[illegible]	-54.4		09	9.7
30	[illegible]	24,141	-50.7		09	10.6
25	29	25,334	[illegible]		09	9.9
20	26	26,814	-45.6		09	10.5
15	25	28,745	-42.3		09	12.2
10	16	[illegible]	-37.8		09	12.8
7	9	33,969	-30.0			

MONTERREY, MEXICO — 945 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	423	23.3	21.0	11	1.6
1000	30	[illegible]				
950	30	554	22.9	20.1	11	2.7
900	30	1,026	21.1	17.6	13	4.8
850	30	1,522	[illegible]	13.1	14	6.1
800	30	2,044	19.4	6.2	14	4.9
750	30	2,594	16.4	-.2	14	3.5
700	30	3,181	12.8	-4.3	14	1.4
650	30	3,795	5.4	-7.6	36	1.3
600	30	4,454	3.4	-11.5	32	4.2
550	30	5,151	-1.9	-15.6	30	5.3
500	30	[illegible]	-6.7	-21.5	30	4.6
450	30	6,718	-11.3	-30.1	30	5.2
400	30	7,616	-17.2	-35.3	29	6.3
350	30	[illegible]	-24.2	-41.1	29	[illegible]
300	30	[illegible]	-32.4	-48.3	28	12.6
250	30	10,969	-41.8		28	16.7
200	30	12,445	-52.8		27	17.7
175	29	13,279	-58.9		27	16.7
150	29	14,251	-65.2		26	13.7
125	29	15,344	-71.3		26	11.4
100	29	16,648	-75.1		24	4.7
80	29	17,953	-70.6		09	2.8
70	29	18,756	-66.1		08	7.1
60	29	19,699	-62.7		09	10.3
50	29	20,833	-59.0		09	11.2
40	29	22,244	-56.0		09	13.9
30	[illegible]	24,094	-51.2		09	14.1
25	[illegible]	[illegible]	-48.9		08	14.2
20	[illegible]	[illegible]	-45.6		08	14.6
15	25	[illegible]	-41.9		08	14.7
10	[illegible]	[illegible]	-36.9			
7						

MONTGOMERY, ALA. — 1007 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	57	20.6	18.4	01	.2
1000	30	119	21.3	18.4	08	.4
950	30	567	22.8	15.7	23	1.8
900	30	1,036	20.5	12.5	22	2.8
850	30	1,528	17.3	9.3	22	3.1
800	30	2,044	14.3	4.1	23	2.5
750	30	2,588	11.2	-.9	24	2.4
700	30	3,160	7.7	-6.0	24	1.9
650	30	3,767	4.1	-10.5	26	2.0
600	30	4,413	.4	-14.8	28	2.8
550	30	5,103	-3.2	-20.5	29	2.9
500	30	5,855	-7.6	-25.6	28	4.4
450	30	6,666	-12.9	-30.6	28	5.8
400	30	7,557	-19.0	-36.2	29	6.8
350	30	8,536	-26.2	-42.1	29	8.3
300	30	9,633	-34.5	-49.1	28	9.7
250	30	[illegible]	-44.0		29	10.4
200	30	12,347	-53.7		28	15.8
175	30	13,198	-57.6		29	14.9
150	30	14,162	-61.5		29	15.8
125	30	15,260	-65.7		29	13.4
100	29	16,623	[illegible]		27	10.0
80	29	17,964	-66.3		26	1.3
70	29	[illegible]	-64.4		12	1.9
60	29	19,726	-61.3		09	3.9
50	27	[illegible]	[illegible]		09	7.2
40	26	22,262	-54.7		09	8.1
30	24	24,137	[illegible]		09	9.5
25	23	25,331	-48.7		09	10.3
20	23	26,807	-45.9		09	10.9
15	[illegible]	28,734	-42.9		09	10.4
10	[illegible]	31,494	-37.4		10	13.5
7	7	33,942	-34.0			

*** NANTUCKET, MASS.** — 1015 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	21	14	17.1	14.5	18	.4
1000	21	139	16.7	13.8	21	1.5
950	21	575	17.2	9.9	25	4.0
900	21	1,039	15.6	8.1	26	5.0
850	21	1,523	13.4	5.6	26	6.5
800	21	2,032	10.9	1.2	26	7.5
750	21	2,563	8.5	-4.8	26	9.4
700	21	3,135	5.7	-9.2	26	9.7
650	21	3,734	2.6	-13.3	26	10.0
600	21	4,380	-1.0	-17.6	26	11.1
550	21	5,062	-4.9	-21.8	26	12.3
500	21	5,813	-9.3	-26.8	26	13.0
450	21	6,613	-14.6	-32.3	26	14.3
400	21	7,502	-20.4	-36.7	26	15.6
350	21	8,477	-27.4	-43.4	26	17.0
300	21	9,569	-35.6	-51.2	27	19.1
250	21	10,812	-45.1		27	19.4
200	21	12,267	-55.6		27	20.5
175	21	13,110	-59.2		27	19.7
150	21	14,073	-60.3		27	18.1
125	21	15,206	-61.8		27	13.7
100	21	16,566	-62.0		27	9.9
80	21	17,970	-60.2		27	5.5
70	21	18,806	-58.8		25	1.8
60	21	19,777	-57.1		11	.9
50	21	20,936	-55.4		09	3.4
40	21	22,366	-53.0		10	6.5
30	21	24,235	-49.8		09	7.2
25	21	25,434	-47.7		09	8.7
20	17	26,915	-44.7		09	10.2
15	13	28,854	-41.0		09	12.4
10	8	31,672	-34.7			
7	5	34,207	-30.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NASHVILLE, TENN. 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	180	19.6	17.9	17	.7
1000	30	118				
950	30	561	21.0	14.8	23	4.0
900	30	1,030	18.9	12.0	24	6.6
850	30	1,519	16.1	8.6	24	7.8
800	30	2,033	12.9	4.6	25	7.4
750	30	2,572	9.6	.5	25	8.0
700	30	3,142	6.2	-4.0	25	7.8
650	30	3,741	2.7	-7.5	25	7.6
600	30	4,390	-.8	-14.9	24	8.1
550	30	5,073	-4.7	-20.6	24	8.4
500	30	5,823	-9.2	-25.3	27	8.9
450	30	6,623	-14.6	-30.2	27	9.7
400	30	7,513	-20.4	-36.1	27	11.4
350	30	8,487	-27.7	-41.9	27	13.9
300	30	9,577	-35.9	-48.3	28	14.8
250	30	10,818	-45.4		27	15.8
200	30	12,274	-54.7		27	19.4
175	30	13,122	-57.7		27	22.3
150	30	14,089	-60.0		27	19.9
125	30	15,219	-63.2		27	17.2
100	30	16,584	-65.2		27	11.6
80	30	17,947	-63.5		26	4.1
70	30	18,771	-61.4		25	1.4
60	29	19,733	-59.0		09	1.3
50	28	20,881	-56.5		09	4.7
40	27	22,305	-53.7		09	6.9
30	26	24,167	-50.7		09	7.0
25	26	25,359	-49.0		09	8.3
20	24	26,839	-45.9		09	9.4
15	23	28,768	-42.5		09	10.5
10	20	31,539	-36.3		09	13.3
7	12	34,031	-31.9			

* NOME, ALASKA 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	7.3	2.4	04	1.3
1000	30	89	8.0	3.3	06	1.4
950	30	514	7.4	1.6	13	3.8
900	30	957	5.7	-2.1	14	5.0
850	30	1,423	3.3	-4.0	14	5.9
800	30	1,913	.5	-5.7	15	6.3
750	30	2,424	-2.4	-9.2	15	7.4
700	30	2,974	-5.8	-12.0	15	7.7
650	30	3,546	-9.3	-15.9	16	8.1
600	30	4,167	-12.8	-21.8	16	8.9
550	30	4,819	-17.1	-25.9	16	8.7
500	30	5,534	-21.6	-31.9	16	9.3
450	30	6,299	-26.8	-37.8	16	10.0
400	30	7,144	-32.9	-42.2	17	11.4
350	30	8,070	-39.9	-43.8	17	12.1
300	30	9,108	-46.5		17	13.4
250	30	10,305	-50.1		17	12.0
200	29	11,778	-46.8		16	8.6
175	29	12,664	-46.0		16	8.1
150	29	13,690	-45.6		15	7.6
125	29	14,904	-46.4		15	5.7
100	29	16,383	-46.7		14	5.8
80	29	17,860	-47.4		13	4.4
70	29	18,744	-47.2		12	4.8
60	29	19,763	-47.3		12	5.5
50	29	20,971	-46.6		11	6.2
40	29	22,454	-46.0		10	6.2
30	28	24,367	-45.1		10	6.8
25	28	25,548	-44.0		10	7.7
20	27	27,090	-41.7		10	8.2
15	25	29,060	-38.1		10	9.1
10	23	31,892	-32.8		10	9.8
7	11	34,423	-28.7			

NORTH PLATTE, NEBR. 914 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	847	11.0	6.7	34	.8
1000	30	87				
950	30	528				
900	30	976	12.9	7.4	35	.2
850	30	1,458	13.2	5.3	24	2.4
800	30	1,967	11.4	1.7	29	4.1
750	30	2,505	8.2	-1.1	29	5.0
700	30	3,071	5.0	-4.7	27	6.3
650	30	3,667	1.4	-9.0	28	8.5
600	30	4,313	-2.8	-12.0	27	10.8
550	30	4,993	-7.4	-17.5	27	12.7
500	30	5,734	-12.2	-22.3	27	13.7
450	30	6,527	-17.3	-29.0	27	13.9
400	30	7,405	-23.3	-35.4	27	15.3
350	30	8,369	-30.7	-42.8	26	17.5
300	30	9,446	-39.1	-49.7	27	18.9
250	30	10,672	-45.3		26	18.9
200	30	12,116	-55.5		25	20.9
175	30	12,963	-57.1		27	22.0
150	30	13,940	-56.8		27	18.6
125	30	15,091	-58.4		27	16.3
100	30	16,490	-60.0		27	11.7
80	30	17,866	-58.8		28	7.3
70	30	18,727	-57.7		28	4.6
60	30	19,702	-56.3		34	1.5
50	29	20,867	-54.7		04	2.0
40	28	22,301	-53.0		03	3.6
30	26	24,166	-50.2		08	5.6
25	26	25,362	-48.6		08	5.0
20	23	26,843	-46.1		08	7.4
15	22	28,765	-42.0		08	10.1
10	16	31,561	-35.6		08	9.9
7	5	34,114	-32.2			

OAKLAND, CALIF. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	6	13.4	[illegible]	25	[illegible]
1000	30	113	12.8	[illegible]	27	[illegible]
950	30	544	11.5	[illegible]	28	[illegible]
900	30	947	13.9	4.5	31	[illegible]
850	30	1,480	13.9	-.8	33	4.3
800	30	1,989	11.6	[illegible]	33	3.1
750	30	2,522	6.5	-6.5	32	3.7
700	30	3,093	5.1	-9.2	32	4.5
650	30	3,690	1.4	-12.4	31	4.4
600	30	4,334	-2.3	-18.4	31	4.0
550	30	5,011	-6.7	-23.1	31	6.2
500	30	5,759	-11.6	-28.8	30	7.6
450	30	6,551	-17.5	-33.3	29	8.4
400	30	7,430	-24.1	-38.6	29	8.5
350	30	8,390	-31.3	-44.7	29	9.0
300	30	9,465	-39.5	-50.9	29	11.7
250	30	10,691	-47.6		29	13.5
200	30	12,140	-54.6		28	16.3
175	30	12,991	-56.4		29	13.8
150	30	13,968	-57.5		28	13.2
125	30	15,114	-59.7		28	10.9
100	30	16,501	-61.7		28	6.9
80	30	17,882	-61.4		29	2.9
70	30	18,711	-60.6		34	1.1
60	30	19,673	-59.3		08	2.0
50	30	20,817	-57.5		08	3.2
40	29	22,236	-55.1		09	5.7
30	29	24,086	-52.0		09	7.0
25	[illegible]	25,272	-49.9		09	8.4
20	[illegible]	26,740	-47.1		09	[illegible]
15	20	28,663	-42.8		09	10.2
10	20	31,433	-36.9		09	12.5
7	11	33,908	-31.7			

OMAHA, NEBR. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	403	[illegible]	[illegible]	[illegible]	[illegible]
1000	30	[illegible]				
950	30	515	14.8	[illegible]	[illegible]	[illegible]
900	30	977	[illegible]	[illegible]	[illegible]	[illegible]
850	30	1,459	12.4	[illegible]	[illegible]	[illegible]
800	30	1,967	[illegible]	[illegible]	[illegible]	[illegible]
750	30	[illegible]	7.6	[illegible]	[illegible]	[illegible]
700	30	3,069	4.6	-6.5	27	11.3
650	30	3,664	.6	-9.6	27	12.4
600	30	[illegible]	-3.2	[illegible]	27	12.9
550	30	4,965	-7.5	-17.5	27	[illegible]
500	30	[illegible]	-12.1	-23.4	27	15.3
450	30	6,521	-17.0	[illegible]	27	16.7
400	30	7,405	-23.2	[illegible]	27	[illegible]
350	30	[illegible]	[illegible]	[illegible]	27	[illegible]
300	30	[illegible]	-38.8	[illegible]	27	19.6
250	30	10,672	-47.8		26	[illegible]
200	30	12,116	-55.9		26	[illegible]
175	30	12,961	-57.7		26	22.7
150	30	13,933	-57.5		27	22.2
125	30	15,082	-58.7		27	17.6
100	30	16,476	-60.0		27	11.8
80	30	17,873	-59.1		27	7.4
70	30	18,713	-57.4		28	[illegible]
60	30	[illegible]	-56.0		30	1.5
50	29	20,851	-54.6		04	1.4
40	28	[illegible]	-53.0		09	3.3
30	27	24,148	-50.6		09	[illegible]
25	25	25,342	-48.8		09	[illegible]
20	22	26,817	-46.1		09	[illegible]
15	[illegible]	28,741	[illegible]		09	9.0
10	7	31,516	-37.1			

* PAGO PAGO, AMERICAN SAMOA 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	28.8	24.0	11	4.9
1000	30	119	26.6	21.0	11	5.7
950	30	571	22.5	16.9	10	6.3
900	30	1,040	19.4	13.9	09	5.3
850	30	1,531	17.5	8.0	09	5.1
800	30	2,048	16.4	2.0	08	3.6
750	30	2,590	13.9	-2.5	09	2.4
700	30	3,174	10.7	-6.3	08	1.4
650	30	3,783	7.6	-10.9	07	1.1
600	30	4,443	3.9	-14.7	13	.6
550	30	5,138	-.2	-20.2	23	1.3
500	30	5,901	-4.7	-24.6	27	1.9
450	30	6,715	-9.8	-29.0	29	3.0
400	30	7,624	-15.6	-34.2	27	4.0
350	30	8,618	-22.7	-40.1	25	6.7
300	30	9,729	-31.5	-47.4	24	9.9
250	30	10,993	-41.4		24	12.8
200	30	12,470	-53.2		24	14.9
175	30	13,317	-59.7		25	14.4
150	30	14,266	-66.3		25	14.4
125	30	15,352	-73.2		26	13.1
100	30	16,640	-78.4		26	8.9
80	30	17,921	-74.6		26	6.0
70	30	18,707	-70.2		29	6.7
60	30	19,633	-65.8		28	7.2
50	30	20,752	-61.6		29	5.9
40	30	22,150	-57.1		29	5.5
30	30	23,994	-51.9		28	6.6
25	29	25,183	-49.6		29	8.7
20	29	26,653	-47.0		27	10.2
15	26	28,564	-43.7		27	13.7
10	24	31,309	-39.4		27	13.0
7	11	33,791	-34.3			
5						
4						

* PEORIA, ILL. 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	200	15.1	12.0	15	1.0
1000	30	96				
950	30	534	16.4	10.3	23	3.0
900	30	993	15.2	7.7	26	6.1
850	30	1,477	13.3	4.6	27	8.1
800	30	1,986	10.9	.6	26	9.7
750	30	2,517	7.8	-2.1	26	10.5
700	30	3,088	4.8	-7.3	26	11.5
650	30	3,685	1.6	-11.7	24	12.9
600	30	4,330	-2.4	-16.5	24	13.7
550	30	5,006	-6.8	-19.3	24	14.4
500	30	5,753	-11.2	-25.9	26	16.3
450	30	6,551	-16.3	-30.6	26	17.8
400	30	7,430	-22.5	-36.6	27	18.6
350	30	8,397	-29.2	-41.9	25	20.1
300	30	9,479	-37.5	-49.2	27	21.1
250	30	10,713	-46.7		27	23.1
200	30	12,161	-55.6		26	24.9
175	30	13,077	-57.7		26	24.7
150	30	13,979	-57.9		27	23.2
125	30	15,126	-59.4		27	18.2
100	30	16,519	-60.3		26	12.0
80	30	17,910	-59.4		26	7.1
70	30	18,748	-58.1		26	3.7
60	30	19,721	-56.7		26	.9
50	30	20,881	-54.7		09	1.8
40	30	22,317	-52.2		10	4.6
30	30	24,185	-50.1		09	5.7
25	30	25,381	-48.0		09	7.2
20	29	26,855	-45.4		09	8.6
15	25	28,791	-41.9		09	10.1
10	22	31,571	-35.9		09	13.3
7	18	34,078	-30.9		09	14.5
5	10	36,475	-24.9			
4	5	38,105	-22.1			

PITTSBURGH, PA. 972 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	359	15.9	13.2	21	1.5
1000	30	113				
950	30	554	16.9	11.5	23	3.1
900	30	1,010	15.2	8.1	25	6.1
850	29	1,493	12.8	4.3	26	7.2
800	29	2,001	10.2	.5	26	8.7
750	29	2,533	7.7	-2.5	26	10.2
700	29	3,102	4.6	-6.5	26	11.8
650	29	3,701	1.1	-9.6	26	12.9
600	29	4,342	-2.0	-14.4	26	14.5
550	29	5,022	-5.6	-20.1	25	14.7
500	29	5,770	-10.3	-25.7	26	16.3
450	29	6,567	-15.4	-31.9	26	16.4
400	29	7,455	-21.7	-37.0	26	17.6
350	29	8,425	-28.8	-42.8	26	19.1
300	29	9,512	-36.7	-49.3	26	21.0
250	29	10,750	-46.0		26	23.8
200	29	12,204	-54.7		26	25.2
175	29	13,052	-57.2		26	24.1
150	29	14,025	-58.1		27	21.2
125	29	15,167	-59.9		27	16.9
100	29	16,557	-61.4		25	12.0
80	29	17,946	-59.4		26	6.9
70	29	18,785	-59.1		24	2.8
60	29	19,759	-56.6		21	.7
50	29	20,921	-54.7		11	2.2
40	29	22,355	-52.4		11	2.7
30	[illegible]	24,225	-49.5		09	3.8
25	[illegible]	25,423	-47.8		10	5.0
20	[illegible]	26,904	-45.2		09	5.4
15	[illegible]	28,844	-41.2		09	6.7
10	[illegible]	31,637	-35.9		10	8.4
7	9	34,202	-30.9			

* PONAPE, CAROLINE IS. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	39	26.2	24.6	08	2.4
1000	30	86	27.4	23.1	09	3.0
950	30	538	23.9	18.5	08	6.8
900	30	1,013	21.1	15.4	09	7.7
850	30	1,507	18.5	12.3	10	[illegible]
800	30	2,026	16.2	8.4	10	5.1
750	30	2,573	13.2	5.3	10	5.8
700	30	3,151	10.2	1.9	10	6.2
650	30	3,763	7.0	-2.0	09	7.5
600	30	4,419	3.4	-5.5	09	7.4
550	30	5,117	-.3	-10.5	09	7.5
500	30	5,879	-4.5	-15.6	09	[illegible]
450	30	6,699	-9.1	-22.5	10	9.0
400	30	7,606	-14.7	-28.4	09	8.8
350	30	8,604	-21.3	-35.3	09	7.9
300	30	9,723	-29.6	-43.4	10	6.8
250	30	10,997	-40.0	-51.7	11	6.2
200	30	12,480	-52.6		12	3.8
175	30	13,322	-59.7		12	1.9
150	30	14,275	-67.2		34	.9
125	30	15,354	-74.5		33	.3
100	30	16,634	-79.1		10	3.6
80	30	17,917	-73.1		09	4.0
70	29	18,705	-70.3		09	2.9
60	29	19,630	-66.2		10	3.2
50	29	20,747	-61.5		12	2.4
40	29	22,147	-56.6		11	2.3
30	29	23,993	-51.4		24	1.0
25	29	[illegible]	-49.5		24	2.1
20	27	26,650	-47.4		27	.9
15	27	28,562	-45.3		18	1.3
10	26	31,295	-41.0		10	5.0
7	15	33,748	-36.7			

PORTLAND, MAINE 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	20	14.8	11.3	24	.1
1000	30	121	15.0	10.6	24	.5
950	30	555	15.4	7.8	25	[illegible]
900	30	1,014	13.2	5.4	26	[illegible]
850	30	1,493	10.7	2.7	26	[illegible]
800	30	1,996	8.2	-1.2	26	7.7
750	30	2,523	6.3	-6.7	26	9.7
700	30	[illegible]	3.7	[illegible]	26	11.5
650	30	3,687	.3	-12.0	26	13.6
600	30	4,327	-3.4	-15.7	25	14.7
550	30	5,006	-7.2	-21.3	25	15.6
500	30	5,747	[illegible]	-26.3	25	17.1
450	30	6,542	-16.6	[illegible]	26	17.5
400	30	7,423	-22.7	-37.3	26	[illegible]
350	30	[illegible]	[illegible]	-43.2	25	[illegible]
300	30	9,472	-37.7	[illegible]	26	21.7
250	30	10,703	-47.1		26	[illegible]
200	30	12,149	[illegible]		26	[illegible]
175	30	12,993	-57.9		26	[illegible]
150	30	13,965	-57.9		26	[illegible]
125	30	15,110	-59.1		26	[illegible]
100	30	[illegible]	[illegible]		26	[illegible]
80	30	17,912	-57.9		25	[illegible]
70	30	18,757	-56.6		24	[illegible]
60	30	19,737	-55.5		23	[illegible]
50	30	20,904	-53.9		14	[illegible]
40	30	22,343	-52.1		10	[illegible]
30	29	24,217	-49.2		10	[illegible]
25	[illegible]	25,418	-47.4		09	[illegible]
20	27	26,908	-44.3		09	[illegible]
15	[illegible]	28,851	-40.1		09	[illegible]
10	6	31,671	-33.3			

* QUILLAYUTE, WASH. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	58	11.6	11.3	21	.3
1000	30	121	11.7	11.1	21	.2
950	30	550	12.3	7.8	22	.7
900	30	1,005	11.6	3.4	30	1.2
850	30	1,483	11.1	-.8	32	1.4
800	30	1,987	8.8	-4.5	31	1.4
750	30	2,515	5.6	-7.9	30	.9
700	30	3,079	1.9	-10.4	29	1.4
650	30	3,666	-1.7	-14.4	29	2.1
600	30	4,304	-5.7	-19.3	30	2.8
550	30	4,970	-9.8	-24.9	32	3.5
500	30	5,710	-14.9	-29.5	32	3.4
450	30	6,490	-20.8	-34.2	32	3.6
400	30	7,359	-27.2	-39.9	31	3.4
350	30	8,306	-34.4	-45.6	30	2.8
300	30	9,365	-42.5	-49.9	29	3.4
250	30	10,575	-50.2		29	4.5
200	29	12,008	-55.0		31	6.3
175	29	12,841	-54.9		31	6.9
150	29	13,846	-54.4		31	6.9
125	29	15,013	-55.6		31	5.5
100	28	16,433	-55.8		31	4.7
80	27	17,846	-55.0		35	2.6
70	26	18,695	-55.5		01	2.3
60	25	19,677	-54.9		05	2.3
50	25	20,845	-53.7		07	4.1
40	24	22,284	-51.9		07	4.9
30	24	24,156	-49.7		08	7.3
25	23	25,385	-48.0		08	8.7
20	22	26,832	-45.7		08	9.2
15	19	28,765	-42.1		08	11.9
10	13	31,540	-37.0		09	15.0
7	12	34,043	-31.4		09	15.0
5	7	36,394	-27.7			
4						

RAPID CITY, S. DAK. 902 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	946	10.6	5.3	32	3.5
1000	30	93				
950	30	525				
900	30	960	9.6	3.9	32	3.6
850	30	1,459	11.3	3.6	33	5.6
800	30	1,964	8.6	.6	32	5.4
750	30	2,492	5.5	-1.0	30	5.7
700	30	3,055	2.0	-4.8	30	6.5
650	30	3,645	-1.4	-9.9	29	7.5
600	30	4,264	-5.0	-13.6	29	9.3
550	30	4,955	-9.2	-17.7	28	10.2
500	30	5,694	-13.7	-23.3	28	11.3
450	30	[illegible]	-19.0	-29.6	28	12.1
400	30	7,354	-25.1	-35.8	28	13.2
350	30	8,310	-32.5	-42.4	28	14.3
300	30	9,378	-40.8	-49.9	28	15.7
250	29	10,594	-49.6		27	17.3
200	29	12,021	-56.2		26	18.2
175	29	12,879	-55.6		27	18.1
150	29	13,853	-54.9		27	15.6
125	29	15,024	-56.5		28	12.8
100	29	16,435	-56.1		28	10.3
80	29	17,844	-55.6		28	5.4
70	29	18,691	-55.1		28	3.0
60	29	19,671	-55.7		32	1.3
50	29	20,834	-54.3		03	1.7
40	29	22,273	-51.8		07	4.4
30	29	24,145	-49.7		09	6.1
25	29	25,343	-47.5		09	7.4
20	29	26,824	-45.3		09	[illegible]
15	29	28,759	-41.4		09	10.7
10	27	31,554	-34.6		09	12.7
7	12	34,075	-30.2			

ST. CLOUD, MINN. 973 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	316	[illegible]	7.6	31	.4
1000	30	63				
950	30	514	11.2	6.6	29	1.0
900	30	963	9.8	4.2	27	3.8
850	30	1,437	7.8	1.4	28	4.9
800	30	1,935	5.5	-2.0	29	6.4
750	30	2,460	3.0	-6.3	29	8.2
700	30	3,017	.3	-10.3	29	10.4
650	30	3,605	-2.8	-13.1	29	13.9
600	30	4,239	-6.4	-17.3	29	16.1
550	29	4,906	-10.2	-22.6	29	17.4
500	29	5,642	-14.9	-28.2	29	19.8
450	29	6,425	-20.4	-33.8	28	21.2
400	29	7,294	-26.0	-40.4	28	24.3
350	29	8,247	-32.9	-46.1	29	27.0
300	29	9,313	-41.0	-51.4	27	27.1
250	29	10,529	-49.2		28	31.2
200	29	11,975	-53.3		27	29.4
175	29	12,835	-53.2		27	26.0
150	29	13,828	-53.4		28	21.3
125	29	14,998	-54.9		28	16.9
100	29	16,421	-55.7		28	11.5
80	29	17,843	-55.1		27	6.6
70	29	18,695	-54.9		29	4.2
60	29	19,682	-53.9		29	2.2
50	29	20,845	-52.6		08	.9
40	27	22,301	-51.3		09	3.9
30	27	24,160	-48.6		09	5.2
25	25	25,368	-47.2		09	7.0
20	23	26,874	-44.8		09	7.1
15	19	28,823	-40.6		09	9.7
10	[illegible]	31,606	-34.6			

* ST. PAUL IS., ALASKA 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	10	4.4	3.3	09	1.8
1000	30	72			01	2.6
950	30	492	3.0	1.4	07	2.4
900	30	926	1.0	-1.5	09	2.2
850	30	1,385	-.3	-4.1	11	2.7
800	30	1,869	-2.5	-7.2	13	3.1
750	30	2,379	-5.0	-8.9	14	3.1
700	30	2,919	-7.9	-11.9	15	3.4
650	30	3,494	-10.4	-15.4	15	4.1
600	30	4,106	-13.9	-20.2	15	4.3
550	30	4,760	-17.4	-23.4	15	4.6
500	30	5,471	-21.9	-28.4	16	5.0
450	30	6,237	-26.9	-34.4	16	5.2
400	30	7,079	-32.9	-40.2	17	6.0
350	30	8,006	-39.8	-45.2	17	7.4
300	30	9,043	-47.0		17	8.0
250	30	10,239	-50.0		17	8.4
200	30	11,709	-46.2		17	6.0
175	30	12,598	-45.2		17	5.4
150	30	13,626	-45.7		16	4.9
125	30	14,838	-46.9		16	4.6
100	30	16,312	-47.9		15	4.4
80	30	17,763	-48.3		13	4.9
70	30	18,662	-48.4		13	4.9
60	30	19,676	-48.6		12	5.0
50	30	20,674	-46.8		11	5.7
40	29	22,341	-45.4		10	7.1
30	29	24,239	-47.3		10	[illegible]
25	[illegible]	25,447	-46.2		10	[illegible]
20	[illegible]	26,936	-44.1		10	9.4
15	28	28,675	-41.6		09	[illegible]
10	24	31,650	-36.7		09	11.2
7	[illegible]	34,144	-31.4		09	12.9
5	15	36,522	[illegible]		09	[illegible]
4	7	38,136	-25.6			

SALEM, OREG. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	61	13.4	11.1	21	[illegible]
1000	30	122	13.5	10.8	23	[illegible]
950	30	551	12.7	9.6	30	1.2
900	30	1,008	12.2	7.7	32	1.2
850	30	1,486	10.4	3.7	33	[illegible]
800	30	1,990	8.7	-2.1	35	[illegible]
750	30	2,516	6.0	-5.8	34	[illegible]
700	30	3,083	2.5	-9.7	34	[illegible]
650	30	3,673	-1.4	-12.9	33	[illegible]
600	30	4,311	-5.6	-18.0	34	2.7
550	30	4,981	-9.7	-23.8	34	[illegible]
500	30	5,717	-14.7	[illegible]	33	[illegible]
450	30	6,500	[illegible]	-32.2	33	[illegible]
400	30	[illegible]	-26.9	-36.4	33	[illegible]
350	30	[illegible]	-34.1	[illegible]	33	[illegible]
300	30	[illegible]	-42.2	-45.0	31	7.7
250	30	10,591	-49.6		31	9.2
200	30	12,030	-55.0		30	8.6
175	30	12,883	-54.8		30	[illegible]
150	30	13,869	-55.1		28	7.2
125	30	15,030	-56.3		30	6.4
100	30	16,442	-57.6		30	4.1
80	30	[illegible]	-57.1		31	1.9
70	30	18,699	-56.6		35	1.1
60	30	19,679	-55.5		[illegible]	2.0
50	30	[illegible]	-54.7		[illegible]	3.8
40	[illegible]	22,279	-52.4		[illegible]	4.9
30	[illegible]	24,151	-49.6		[illegible]	7.2
25	[illegible]	25,352	-47.9		[illegible]	[illegible]
20	27	26,832	-45.5		[illegible]	[illegible]
15	[illegible]	[illegible]	-41.8		[illegible]	[illegible]
10	[illegible]	31,549	-35.5		[illegible]	[illegible]
7	[illegible]	[illegible]	-29.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UTAH — 860 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,288	12.6	6.4	16	2.0
1000	30	63				
950	30	519				
900	30	988				
850	30	1,488	15.3	4.3	16	2.2
800	30	1,986	12.8	1.1	19	1.7
750	30	2,516	9.0	-1.3	24	1.6
700	30	3,085	4.7	-3.7	27	2.9
650	30	3,587	.3	-5.5	27	4.5
600	30	4,323	-4.1	-10.6	24	4.3
550	30	[illegible]	-8.4	-16.4	24	7.5
500	30	[illegible]	-13.2	-22.6	24	8.6
450	30	6,528	-18.5	-29.2	25	7.9
400	30	[illegible]	-24.9	-35.[illegible]	24	8.7
350	30	8,387	-32.4	-42.5	25	9.0
300	30	9,425	-40.6	-50.4	24	10.9
250	30	10,544	-49.4		24	13.9
200	30	12,024	-55.2		24	15.0
175	30	12,935	-55.5		24	15.0
150	30	13,917	-56.2		24	14.0
125	30	15,071	-57.8		24	11.9
100	30	16,475	-57.1		27	7.7
80	30	17,870	-59.4		27	4.0
70	30	18,708	-59.2		27	1.7
60	30	[illegible]	-57.2		05	1.3
50	30	20,837	-55.0		09	2.8
40	30	22,265	-53.2		08	4.0
30	29	24,130	-50.6		08	6.9
25	28	25,319	-48.9		08	7.7
20	28	26,792	-46.4		09	9.3
15	28	28,719	-42.6		09	11.2
10	26	31,487	-36.6		09	13.1
7	18	33,993	-32.0			
5						

SAN DIEGO, CALIF. — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	124	15.6	13.3	23	.6
1000	30	90				
950	30	532	13.2	11.[illegible]	21	.6
900	30	980	11.3	7.[illegible]	30	.4
850	30	1,465	14.7	-3.8	31	3.5
800	30	1,975	14.2	-7.6	30	4.0
750	30	2,520	12.0	-10.7	28	4.7
700	30	3,095	9.2	-14.0	26	4.3
650	30	[illegible]	6.0	-17.[illegible]	26	5.6
600	30	4,450	1.8	-19.4	26	6.7
550	30	5,047	[illegible]	-24.[illegible]	26	9.5
500	30	[illegible]	-8.1	-28.1	25	11.0
450	30	6,605	-13.9	-32.4	26	13.4
400	30	7,495	-20.4	-37.6	26	15.1
350	30	[illegible]	-27.6	-44.5	26	19.1
300	30	9,557	-36.[illegible]	-51.2	26	20.8
250	30	10,79[illegible]	-45.7		26	23.2
200	30	12,251	-54.8		26	25.4
175	30	13,099	-57.9		26	26.7
150	30	14,066	-60.1		26	22.3
125	30	15,195	-63.0		26	16.8
100	30	16,558	-65.7		26	9.3
80	29	17,914	-64.8		29	3.2
70	29	18,732	-63.0		03	1.8
60	28	19,686	-6[illegible].2		10	4.7
50	27	20,831	-57.7		09	5.4
40	27	22,249	-54.4		08	8.2
30	25	24,111	-50.8		09	9.9
25	25	25,304	-46.6		09	10.5
20	25	26,780	-45.9		09	11.3
15	24	28,714	-43.0		09	11.4
10	2[illegible]	31,471	-36.5		09	12.6
7	11	33,942	-32.9			

SAN JUAN, P. R. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	[illegible]	25.9	22.5	12	2.0
1000	30	[illegible]	25.5	21.1	11	4.4
950	30	565	23.0	17.5	12	7.4
900	30	1,055	20.2	14.1	12	8.1
850	30	1,547	17.5	10.1	12	7.6
800	30	2,063	14.9	5.3	12	6.5
750	30	2,608	12.3	.3	12	5.1
700	30	3,183	9.3	-4.[illegible]	12	3.8
650	30	[illegible]	5.9	-7.4	11	3.5
600	30	4,444	1.3	-10.[illegible]	09	2.6
550	30	5,135	-2.0	-15.6	08	1.5
500	30	5,892	-6.2	-21.4	06	1.1
450	30	6,704	-11.0	-26.9	01	.8
400	30	7,605	-15.8	-30.3	33	1.7
350	30	[illegible]	-23.6	-36.3	33	3.5
300	30	9,701	-32.2	-45.6	33	4.5
250	30	10,94[illegible]	-42.4		34	6.0
200	30	12,429	-54.2		34	10.1
175	30	13,271	-61.0		34	11.7
150	30	14,212	-67.6		35	11.2
125	30	15,295	-72.7		35	9.1
100	30	16,596	-74.3		03	6.9
80	30	17,962	-71.2		04	8.6
70	30	18,697	-67.9		07	10.9
60	30	19,632	-64.3		09	13.1
50	30	20,755	-61.4		09	14.2
40	30	22,152	-57.5		09	15.4
30	29	23,991	-52.5		09	14.6
25	29	25,176	-49.7		09	13.9
20	28	26,645	-45.9		09	15.1
15	25	28,575	-42.3		09	14.9
10	17	31,329	-35.6		09	15.8
7	7	33,827	-35.4			

SAN NICOLAS, CALIF. — 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	174	13.0	11.3	31	4.6
1000	28	99				
950	28	533	13.0	9.0	31	5.8
900	28	989	15.1	3.1	32	5.5
850	28	1,475	16.1	-.2	31	5.6
800	28	1,987	14.2	-7.0	31	5.2
750	28	2,523	11.5	-9.1	30	4.8
700	28	3,101	8.7	-12.6	29	4.8
650	28	3,709	5.2	-15.3	29	5.8
600	28	4,357	.9	-20.4	27	7.2
550	28	5,051	-3.5	-23.6	27	8.8
500	28	5,796	-8.6	-26.3	27	10.6
450	28	6,604	-14.6	-29.1	27	12.0
400	28	7,485	-21.2	-35.9	27	14.2
350	28	8,456	-28.9	-43.4	27	16.7
300	28	9,539	-37.4	-50.9	27	18.9
250	28	10,772	-46.9	-59.3	27	20.3
200	28	12,220	-55.6	-67.1	27	21.8
175	28	13,064	-58.6	-69.6	26	22.1
150	28	14,028	-60.7		26	19.0
125	28	15,155	-63.5		26	15.1
100	28	16,518	-65.4		26	8.2
80	27	17,876	-64.9		29	2.7
70	27	18,694	-63.0		05	2.2
60	27	19,648	-60.9		09	4.5
50	27	20,787	-56.9		09	6.6
40	27	22,198	-55.6		09	7.7
30	27	24,045	-52.1		09	8.7
25	26	25,234	-49.8		08	9.7
20	26	26,703	-47.0		09	10.7
15	26	28,622	-44.1		09	10.0
10	26	31,374	-38.5		09	12.9
7	21	33,636	-33.4		09	13.1
5	9	36,193	-28.6			

* SAULT STE MARIE, MICH. — 985 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	221	9.0	6.7	26	.1
1000	30	91				
950	30	516	10.3	4.9	27	2.8
900	30	967	9.0	2.6	28	4.2
850	30	1,439	6.0	.7	27	5.9
800	30	1,935	3.9	-2.1	25	7.4
750	30	2,457	1.5	-7.8	26	9.0
700	30	3,012	-.7	-12.9	26	10.1
650	30	3,599	-3.4	-17.2	26	12.8
600	30	4,232	-6.6	-20.8	25	14.4
550	30	4,902	-10.6	-25.0	24	16.4
500	30	5,635	-15.1	-29.0	26	18.8
450	29	6,415	-20.3	-34.1	25	21.3
400	29	7,286	-26.0	-39.4	26	23.9
350	29	8,239	-32.9	-45.7	25	26.3
300	29	9,306	-40.6	-49.7	26	29.0
250	29	10,526	-48.4		25	31.7
200	29	11,982	-52.2		26	31.5
175	29	12,845	-52.8		27	26.4
150	29	13,843	-52.4		27	20.9
125	29	15,021	-53.6		26	16.8
100	29	16,453	-54.5		26	12.8
80	29	17,884	-53.9		26	7.2
70	29	18,743	-53.1		26	4.6
60	29	19,739	-52.5		24	2.1
50	29	20,919	-51.5		19	.2
40	29	22,375	-49.6		10	2.4
30	29	24,267	-47.8		09	4.4
25	28	25,471	-46.3		09	5.2
20	26	26,963	-43.9		09	7.5
15	25	28,915	-40.0		09	9.4
10	25	31,717	-34.7		09	12.2
7	23	34,234	-29.3		10	14.0
5	7	36,629	-25.2			

* SHEMYA, ALASKA — 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	35	4.9	3.5	35	1.7
1000	30	[illegible]			03	1.7
950	30	[illegible]	2.4	1.5	01	2.8
900	30	932	1.0	-.4	36	2.6
850	30	1,351	-.5	-3.9	01	2.7
800	30	1,673	-2.7	-7.0	34	2.7
750	30	2,305	-4.7	-9.5	35	3.1
700	30	2,925	-7.2	-13.3	35	3.8
650	30	[illegible]	-10.0	-18.1	34	4.7
600	30	4,113	-13.4	-21.8	33	4.5
550	30	[illegible]	-17.1	-26.8	32	5.2
500	30	[illegible]	-21.5	-32.7	31	5.8
450	30	6,250	-26.7	-38.7	31	6.5
400	30	7,091	-32.6	-43.5	31	7.[illegible]
350	29	8,025	-38.9	-46.5	30	9.5
300	29	[illegible]	-45.3		30	10.9
250	28	10,269	-49.6		30	14.0
200	27	11,735	-4[illegible].2		30	13.2
175	27	12,61[illegible]	-47.1		30	10.4
150	27	[illegible]	-47.3		30	8.3
125	26	14,845	-48.9		30	5.1
100	26	[illegible]	-49.8		31	4.5
80	26	17,765	-49.8		33	1.4
70	26	18,639	-49.9		03	1.0
60	25	19,54[illegible]	-49.9		06	1.4
50	26	20,839	-49.8		09	2.4
40	26	22,301	-49.1		09	4.8
30	26	24,194	-47.8		09	6.9
25	26	25,400	-46.7		09	7.4
20	25	[illegible]	-44.9		09	8.9
15	24	28,823	-41.9		09	9.4
10	21	31,585	-37.9		09	11.1
7	1[illegible]	34,074	-33.0		09	12.7
5	11	36,472	-28.4			
4						

* SHREVEPORT, LA. — 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	73	21.3	16.9	20	1.2
1000	30	107			20	1.0
950	30	554	21.1	16.2	20	6.2
900	30	1,022	19.2	12.8	20	7.6
850	30	1,513	17.5	7.3	20	7.6
800	30	2,030	15.0	2.1	22	6.6
750	30	2,57[illegible]	12.0	-1.4	23	5.4
700	30	3,148	6.7	-5.7	25	5.1
650	30	3,755	5.0	-9.4	24	5.0
600	30	4,406	.8	-13.4	28	4.9
550	30	5,092	-3.7	-18.3	27	5.7
500	30	5,847	-8.3	-23.7	28	6.3
450	30	6,653	-13.6	-29.4	28	7.7
400	30	7,545	-19.6	-34.4	28	9.7
350	30	8,522	-26.7	-40.6	28	11.0
300	30	9,617	-34.9	-47.9	28	12.6
250	30	10,865	-43.9		28	15.6
200	28	12,335	-53.2		28	21.7
175	28	13,1[illegible]	-56.2		28	20.9
150	27	14,147	-61.7		27	20.8
125	27	15,2[illegible]3	-56.0		27	18.4
100	27	16,606	-69.0		27	12.6
80	27	17,945	-66.6		27	3.2
70	27	18,758	-64.1		11	2.2
60	27	19,710	-60.4		10	3.9
50	27	20,853	-58.1		08	5.8
40	27	22,268	-55.0		09	9.3
30	27	24,122	-51.6		09	10.1
25	27	25,311	-49.4		09	10.6
20	26	26,755	-46.7		09	10.6
15	25	28,703	-43.4		09	11.5
10	25	31,466	-37.2		09	13.2
7	15	33,935	-33.0		10	13.2
5	6	36,3[illegible]7	-28.8			
4	5	37,891	-27.0			

SPOKANE, WASH. — 925 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	720	13.0	6.9	15	1.5
1000	30	67				
950	30	524				
900	30	982	15.2	3.6	18	1.8
850	30	1,465	13.5	.1	20	.7
800	30	1,973	10.3	-2.9	24	.9
750	30	2,500	6.3	-5.1	27	1.2
700	30	3,069	2.2	-8.0	31	1.5
650	30	3,656	-1.7	-13.0	29	1.6
600	30	4,296	-5.5	-17.7	31	2.2
550	30	4,961	-9.8	-22.9	31	2.5
500	30	5,703	-14.6	-27.0	30	3.1
450	30	6,483	-20.1	-31.4	30	2.5
400	30	7,357	-26.4	-37.5	31	2.4
350	30	8,307	-33.8	-42.8	30	2.6
300	30	9,368	-42.3	-47.2	29	3.3
250	30	10,576	-51.2		29	4.6
200	29	12,003	-55.6		29	7.0
175	29	12,855	-54.6		30	6.3
150	29	13,845	-53.6		29	5.5
125	28	15,013	-55.0		29	5.6
100	29	16,435	-55.9		30	4.7
80	2[illegible]	17,858	-55.0		32	2.3
70	26	18,711	-54.7		35	1.5
60	25	19,699	-54.0		03	2.5
50	26	20,872	-52.9		08	3.3
40	26	22,318	-50.8		09	4.5
30	2[illegible]	24,198	-48.7		08	6.6
25	27	25,307	-47.1		05	8.2
20	26	26,860	-44.8		09	9.3
15	26	28,820	-41.0		08	11.8
10	17	31,593	-35.3		09	13.0
7	10	34,098	-31.8			

* SWAN ISLAND, W. I. — 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	10	27.9	24.6	12	4.0
1000	30	88	27.3	24.1	12	4.5
950	30	539	24.3	21.4	13	6.2
900	30	1,016	21.9	17.2	13	6.3
850	30	1,512	19.3	13.8	13	5.6
800	30	2,032	16.5	9.4	14	4.8
750	30	2,582	13.8	5.2	14	4.5
700	30	3,160	10.6	1.3	15	4.3
650	30	3,773	7.0	-1.5	15	4.7
600	30	4,429	2.5	-3.6	15	4.2
550	30	5,119	-1.2	-6.2	14	3.1
500	30	5,884	-5.1	-13.2	15	2.9
450	30	6,698	-9.6	-20.5	14	1.9
400	30	7,607	-15.1	-26.6	15	1.7
350	30	8,604	-21.7	-34.2	17	.7
300	30	9,721	-29.9	-42.4	21	.6
250	30	10,993	-40.0	-50.0	27	1.0
200	30	12,477	-52.5		33	2.1
175	30	13,326	-59.6		34	3.7
150	30	14,274	-66.7		36	4.9
125	30	15,356	-73.7		03	6.5
100	30	16,645	-76.9		06	9.7
80	30	17,934	-74.2		08	9.8
70	30	18,719	-70.4		08	11.2
60	30	19,644	-66.3		09	12.7
50	30	20,761	-61.6		09	15.0
40	30	22,157	-56.0		09	16.1
30	30	23,990	-53.1		10	14.2
25	30	25,175	-49.6		10	13.5
20	29	26,646	-46.6		09	12.2
15	26	28,566	-44.3		09	12.3
10	22	31,301	-40.5		09	18.8
7	7	33,777	-36.5			

TAMPA, FLA. — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	8	25.1	23.0	08	1.3
1000	30	110	24.9	22.1	10	1.3
950	30	563	22.9	18.2	17	1.7
900	30	1,031	20.5	13.7	18	1.8
850	30	1,524	17.5	10.4	15	1.4
800	30	2,040	14.7	5.2	15	1.8
750	30	2,583	11.7	-.2	15	2.1
700	30	3,158	8.4	-5.6	16	1.5
650	30	3,766	5.1	-11.7	19	1.1
600	30	4,417	1.6	-18.3	24	1.3
550	30	5,110	-2.2	-22.8	26	1.7
500	30	5,865	-6.6	-28.5	27	2.8
450	30	6,679	-12.0	-33.3	27	4.4
400	30	7,573	-18.2	-38.1	27	5.9
350	29	8,558	-25.0	-43.3	28	7.3
300	29	9,661	-33.0	-50.7	28	7.7
250	29	10,919	-42.1		27	10.3
200	29	12,396	-52.1		27	13.4
175	29	13,250	-57.6		28	14.2
150	29	14,210	-63.3		28	12.4
125	28	15,315	-68.7		29	9.1
100	28	16,639	-71.5		31	4.5
80	28	17,961	-70.1		07	3.8
70	27	18,762	-67.0		08	5.9
60	27	19,700	-63.6		08	8.0
50	26	20,828	-60.1		08	11.7
40	26	22,234	-56.0		10	12.9
30	25	24,084	-51.7		09	12.1
25	25	25,272	-49.3		09	13.1
20	22	26,738	-46.3		09	14.6
15	19	28,681	-41.7		09	13.6
10	8	31,467	-37.5			

TOPEKA, KANS. — [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	268	16.4	14.4	19	.9
1000	30	89				
950	30	527	17.4	12.1	22	2.5
900	30	[illegible]	16.6	9.4	24	5.4
850	30	1,477	15.3	5.5	25	6.5
800	30	1,993	12.8	2.0	24	6.8
750	30	2,526	9.7	-1.7	24	7.6
700	30	3,09[illegible]	5.9	-4.9	24	8.1
650	30	3,701	2.4	-10.3	24	9.4
600	30	4,346	-1.6	-14.7	27	11.5
550	30	5,023	-5.9	-19.3	27	12.9
500	30	5,774	-10.9	-25.3	27	14.0
450	30	6,572	-16.0	-29.4	27	[illegible]
400	30	7,456	-22.1	-35.7	27	16.2
350	30	8,424	-29.5	-42.0	26	18.6
300	30	9,566	-37.9	-48.6	27	18.5
250	30	10,738	-47.1		27	20.2
200	30	[illegible]	-55.7		26	23.9
175	30	13,031	-57.9		26	22.2
150	30	13,999	-59.2		25	22.2
125	30	15,138	-60.7		27	18.7
100	30	16,52[illegible]	-62.0		27	12.4
80	30	17,903	-60.7		28	6.0
70	30	[illegible]	[illegible]		28	2.7
60	30	19,709	-57.0		23	.5
50	30	[illegible]	-55.4		[illegible]	1.8
40	30	[illegible]	[illegible]		[illegible]	3.9
30	27	24,142	[illegible]		[illegible]	5.2
25	2[illegible]	[illegible]	-48.6		[illegible]	[illegible]
20	26	26,835	-46.3		09	9.3
15	24	[illegible]	-42.[illegible]		09	9.5
10	[illegible]	[illegible]	[illegible]		09	[illegible]
7	[illegible]	[illegible]	[illegible]			
5						

* TRUK, CAROLINE IS. — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	2	26.5	24.7	06	2.9
1000	30	96	27.4	22.9	07	3.7
950	30	545	23.8	19.3	09	6.8
900	30	1,022	21.0	16.0	09	7.1
850	30	1,516	18.2	12.5	10	6.4
800	30	2,034	15.7	9.5	09	6.1
750	30	2,580	13.1	4.9	09	6.2
700	30	3,159	10.1	1.2	09	6.9
650	30	3,772	6.6	-2.7	09	8.0
600	30	4,427	2.9	-6.6	09	8.4
550	30	5,120	-.6	-11.2	09	8.6
500	29	5,886	-4.6	-15.3	09	8.2
450	29	6,702	-9.2	-21.2	09	7.2
400	29	7,613	-14.6	-27.2	09	6.3
350	29	8,611	-21.2	-34.7	10	5.4
300	29	9,730	-29.5	-42.3	11	5.5
250	29	11,004	-39.8	-52.1	[illegible]	4.4
200	29	12,499	-52.1		16	3.8
175	29	13,339	-59.3		17	2.2
150	29	14,287	-67.0		25	1.3
125	29	15,369	-74.1		[illegible]	1.3
100	29	16,653	-77.8		09	2.9
80	29	17,936	-73.6		09	5.6
70	29	18,725	-69.5		10	5.2
60	29	19,650	-65.7		10	4.5
50	29	2[illegible],772	-60.7		11	3.1
40	27	22,171	-56.3		09	1.7
30	27	24,016	-52.0		07	1.4
25	27	25,204	-49.2		05	.7
20	27	26,676	-46.6		15	2.3
15	25	28,59[illegible]	-44.5		17	3.4
10	2[illegible]	[illegible]	-41.2		09	7.4
7	1[illegible]	33,752	-38.0			

* TUCSON, ARIZ. — 920 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	789	19.9	2.7	14	2.5
1000	30	61				
950	30	5[illegible]6				
900	30	982	23.2	3.6	19	2.1
850	30	1,478	20.5	1.5	20	2.0
800	30	1,998	16.9	-.9	21	3.1
750	30	2,540	13.3	-5.2	22	4.5
700	30	3,122	9.6	-9.4	22	6.7
650	30	3,727	5.8	-13.7	22	8.[illegible]
600	30	4,38[illegible]	1.9	-16.7	23	9.9
550	30	5,072	-2.8	-20.5	23	10.4
500	30	5,825	-7.6	-25.8	25	11.9
450	30	6,633	-13.2	-31.0	25	13.4
400	30	7,527	-19.7	-36.9	25	15.0
350	30	8,505	-27.0	-43.1	25	17.5
300	30	9,597	-35.6	-49.6	26	19.8
250	29	10,844	-44.8		26	22.9
200	29	12,304	-5[illegible].9		26	25.9
175	29	13,154	-56.0		26	27.2
150	29	14,117	-61.6		25	24.8
125	2[illegible]	[illegible]	-65.0		25	21.4
100	29	[illegible]	-67.5		25	11.9
80	29	17,934	-66.0		27	4.4
70	29	18,749	-63.5		06	1.3
60	29	19,701	-60.9		09	3.6
50	29	20,843	-57.9		09	6.1
40	29	22,261	-54.7		09	8.[illegible]
30	28	24,122	-50.9		09	11.1
25	27	25,313	-49.0		09	11.4
20	27	26,767	-46.6		09	10.9
15	26	28,712	-43.1		09	12.0
10	24	31,44[illegible]	-37.9		09	13.9
7	1[illegible]	33,967	-32.4		09	18.5
5	[illegible]	36,346	-26.8			

* VANDENBERG AFB, CALIF. — 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	100	12.4	11.7	33	2.0
1000	28	110			33	1.9
950	28	538	11.4	6.6	35	5.6
900	28	993	12.9	3.1	36	5.3
850	28	1,475	13.4	1.0	36	5.0
800	28	1,984	11.9	-4.2	34	5.0
750	28	2,517	9.6	-8.7	32	5.4
700	28	3,092	7.0	-11.9	31	5.5
650	28	3,694	2.7	-15.6	30	6.3
600	28	4,344	.1	-20.5	29	7.8
550	28	5,029	-4.4	-24.0	29	8.5
500	28	5,779	-9.4	-26.7	28	10.6
450	28	6,578	-15.1	-32.4	28	13.5
400	28	7,464	-21.6	-37.0	27	15.6
350	28	8,434	-28.9	-43.9	27	18.1
300	28	9,518	-37.5	-50.4	27	20.6
250	28	10,753	-46.3		28	22.7
200	28	12,208	-54.5		27	21.3
175	28	13,056	-57.8		27	20.4
150	28	14,025	-59.3		27	19.0
125	27	15,164	-61.9		26	15.1
100	27	16,539	-63.5		27	9.1
80	27	17,907	-63.8		28	3.1
70	27	18,728	-62.1		02	.5
60	27	19,685	-60.3		08	1.6
50	27	20,829	-56.0		09	3.7
40	26	22,243	-55.6		09	5.6
30	25	24,090	-52.7		09	7.0
25	25	25,273	-50.5		08	8.7
20	25	26,738	-47.7		09	9.9
15	24	28,646	-44.2		09	10.8
10	21	31,399	-36.7		09	12.9
7	17	33,877	-32.6			

VICTORIA, TEXAS — 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	33	23.2	21.5	14	1.6
1000	30	98	23.4	21.9	14	2.6
950	30	545	21.7	19.5	16	7.3
900	30	1,016	20.0	13.0	17	8.2
850	30	1,509	18.5	7.7	17	7.0
800	30	2,027	16.7	2.5	18	5.3
750	30	2,572	14.0	-2.5	19	2.7
700	30	3,154	10.6	-5.7	20	1.3
650	30	3,763	6.7	-9.2	30	1.0
600	30	4,419	2.2	-12.0	32	2.1
550	30	5,109	-2.6	-16.9	32	2.8
500	30	5,866	-7.4	-23.0	30	3.9
450	30	6,674	-12.5	-28.8	29	5.3
400	30	7,570	-16.6	-34.9	29	7.3
350	30	8,553	-25.4	-40.2	28	9.6
300	30	9,653	-33.8	-46.2	28	11.1
250	30	10,967	-42.9		28	14.8
200	30	12,380	-52.8		28	20.7
175	30	13,232	-57.8		28	21.7
150	30	14,193	-63.1		27	19.8
125	30	15,300	-66.9		27	16.1
100	30	16,623	-72.3		27	9.1
80	30	17,939	-69.8		30	.4
70	30	18,741	-66.4		07	3.8
60	30	19,684	-62.5		09	6.7
50	29	20,813	-59.6		09	8.6
40	29	22,220	-56.2		09	10.9
30	29	24,060	-51.9		09	11.5
25	29	25,254	-49.5		09	12.4
20	29	26,726	-46.6		09	12.7
15	22	28,647	-43.0		09	11.4
10	17	31,406	-39.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

*** WAKE IS., PACIFIC AREA — 1016 mb**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	26.7	23.6	09	7.2
1000	30	141	25.1	21.3	09	8.2
950	30	5[illegible]9	21.6	19.1	09	9.2
900	30	1,059	19.6	15.1	[illegible]	8.2
850	30	1,5[illegible]	16.3	11.3	09	7.7
800	30	2,0[illegible]	14.5	5.2	09	7.7
750	30	2,5[illegible]	12.3	.3	09	7.5
700	30	3,1[illegible]	9.8	-7.2	04	7.0
650	30	3,7[illegible]	6.7	-11.7	09	6.7
600	30	4,4[illegible]	3.3	-16.4	09	6.1
550	30	5,143	-.7	-21.6	09	5.7
500	30	5,7[illegible]	-5.4	-25.4	[illegible]	5.7
450	30	6,713	-11.1	-29.5	09	4.5
400	30	7,6[illegible]	-17.7	-33.3	09	3.7
350	30	8,5[illegible]	-24.4	-39.5	07	1.3
300	30	9,7[illegible]	-32.7	-46.6	29	2.7
250	30	10,947	-42.2		29	6.3
200	30	12,436	-53.9		29	9.7
175	29	13,243	-6[illegible]		29	10.2
150	29	14,229	-66.7		28	9.[illegible]
125	29	15,3[illegible]	-71.7		29	[illegible].7
100	27	16,622	-74.1		03	1.1
80	2[illegible]	17,927	-72.3		07	5.4
70	26	18,719	-68.9		08	8.8
60	26	19,646	-65.6		07	11.2
50	26	20,768	-61.6		09	12.9
40	26	22,143	-57.7		09	13.7
30	26	23,907	-53.2		09	14.6
25	26	25,179	-50.5		09	15.3
20	26	26,643	-47.6		09	16.4
15	25	28,559	-44.3		09	16.9
10	23	31,294	-41.7		09	17.4
7	12	33,726	-33.4			

*** [illegible] IS., [illegible], USA — 1014 mb**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	21.0	16.9	27	.6
1000	30	121	21.[illegible]	17.[illegible]	21	1.6
950	30	563	20.1	[illegible]	27	3.2
900	30	1,032	17.7	[illegible]	27	4.[illegible]
850	30	1,519	15.[illegible]	8.2	27	5.6
800	30	2,0[illegible]	12.1	4.[illegible]	26	6.7
750	30	2,5[illegible]	9.0	-.[illegible]	26	7.6
700	30	3,14[illegible]	5.4	-6.1	26	7.7
650	30	3,7[illegible]	3.1	-10.[illegible]	26	8.3
600	30	4,39[illegible]	-.4	-14.1	26	8.7
550	30	5,07[illegible]	-4.3	-1[illegible]	26	8.6
500	30	5,57[illegible]	-8.6	-24.3	28	10.[illegible]
450	30	6,072	-13.7	-29.9	28	10.6
400	30	7,524	-19.6	-36.0	25	12.2
350	29	8,505	-26.5	-42.2	25	12.2
300	29	9,6[illegible]	-35.0	-49.2	26	12.9
250	29	10,846	-44.6		26	14.5
200	29	12,303	-55.7		26	16.1
175	27	13,136	-[illegible]		27	17.8
150	27	14,094	-61.4		27	16.7
125	27	15,221	-63.0		27	14.5
100	27	16,590	-64.1		27	9.9
80	27	17,963	-62.0		26	4.9
70	27	18,791	-60.6		25	2.2
60	27	19,754	-58.9		12	1.1
50	27	20,904	-56.6		08	3.5
40	26	22,325	-54.4		09	6.1
30	26	24,183	-51.0		09	7.[illegible]
25	25	25,374	-48.8		09	7.7
20	23	26,867	-46.3		09	9.[illegible]
15	22	28,7[illegible]3	-42.5		09	10.1
10	19	31,546	-37.8		09	10.5
7	12	34,045	-32.5			

WASHINGTON DULLES INT'L AP — 1004 mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	85	18.5	16.[illegible]	21	.8
1000	30	123			25	.4
950	30	567	[illegible].3	13.[illegible]	24	3.9
900	30	1,027	16.7	9.7	25	5.7
850	30	1,513	14.4	[illegible]	26	7.1
800	30	2,0[illegible]	12.0	2.1	25	[illegible]
750	30	2,5[illegible]	[illegible].8	-2.[illegible]	26	9.1
700	30	3,13[illegible]	5.7	-6.6	26	9.7
650	30	3,722	2.3	-10.1	26	10.3
600	30	4,375	-1.3	-15.5	26	11.[illegible]
550	30	5,0[illegible]	-5.1	-2[illegible].4	26	11.5
500	30	5,6[illegible]	-9.5	-26.1	26	12.0
450	30	6,61[illegible]	-14.6	-31.[illegible]	26	13.3
400	30	7,478	-20.6	-35.7	26	14.[illegible]
350	30	8,472	-[illegible]7.7	-42.7	26	16.1
300	30	9,56[illegible]	-36.2	-50.4	25	17.7
250	30	10,8[illegible]	-46.[illegible]		26	18.8
200	30	12,249	-55.3		26	20.[illegible]
175	30	13,090	-59.2		26	19.2
150	30	14,053	-[illegible].3		26	17.2
125	30	15,165	-62.1		26	14.6
100	30	16,559	-63.2		26	10.[illegible]
80	30	17,938	-61.1		26	5.3
70	29	18,7[illegible]	-59.7		26	2.6
60	29	19,737	-57.8		11	.7
50	27	20,892	-56.0		09	3.1
40	2[illegible]	22,319	-53.8		09	4.6
30	27	24,18[illegible]	-50.4		09	6.5
25	26	25,38[illegible]	-48.1		09	7.6
20	23	26,857	-45.7		09	9.0
15	23	28,792	-41.3		09	9.9
10	21	31,568	-35.8		10	10.8
7	7	34,017	-32.0			

[illegible]SS, [illegible] — 10[illegible] mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	44	22.1	21.1	[illegible]	.6
1000	30	115	22.3	[illegible]	[illegible]	.7
950	30	562	22.3	[illegible]	[illegible]	1.4
900	30	1,033	[illegible]	12.9	17	1.5
850	30	1,525	17.6	[illegible]	[illegible]	1.3
800	30	2,041	14.4	5.1	[illegible]	1.[illegible]
750	30	2,5[illegible]	11.1	.6	16	1.2
700	30	3,157	[illegible].9	-5.5	16	1.3
650	30	3,757	4.2	-[illegible]	21	1.4
600	30	4,411	.[illegible]	-14.5	24	1.2
550	30	5,096	-3.[illegible]	-20.3	26	1.7
500	30	5,[illegible]	-[illegible]	-25.5	26	2.8
450	30	6,661	-12.7	-30.9	27	4.1
400	30	7,557	-18.6	-35.9	28	5.[illegible]
350	30	8,5[illegible]	-25.5	-42.0	28	6.2
300	30	9,638	-33.9	-49.0	29	6.8
250	30	10,890	-43.1		28	8.3
200	30	12,343	-52.2		29	12.4
175	30	13,218	-56.7		29	13.3
150	30	14,[illegible]	-61.2		29	12.7
125	30	15,3[illegible]	-[illegible]5.8		29	11.7
100	30	16,649	-[illegible].2		29	7.6
80	30	17,[illegible]91	-66.9		07	1.1
70	30	18,802	-64.5		1[illegible]	3.1
60	30	19,752	-61.2		07	5.[illegible]
50	30	20,692	-58.2		03	8.3
40	29	22,308	-54.4		09	10.1
30	28	24,167	-50.9		09	10.5
25	28	25,360	-48.7		09	11.4
20	27	26,835	-45.0		09	12.4
15	26	28,745	-42.2		09	12.1
10	22	31,534	-37.1		09	12.[illegible]
7	11	34,035	-32.5			

[illegible]

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	2[illegible]	[illegible]	[illegible]	2.[illegible]	[illegible]	.4
1000	2[illegible]	[illegible]				
950	2[illegible]	5[illegible]				
900	2[illegible]	[illegible]				
850	2[illegible]	1,473	[illegible]	3.7	[illegible]	1.[illegible]
800	2[illegible]	1,981	1[illegible]	1.3	[illegible]	[illegible]
750	2[illegible]	2,514	7.3	-1.3	3[illegible]	2.1
700	2[illegible]	[illegible]	3.2	-4.1	[illegible]	1.8
650	2[illegible]	[illegible]	-1.0	-7.8	[illegible]	[illegible]
600	2[illegible]	4,311	-5.1	-13.4	2[illegible]	3.8
550	2[illegible]	[illegible]	-9.5	-[illegible].3	[illegible]	4.9
500	2[illegible]	5,719	-14.2	-25.[illegible]	2[illegible]	5.6
450	2[illegible]	[illegible]	-19.6	[illegible]	2[illegible]	6.4
400	2[illegible]	[illegible]	-25.6	-37.0	2[illegible]	7.[illegible]
350	2[illegible]	[illegible]	-32.6	-43.5	27	9.2
300	2[illegible]	[illegible]	-4[illegible]	-47.6	27	11.1
250	2[illegible]	10,614	-49.3		27	1[illegible]
200	2[illegible]	12,056	-54.5		27	[illegible]
175	2[illegible]	[illegible]	-[illegible]		26	[illegible]
150	2[illegible]	[illegible]	-[illegible]		26	9.5
125	2[illegible]	15,051	-57.6		27	[illegible]
100	2[illegible]	16,[illegible]	-59.1		[illegible]	[illegible]
80	2[illegible]	17,851	-59.2		[illegible]	[illegible]
70	2[illegible]	18,[illegible]	-[illegible]		3[illegible]	1.[illegible]
60	27	19,659	-57.3		[illegible]	2.[illegible]
50	27	2[illegible],815	-[illegible]		[illegible]	3.[illegible]
40	27	22,243	-[illegible]		[illegible]	4.[illegible]
30	2[illegible]	24,108	-5[illegible].7		[illegible]	7.5
25	27	25,3[illegible]	-48.6		[illegible]	[illegible]
20	27	26,779	-45.4		[illegible]	[illegible]
15	2[illegible]	28,712	-41.8		[illegible]	[illegible].3
10	1[illegible]	31,5[illegible]	-36.2		09	12.[illegible]
7						

TUCSON, ARIZ. — 846 mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,467	14.0	-2.1	27	2.2
1000	30	58				
950	30	508				
900	30	980				
850	30	1,471			19	1.4
800	30	1,987	16.8	.1	26	5.9
750	30	2,528	13.1	-2.9	25	6.8
700	30	3,1[illegible]	8.8	-6.1	24	6.9
650	30	3,710	4.2	-9.6	23	7.3
600	30	4,363	-.5	-14.1	23	8.5
550	30	5,041	-5.4	-20.2	23	10.5
500	30	5,794	-10.3	-25.3	24	13.1
450	30	6,590	-15.7	-29.9	25	14.7
400	30	7,477	-22.0	-35.2	25	16.4
350	30	8,445	-29.4	-41.7	25	19.4
300	30	9,52[illegible]	-37.9	-48.8	24	21.[illegible]
250	30	10,759	-46.8		26	24.1
200	29	12,2[illegible]	-54.7		26	27.1
175	29	13,057	-57.8		26	25.7
150	29	14,025	-59.7		26	23.9
125	29	15,158	-62.5		26	18.6
100	29	16,525	-65.5		26	11.6
80	29	1[illegible]	-6[illegible].9		28	4.6
70	29	18,7[illegible]6	-62.3		31	.5
60	27	19,6[illegible]2	-[illegible]		09	2.7
50	29	20,6[illegible]3	-59.2		09	3.9
40	29	22,217	-55.5		09	7.1
30	29	24,0[illegible]	-51.9		09	8.8
25	29	25,256	-49.6		09	9.1
20	28	26,721	-47.4		09	9.5
15	25	28,632	-44.2		09	10.8
10	2[illegible]	31,4[illegible]1	-37.5		09	12.3
7	9	33,86[illegible]	-3[illegible].3			

YAKUTAT, ALASKA — 1015 mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	12	6.8	6.3	27	.5
1000	30	133	8.1	6.6	29	.5
950	30	557	9.7	4.0	35	.5
900	30	1,006	8.6	-.1	32	.4
850	30	1,478	7.3	-4.2	19	1.2
800	30	1,975	5.3	-5.8	19	2.2
750	30	2,495	2.7	-9.9	19	3.0
700	30	3,055	-.7	-12.6	19	3.3
650	30	3,640	-4.4	-15.5	19	3.5
600	30	4,270	-8.1	-20.[illegible]	20	4.1
550	30	4,935	-12.3	-24.3	2[illegible]	4.8
500	30	5,664	-16.9	-29.0	21	5.4
450	30	6,440	-22.3	-33.6	21	6.1
400	30	7,303	-28.5	-39.2	22	6.4
350	30	8,246	-36.0	-44.6	22	6.3
300	30	9,299	-43.7		23	7.5
250	30	10,5[illegible]3	-51.2		24	7.1
200	30	11,944	-52.8		24	7.3
175	30	12,809	-51.4		23	7.0
150	30	13,813	-50.5		23	5.6
125	30	15,001	-51.1		22	4.3
100	30	16,451	-51.2		21	1.9
80	30	17,903	-50.5		12	1.1
70	29	18,776	-50.2		1[illegible]	2.4
60	29	19,786	-49.6		09	3.4
50	28	20,985	-48.9		09	4.8
40	28	22,453	-47.9		09	6.2
30	27	24,362	-46.3		09	8.2
25	26	25,560	-44.6		09	9.5
20	25	27,080	-42.5		09	10.3
15	25	29,03[illegible]	-38.7		08	10.8
10	21	31,670	-32.7		09	12.4
7	15	34,387	-27.6			

+ YAP, CAROLINE IS. — 1008 mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	14	28.7	25.0	09	3.6
1000	30	90	27.5	23.0	09	4.6
950	30	536	23.5	16.8	09	6.6
900	30	1,014	2[illegible].8	15.7	1[illegible]	6.6
850	30	1,507	18.1	12.5	09	6.4
800	30	2,026	15.8	8.5	09	5.9
750	30	2,566	13.3	4.3	09	6.3
700	30	3,150	10.1	.1	09	6.6
650	30	3,758	7.0	-3.6	09	7.0
600	30	4,418	3.1	-8.4	09	7.6
550	30	5,11[illegible]	-.9	-12.1	09	6.8
500	30	5,874	-5.2	-17.3	10	6.6
450	30	6,689	-9.7	-22.7	07	5.5
400	30	7,597	-15.1	-29.0	09	4.5
350	30	8,594	-21.6	-36.5	09	2.8
300	30	9,711	-30.0	-44.6	07	2.3
250	30	10,982	-40.2	-52.8	15	2.3
200	30	12,464	-52.6		12	1.0
175	30	13,312	-59.9		03	1.5
150	30	14,258	-67.5		01	2.7
125	30	15,334	-75.1		04	3.7
100	30	16,613	-7[illegible]		06	5.7
80	2[illegible]	17,897	-74.8		08	9.2
70	28	18,651	-7[illegible].7		08	9.7
60	2[illegible]	19,606	-[illegible]		09	8.8
50	2[illegible]	20,722	-[illegible]2.2		09	8.7
40	28	22,117	-57.1		09	7.4
30	27	23,956	-52.5		09	5.7
25	26	25,142	-49.8		11	4.9
20	26	26,611	-47.0		11	6.6
15	24	28,525	-44.0		11	7.2
10	21	31,257	-40.4		10	10.5
7	17	33,711	-37.7		09	16.[illegible]

YUCCA FLAT, NEV. — 877 mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,198	13.6	4.[illegible]	30	1.0
1000	30	49				
950	30	508				
900	30	976				
850	30	1,463	18.1	1.3	32	1.6
800	30	1,979	15.2	-1.7	28	1.3
750	30	2,517	11.4	-4.1	22	1.9
700	30	3,094	7.1	-6.3	22	3.5
650	30	3,694	2.6	-9.0	22	4.1
600	30	4,341	-1.9	-13.6	24	4.3
550	30	5,021	-6.2	-18.5	25	6.2
500	30	5,766	-11.0	-25.1	25	8.1
450	30	6,562	-16.7	-31.0	26	9.7
400	30	7,443	-22.9	-36.2	26	11.9
350	30	8,407	-[illegible].5	-43.0	26	13.3
300	30	9,4[illegible]	-[illegible].7	-50.2	25	15.5
250	30	10,712	-47.2		26	18.1
200	30	12,163	-54.1		26	2[illegible].4
175	30	13,015	-56.6		26	19.1
150	29	13,990	-57.6		27	17.3
125	29	15,134	-60.0		27	14.6
100	29	16,522	-61.6		26	9.3
80	29	17,902	-61.8		27	3.9
70	29	18,731	-[illegible].1		30	.8
60	29	19,695	-58.6		07	2.1
50	2[illegible]	20,844	-57.0		09	3.2
40	29	22,263	-54.6		08	5.1
30	27	24,122	-51.5		08	7.9
25	26	25,313	-49.3		08	8.4
20	22	26,785	-46.7		09	10.2
15	11	28,7[illegible]	-42.8			
10						
7						

Y[illegible], [illegible] — 991 mb

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	21	131	21.9	7.6	02	.4
1000	21	50				
950	21	494	23.7	5.2	23	1.3
900	21	967	21.6	2.[illegible]	23	2.4
850	21	1,460	1[illegible]	-.4	21	3.1
800	21	1,978	15.9	-3.7	19	3.9
750	21	2,519	12.6	-6.9	19	4.[illegible]
700	21	3,097	[illegible].2	-11.9	21	4.[illegible]
650	21	3,699	5.4	-16.0	22	4.7
600	21	4,356	1.1	-18.9	23	6.6
550	21	5,040	-3.3	-24.2	24	7.[illegible]
500	21	5,796	-[illegible].4	-26.4	26	10.5
450	21	6,597	-14.2	-32.2	26	12.5
400	21	7,489	-2[illegible].4	-39.2	27	14.7
350	21	8,462	-2[illegible].2	-45.4	27	16.4
300	21	9,546	-37.2	-52.5	27	18.1
250	2[illegible]	10,765	-45.2		27	22.3
200	1[illegible]	12,245	-54.9		27	27.4
175	12	13,100	-5[illegible].1		27	27.2
150	1[illegible]	14,0[illegible]	-[illegible]2.3			
125	5	15,115	-63.[illegible]			

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun. JUNE 1969

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. MEX.									
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
June									
3-----	----	----	----	1.18	----	----	----	----	----
4-----	0.84	0.93	1.05	1.19	1.40	----	----	----	0.81
5-----	.83	.92	1.03	1.18	1.38	----	----	----	----
6-----	----	----	----	----	1.38	----	----	----	----
8-----	.63	.70	.87	1.08	1.31	----	0.71	0.56	.46
10----	----	----	----	----	1.42	1.22	1.03	.92	.82
11----	----	----	----	1.17	----	----	----	----	----
12----	.70	.79	----	1.06	1.35	1.06	----	----	----
13----	.64	----	----	1.07	1.30	1.11	.96	.80	.72
14----	.74	.81	.95	1.11	1.37	1.04	.84	----	----
15----	.61	.68	.83	----	----	----	----	----	----
16----	.73	.81	.89	----	----	----	----	----	----
17----	.75	.82	.96	1.11	1.35	1.09	----	.79	.72
18----	.80	.88	1.01	1.18	1.40	1.17	.99	.86	.78
19----	.82	.90	1.04	1.19	1.38	1.09	.87	.75	.65
20----	.87	.95	1.09	1.23	1.44	1.18	1.00	.90	.83
21----	.93	.97	1.14	1.30	1.43	1.21	.95	.79	.73
22----	.86	.96	1.07	1.23	1.40	1.16	.99	.86	.77
23----	.76	.85	1.00	1.16	1.35	1.08	.93	.80	.72
24----	.83	.93	1.05	1.21	1.40	----	----	----	.65
26----	.56	.64	.79	.91	1.23	.95	.81	.69	.62
27----	.87	.95	1.08	1.24	1.44	1.17	.98	.82	.76
28----	.96	1.03	1.13	1.27	1.45	1.07	----	----	.65
29----	.88	.95	1.06	1.19	1.39	----	----	----	----
30----	.90	.98	1.05	1.17	----	1.07	----	----	----
Averages	0.79	0.87	1.00	1.16	1.38	1.11	0.92	0.80	0.71
BLUE HILL OBS., MASS.									
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
June									
1-----	0.66	0.79	0.95	1.06	----	----	----	----	----
6-----	----	.48	.65	.88	----	0.79	0.59	0.38	----
7-----	----	----	----	----	----	.99	.79	.66	0.57
8-----	.48	.58	.69	.88	----	----	----	----	----
9-----	----	----	----	----	1.33	1.16	1.00	.87	.74
10----	.76	.86	.99	1.15	1.33	1.10	.91	.77	.66
11----	.69	.76	.91	1.11	----	----	----	----	----
22----	.57	.65	.81	1.03	1.33	1.10	.91	.78	.67
30----	.45	.61	.72	.89	1.17	.94	.75	.61	.50
Averages	0.60	0.68	0.82	1.00	1.29	1.01	0.83	0.68	0.63
MADISON, WIS.									
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
			No observations - instrument inoperative						

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
TUCSON, ARIZ.									
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
June									
1-----	0.52	0.65	0.79	0.97	1.25	----	----	----	0.57
2-----	.63	.75	----	1.01	----	----	----	----	----
3-----	----	----	----	.95	1.26	0.98	0.80	0.68	0.55
4-----	.63	.73	.85	1.02	1.28	.92	.78	.61	.53
5-----	.66	.76	.85	.97	1.21	----	.72	.60	.52
6-----	.63	.74	.86	1.00	1.19	.91	.74	.62	.52
7-----	.72	.83	.95	1.11	1.27	1.15	1.00	.88	.77
8-----	.59	.71	.85	1.08	1.33	1.11	.96	.86	.75
9-----	.74	.85	.98	1.17	1.35	1.15	.97	.85	.76
10----	.84	.92	1.02	1.19	1.36	1.13	.97	.84	.73
11----	.77	.87	.98	1.13	1.30	1.16	.98	.89	.78
12----	.76	.84	.95	1.11	----	----	----	----	----
13----	.75	.84	.95	1.11	1.28	1.12	.97	.84	.72
14----	.68	.78	.91	1.08	1.28	1.01	.86	.75	.67
15----	.75	.83	.95	----	1.35	----	----	----	----
16----	----	----	----	----	1.28	----	----	----	----
17----	.74	.84	.93	1.10	1.31	1.08	.89	.77	.67
18----	.69	.80	.92	1.08	1.27	1.11	.93	.81	.71
19----	.78	.88	.98	1.13	1.31	1.11	.96	.86	.77
20----	.77	.87	.96	1.14	1.33	1.20	1.06	.98	.88
21----	.89	.97	1.08	1.20	1.39	1.17	1.02	.89	.78
22----	.82	.91	1.00	1.18	1.32	1.12	.94	.83	.73
23----	.68	.77	.88	1.04	1.23	1.11	.96	.85	.77
24----	.76	.86	.97	1.10	1.29	.98	.79	.63	.47
25----	.75	.86	.96	1.11	1.32	1.05	.91	.75	.64
26----	.78	.89	1.00	1.14	1.34	1.15	.97	.85	.77
27----	.75	.85	.96	1.13	1.35	1.19	1.06	.96	.87
28----	.81	.90	1.02	1.16	1.33	1.15	1.01	.91	.80
29----	----	----	.91	1.08	1.25	1.05	.90	.80	.71
30----	----	----	.85	1.01	1.21	.99	.84	.73	.60
Averages	0.73	0.83	0.94	1.09	1.29	1.09	0.92	0.80	0.69
OMAHA, NEBR.									
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
June									
2-----	0.79	HS0.90	HS1.04	HS1.19	HS1.40	HS1.20	HS1.02	HS0.93	----
5-----	----	----	----	HS1.10	D 1.30	HS1.09	HS .82	HS .72	HS0.61
13----	HS .71	HS .82	HS .97	HS1.14	----	----	----	----	----
15----	HS .81	HS .91	HS1.03	HS1.15	----	----	----	----	----
21----	----	----	----	DS .92	----	----	----	----	----
27----	.80	.92	----	1.14	1.29	----	----	----	----
Averages	0.78	0.86	1.01	1.11	1.33	1.15	0.92	0.83	0.61

D Dust
* Values corresponding to true solar noon
DS Slight dust
HS Slight haze

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JUNE 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	599	643	---	739	711	619	597	698	622	738	612	759	578	732	429	447	711	754	753	757	766	756	712	620	682	740	756	747	650	731		678
AMES IOWA	342	444	683	488	651	390	159	620	691	619	460	180	687	309	644	629	534	583	503	629	545	260	149	431	164	183	677	267	385	456		459
ANNETTE ALASKA	281	39	124	533	748	721	675	705	735	741	748	685	494	585	663	702	686	735	717	337	349	124	450	556	540	498	544	611	223	284		528
APALACHICOLA FLORIDA	705	694	681	694	543	649	700	686	624	690	713	710	541	615	613	586	683	705	675	569	485	636	611	702	706	654	632	591	655	678		648
ARGONNE NAT. LAB.	262	318	278	296	705	579	296	253	732	762	563	635	591	461	667	600	661	489	506	679	395	231	283	166	454	644	705	704	404	359		489
ASTORIA OREGON	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	287	279	252	191	320	516	555	529	296	410	716		---
ATLANTA GEORGIA	484	455	699	468	296	599	569	548	342	228	322	442	427	405	406	627	521	627	521	491	659	662	391	489	543	513	---	---	---	---		490
BARROW ALASKA	428	421	530	503	641	634	491	430	592	640	524	710	670	537	715	647	759	524	605	662	573	679	740	764	678	743	669	709	703	717		621
BETHEL ALASKA	550	663	680	300	258	227	485	319	459	210	204	238	514	703	617	438	360	342	173	314	276	570	655	398	618	466	473	348	207	545		420
BISMARCK N.DAK.	409	711	597	771	742	209	154	812	671	191	821	759	571	576	584	758	667	404	387	483	603	383	502	425	106	415	199	201	783	708		520
BLUE HILL MASS.	629	360	263	552	530	648	631	614	662	686	605	606	584	351	218	318	607	369	238	525	485	723	215	148	228	673	578	418	602	654		491
BOISE IDAHO	687	---	726	720	494	547	564	364	570	441	671	714	641	667	663	483	718	646	518	691	723	416	239	386	535	594	490	666	560	763		583
BROWNSVILLE TEXAS	675	590	577	---	597	713	650	480	622	712	674	711	707	674	663	667	---	693	706	723	631	726	701	530	---	411	555	480	558	617		631
BURLINGTON VERMONT	543	484	217	341	555	229	535	531	695	690	613	563	365	449	82	565	647	426	406	272	671	531	90	94	332	593	400	602	394	285		440
CAPE HATTERAS N.C.	694	640	508	647	445	199	678	612	602	459	665	656	652	689	687	277	655	491	467	570	520	288	654	607	670	594	523	513	393	647		557
CARIBOU MAINE	773	179	206	369	664	264	600	825	665	---	760	638	583	415	235	214	699	469	399	559	731	713	128	128	231	744	552	605	688	495		501
CHARLESTON S.C.	640	655	674	649	413	355	703	697	661	441	463	494	306	357	390	637	368*	528	657	433	447	676	585	648	639	691	554	456	572	690		549*
CLEVELAND OHIO	517	113	240	632	451	509	447	197	788	617	589	571	438	284	70	756	630	235	243	98	---	---	---	298	632	682	586	748	659	365		459
COLUMBIA MISSOURI	345	792	704	560	690	724	739	305	732	657	636	381	560	67	704	734	225	525	601	572	249	280	666	356	294	698	717	452	727	446		538
DODGE CITY KANSAS	757	754	---	762	750	751	677	164	757	408	685	779	473	133	241	233	577	758	743	747	493	765	---	528	705	702	795	732	717	587		613
EL CENTRO CALIF. NPF	694	692	692	693	693	703	703	705	726	650	725	729	689	698	544	544	689	689	679	712	710	686	710	644	697	675	668	697	707	678		684
EL PASO TEXAS	682	524	643	760	782	737	767	773	723	785	806	785	784	775	505	731	774	780	786	758	749	805	788	759	781	794	783	753	772	732		746
ELY NEVADA	749	684	811	832	711	706	467	744	515	289	459	606	732	485	225	---	482	515	676	691	619	705	407	438	688	828	825	866	841	843		636
EPPLEY NEWPORT R.I.	---	344	243	620	463	618	547	648	629	703	656	634	623	435	310	298	646	458	213	583	267	689	164	341	176	667	601	613	634	677		500
FAIRBANKS ALASKA	470	662	650	363	417	601	505	380	333	544	449	560	693	693	649	274	614	634	665	616	578	534	625	495	464	473	618	345	225	424		518
FORT WORTH TEXAS	336	632	127	526	756	765	660	728	695	690	722	591	665	577	555	722	---	675*	---	728	735	---	639	704	720	666	743	711	712	733		649*
FRESNO CALIFORNIA	602	630	636	617	627	613	568	508	364	535	476	658	606	637	622	642	638	645	646	662	633	640	670	700	709	693	701	706	703	697		626
GAINESVILLE FLORIDA	580	650	572	425	556	465	456	542	479	434	509	576	500	406	525	565	524	560	606	523	369	619	556	512	545	608	599	448	688	407		527
GLASGOW MONTANA	794	678	475	758	---	624	546	609	478	609	640	728	803	786	646	751	652	485	308	115	413	393	617	523	125	103	172	173	249	656		514
GRAND JUNCTION COLO.	763	654	744	752	740	505	512	720	597	420	506	681	721	606	451	384	282	618	750	690	559	729	339	134	642	728	757	757	714	771		608
GREAT FALLS MONTANA	718	514	570	744	609	378	139	508	335	298	718	223	787	811	664	795	626	605	305	526	509	487	727	292	119	173	502	243	231	779		498
GREENSBORO N.C.	589	502	737	551	469	657	598	556	357	144	291	591	430	454	280	338	382	528	535	382	542	206	298	541	638	609	477	638	606	596		484
INDIANAPOLIS INDIANA	492	352	547	632	700	659	547	523	595	721	613	404	306	171	409	699	613	119	293	374	653	160	556	249	602	656	441	730	622	370		494
LAKE CHARLES LA.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	707	696	599	544	656	662	656	655	506		---
LAKELAND FLORIDA	561	556	501	502	347	420	549	489	588	466	493	523	439	310	565	402	463	524	501	591	292	551	489	461	579	510	557	560	615	509		497
LANDER WYOMING	794	717	698	761	735	574	546	82	272	123	443	241	261	745	475	331	720	750	557	504	519	619	580	485	564	537	715	592	801	802		551
LARAMIE WYOMING	641	600	658	647	589	419	369	310	641	250	274	526	259	487	416	148	192	713	568	443	556	494	199	380	389	428	735	728	629	735		480
LAS VEGAS NEVADA	740	744	728	708	710	654	748	744	744	637	718	673	760	712	506	433	420	738	744	757	741	706	710	749	760	773	773	773	777	768		705
LITTLE ROCK ARKANSAS	77	779	---	---	731	715	715	631	219	498	675	669	503	---	---	762	---	438	525	264	510	584	294	476	674	588	635	677	656	649		558
LOS ANGELES CALIF.	230	294	493	427	368	491	211	518	672	568	459	487	716	386	297	247	341	603*	480	443	441	523	347	337	537	561	463	652	760	780		471*
LOS ANGELES CALIF. U	459	168	207	402	378	281	356	200	497	541	146	115	267	---	365	---	99	313	591	567	351	441	184	358	154	335	497	511	641	750		387
MADISON WISCONSIN	289	275	388	292	678	421	190	703	778	751	351	461	782	454	588	729	507	446	390	815	278	147	223	162	248	412	718	644	198	652		466
MANHATTAN KANSAS	584	---	640	615	671	670	650	80	710	520	330	405	661	322	690	425	69	655	580	565	401	623	531	370	406	303	701	640	596	372		510
MATANUSKA ALASKA	547	605	590	304	250	533	618	132	262	498	579	673	682	736	653	370	310	659	623	559	546	425	383	542	347	553	555	510	517	527		503
MEDFORD OREGON	781	794	782	640	436	366	339	201	187	400	645	752	768	744	779	739	616	617	---	---	764	381	319	581	525	591	587	641	784	---		576
MIAMI FLORIDA	712	360	644	287	565	204	348	373	579	559	487	307	161	463	403	586	515	573	184*	321	410	437	539	655	676	622	706	715	399	464		475*
MIDLAND TEXAS	693	495	546	695	738	753	714	671	658	714	770	641	335	463	175	420	636	723	744	755	---	735	667	---	732	743	700	741	743	746		648
NASHVILLE TENNESSEE	590	464	721	579	708	675	668	568	598	274	593	486	514	312	126	737	685	283	695	560	536	522	351	511	---	599	620	629	647	551		545
NEW YORK N.Y. U	682	596	675	754	562	650	664	494	630	693	623	610	564	229	393	433	571	270	476	594	414	781	96	378	201	226	467	---	---	---		508
NORTH OMAHA NEBRASKA	485	770	633	467	718	649	538	587	668	588	223	374	720	400	668	595	427	668	563	654	683	320	256	401	577	540	726	402	---	---		546
OAK RIDGE TENNESSEE	520	318	747	496	684	663	612	529	525	296	635	616	549	543	477	389	647	492	711	529	497	471	301	402	660	540	630	537	582	589		540
OKLAHOMA CITY OKLA.	622	678	387	685	736	747	732	594	369	605	623	411	391	269	611	571	284	611	715	633	675	681	519	532	371	638	572	737	711	708		581
PALMER AAES ALASKA	643	577	492	314	323	559	582	127	290	465	556	641	658	733	542	382	349	614	626	538	485	436	358	475	274	511	517	487	496	434		484
PHOENIX ARIZONA	753	737	736	736	729	723	759	761	760	743	742	691	735	733	446	590	734	749	743	758	760	748	730	---	730	732	744	760	759	726		726
PORTLAND MAINE	722	256	244	617	603	477	591	455	755	746	731	650	618	427	293	335	703	486	416	---	621	724	252	92	312	709	603	587	647	656		529

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII, A, and B, of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
RAPID CITY S.DAK.	402	708	609	730	650	617	236	249	613	118	245	616	432	729	663	754	708	554	530	246	449	452	481	238	425	306	722	466	668	562		506
RENO NEVADA	605	686	689	479	584	690	587	192	630	439	270	600	458	488	596	399	332	460	594	623	602	603	455	710	603	701	728	715	714	707		565
RIVERSIDE CALIFORNIA	421	359	553	528	402	486	594	524	659	201	245	337	627	518	481	203	559	626	736	530	391	533	599	247	503	706	707	689	756	763		516
RUSTON LOUISIANA	336	688	407	269	535	662	638	582	598	550	641	638	477	581	284	645	624	552	611	392	---	---	574	555	605	545	582	540	606	516		544
SAINT CLOUD MINN.	285	432	695	597	590	184	432	675	700	80	393	549	262	535	656	610	605	391	527	657	120	262	239	438	140	739	764	548	279	564		465
SALT LAKE CITY	769	742	770	775	644	618	518	752	698	453	760	632	681	785	394	293	478	717	573	614	482	673	317	367	387	683	600	661	825	812		616
SAN ANTONIO TEXAS	553	572	153	311	637	736	597	577	536	728	574	584	638	692	682	708	698	698	730	725	726	670	687	585	356	511	630	606	683	664		608
SANTA MARIA CALIF.	303	417	398	218	525	700	689	332	426	526	369	675	536	467	647	187	218	467	450	358	541	671	708	714	779	721	768	780	772	775		538
SAULT STE MARIE MICH	153	377	219	451	519	631	653	684	707	662	133	111	724	547	713	564	693	526	633	---	408	279	342	294	403	275	509	219	204	422		450
SEATTLE TACOMA WASH.	732	672	737	702	522	218	507	648	695	419	522	536	463	592	744	721	680	652	356	249	326	319	184	240	573	616	405	574	469	726		527
SPOKANE WASHINGTON	712	654	709	705	451	661	696	353	---	---	---	---	755	655	713	733	619	583	598	685	456	553	224	386	278	176	344	---	---	---		552
STATE COLLEGE PENN.	---	---	---	---	---	---	---	226	792	608	520	568	547	471	207	607	655	318	579	618	823	483	412	430	587	683	582	713	743	706		560
STERLING VIRGINIA	456	557	690	---	541	622	506	420	208	232	323	533	493	408	238	439	---	157	535	518	363	320	505	501	551	478	333	537	615	635		454
SWAN ISLAND W.I.	582	610	510	431	271	616	530	474	508	572	452	607	379	453	633	623	677	621	677	361	667	634	654	615	203	586	494	622	603	304		532
TAMPA FLORIDA	713	705	691	611	607	493	504	557	674	621	471	589	492	322	494	555	644	695	533	697	568	664	675	621	655	634	640	636	603	462		568
TUCSON ARIZONA	675	583	725	728	541	719	754	756	765	758	753	709	742	737	704	596	740	742	737	750	762	749	717	733	740	747	748	741	727	719		720
WAKE ISLAND PACIFIC	268	280	656	486	682	677	677	681	679	666	676	635	673	623	679	657	675	650	692	621	667	462	690	660	670	549	643	646	602	664		619

Note.--Langley is the unit used to denote one gram calorie per square centimeter.

Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

JUNE 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	268	261	212	119	132	231	230	35	66	206	217	257	227	294	255	173	145	246	252	204	201	193	176	212	107	203	210	192	215	219		199

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	15.03	16.33	25.69	17.99	23.79	15.15	7.45	24.27	25.10	23.32	18.70	8.28	25.57	13.73	22.37	21.31	18.23	19.41	14.32	21.19	20.00	10.30	8.05	15.74	6.74	6.86	24.03	8.64	13.73	14.56		16.86

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code ,s ϱ ϱ ϱ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

STORM SUMMARY

DELAYED DATA

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				Ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS
February 1969																													
Louisiana						0	0	?	?	0	0	4	0													0	1	4	0

See footnotes with current data

C O R R E C T I O N S

Month: February 1969

page 99: Seattle-Tacoma, Wash. — Solar radiation total for the 17th should be 181 and the average 164.

Month: March 1969

page 139: Wyoming — There was no occurence of storms or unusual weather phenomena.

page 155: Salt Lake City, Utah — Solar radiation average should be 461.

Month: April 1969

page 240: Lihue Kauai, Hawaii — The 5 mb. height should be 35,901 m.

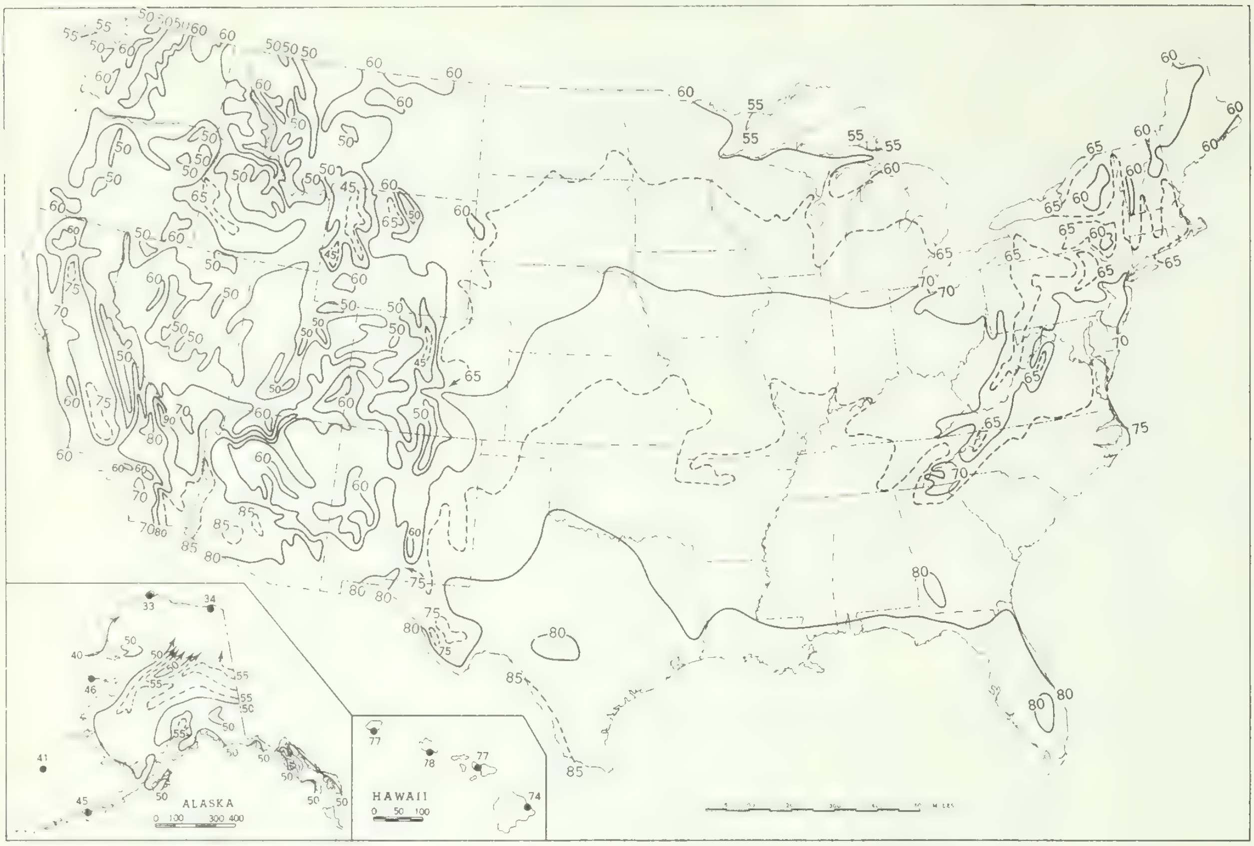
SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. DELAYED DATA

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
DECEMBER 1968																																
FLAMING GORGE UTAH	134	121	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MANHATTAN KANSAS	9	99	236	179	177	228	236	216	185	209	180	104	143	222	195	171	5	3	196	222	11	122	223	166	152	27	8	176	209	145	236	151
PROSSER WASHINGTON	135	88	109	28	156	158	47	115	50	65	90	171	43	113	41	107	100	81	35	156	111	33	74	73	179	139*	108	91	168	134	75	99
PULLMAN WASHINGTON	75	78	35	47	56	158	102	80	30	17	41	143	64	47	34	102	138	62	77	62	69	80	64	50	157	37	68	97	---	---	---	74
SEATTLE WASH. UNIV.	36	14	4	36	83	67	50	7	15	28	100	13	48	9	26	17	61	138	60	16	12	35	106	70	18	75	38	138	104	20	17	47
SWAN ISLAND W.I.	441	412	442	433	411	382	314	174	92	362	423	404	354	224	385	391	440	286	407	410	428	197	315	391	135	391	361	425	238	280	396	346
JANUARY 1969																																
GENEVA NEW YORK	138	105	84	169	160	32	145	170	69	116	169	137	126	124	177	189	53	30	---	172	220	226	143	82	147	128	216	233	22	17	78	129
PULLMAN WASHINGTON	---	7	17	56	64	55	40	107	74	82	19	27	53	85	87	109	144	184	89	110	108	189	225	215	126	153	173	155	189	162	86	106
SEATTLE WASH. UNIV.	58	82	7	4	2	9	84	15	36	21	51	93	33	66	90	39	70	93	67	79	104	160	97	133	59	63	76	185	68	153	111	71
TALLAHASSEE FLORIDA	336	129	82	209	174	344	323	249	224	331	99	312	347	327	284	294	199	222	64	135	187	144	128	207	215	285	286	246	292	301	345	236
FEBRUARY 1969																																
LOS ANGELES CALIF.U	363	363	404	338	199	212	366	391	395	353	174	148	374	101	63	439	426	123	212	278	173	261	31	105	156	418	457	247				274
MANHATTAN KANSAS	324	175	332	323	302	317	84	238	350	320	333	281	50	57	177	307	361	376	295	67	88	124	74	121	172	53	52	259				215
PULLMAN WASHINGTON	219	158	119	212	164	143	249	123	181	202	105	101	306	187	202	138	298	302	75	171	155	174	172	291	274	186	354	259				201
SEATTLE WASH. UNIV.	53	62	62	37	167	227	71	23	218	37	86	149	118	95	103	168	160	249	---	243	237	78	56	261	124	174	255	188				139
MARCH 1969																																
FLAMING GORGE UTAH	---	---	---	---	330	190	271	470	430	464	464	450	480	484	472	502	487	376	490	504	458	481	171	437	469	532	459	339	535	457	424	431
PAGE ARIZONA	250	516	286	159	546	244	517	515	487	192	318	441	358	582	595	596	561	497	615	612	529	561	---	634	635	631	632	625	646	644	485	497
PULLMAN WASHINGTON	141	313	313	313	108	120	375	379	417	414	432	435	434	335	283	299	208	182	262	465	436	193	465	479	477	407	361	483	416	379	352	344
MAY 1969																																
FLAMING GORGE UTAH	585	546	601	523	361	415	413	684	654	614	659	525	---	665	512	688	709	470	541	555	690	706	525	672	576	692	725	694	604	428	696	591
PAGE ARIZONA	763	744	782	390	447	296	209*	735	697	777	678	671	733	736	797	810	809	804	807	712	805	798	799	803	810	816	818	816	806	793	609	712*
PROSSER WASHINGTON	240	464	475	667	652	694	691	693	670	688	666	679	400	532	715	424	689	598	312	593	721	724	681	447	578	349	680	590	219	764	751	582

See reference notes with current data

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), June.



B. Temperature Departure from 30 - Year Mean (°F 1931-60), June 1969.

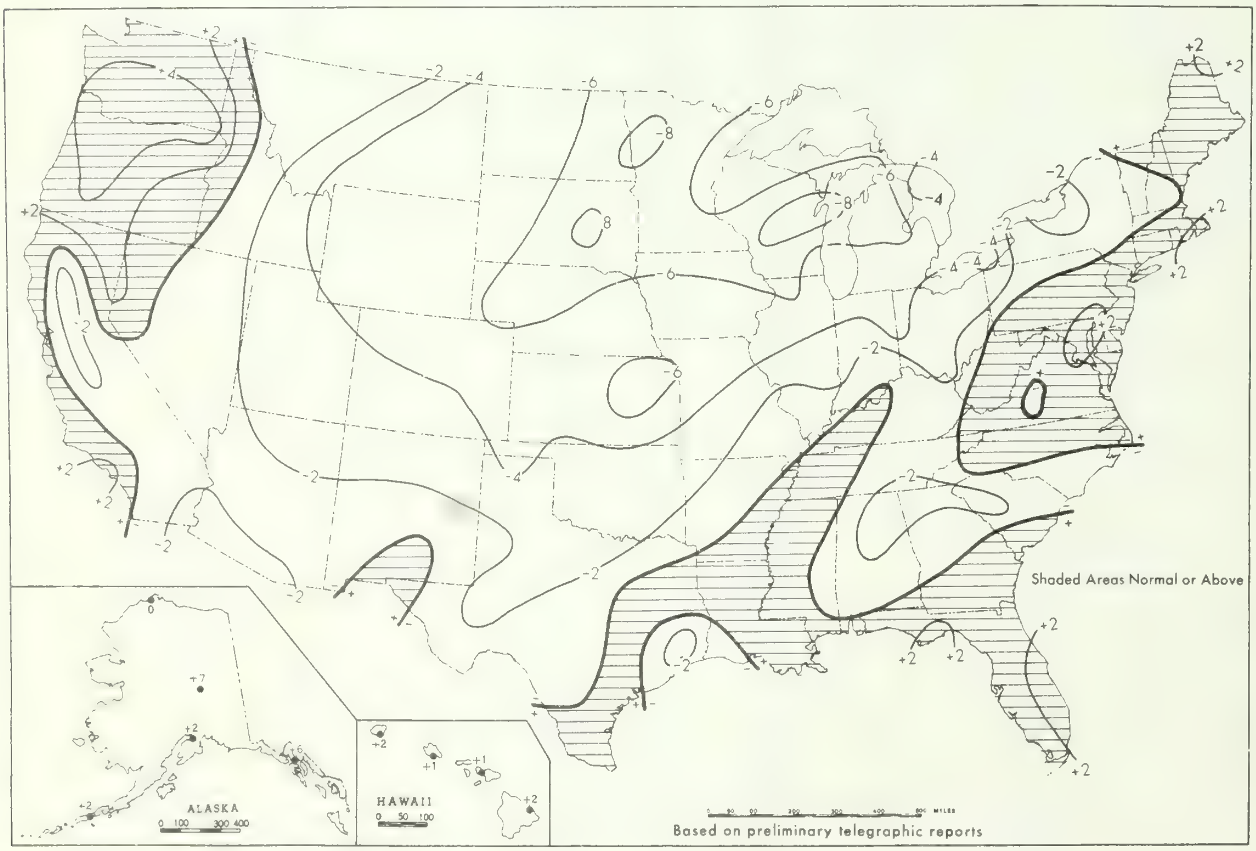


Chart II. Total Precipitation (Inches), June 1969.

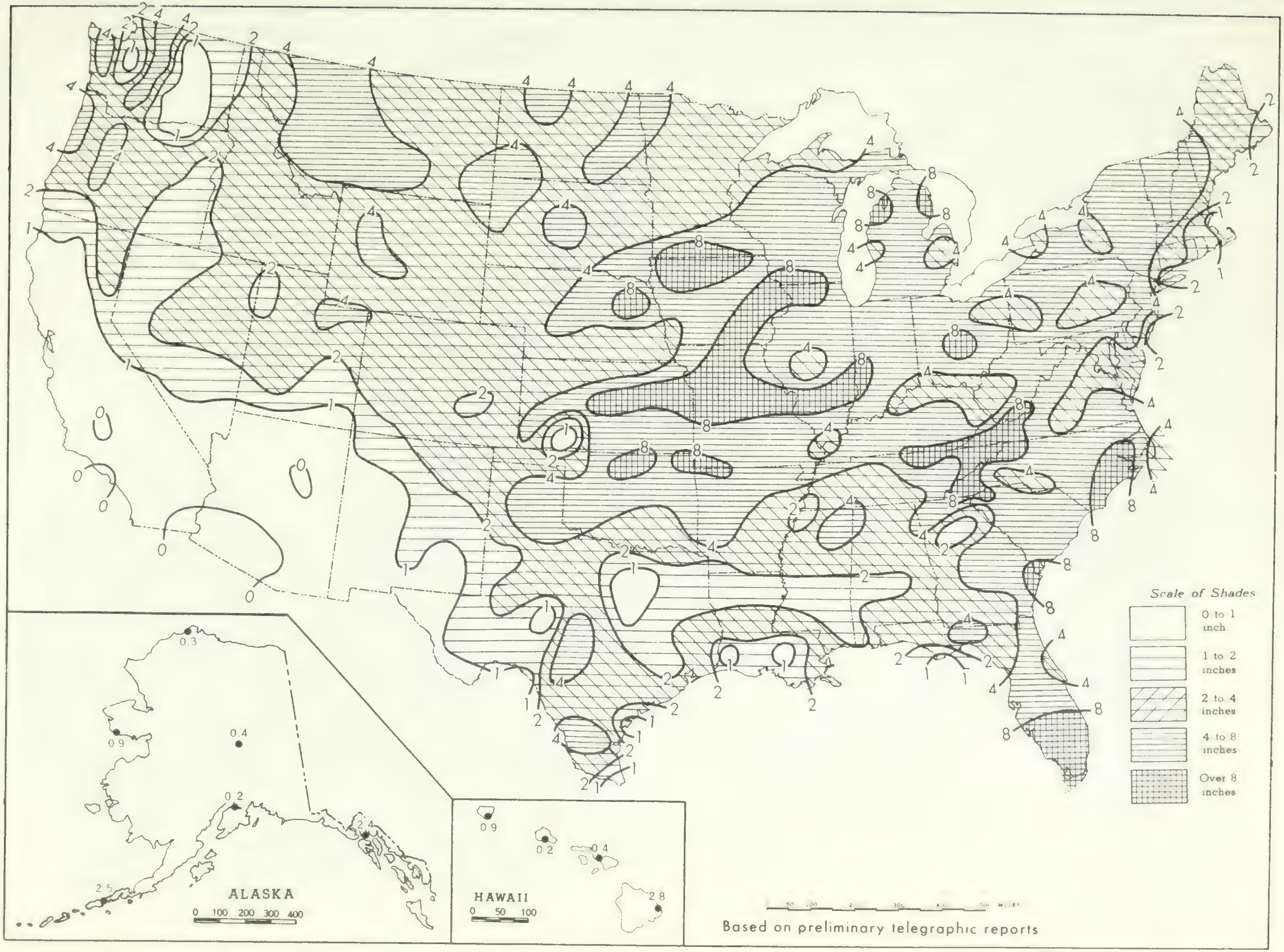


Chart III. Percentage of Normal Precipitation, June 1969.

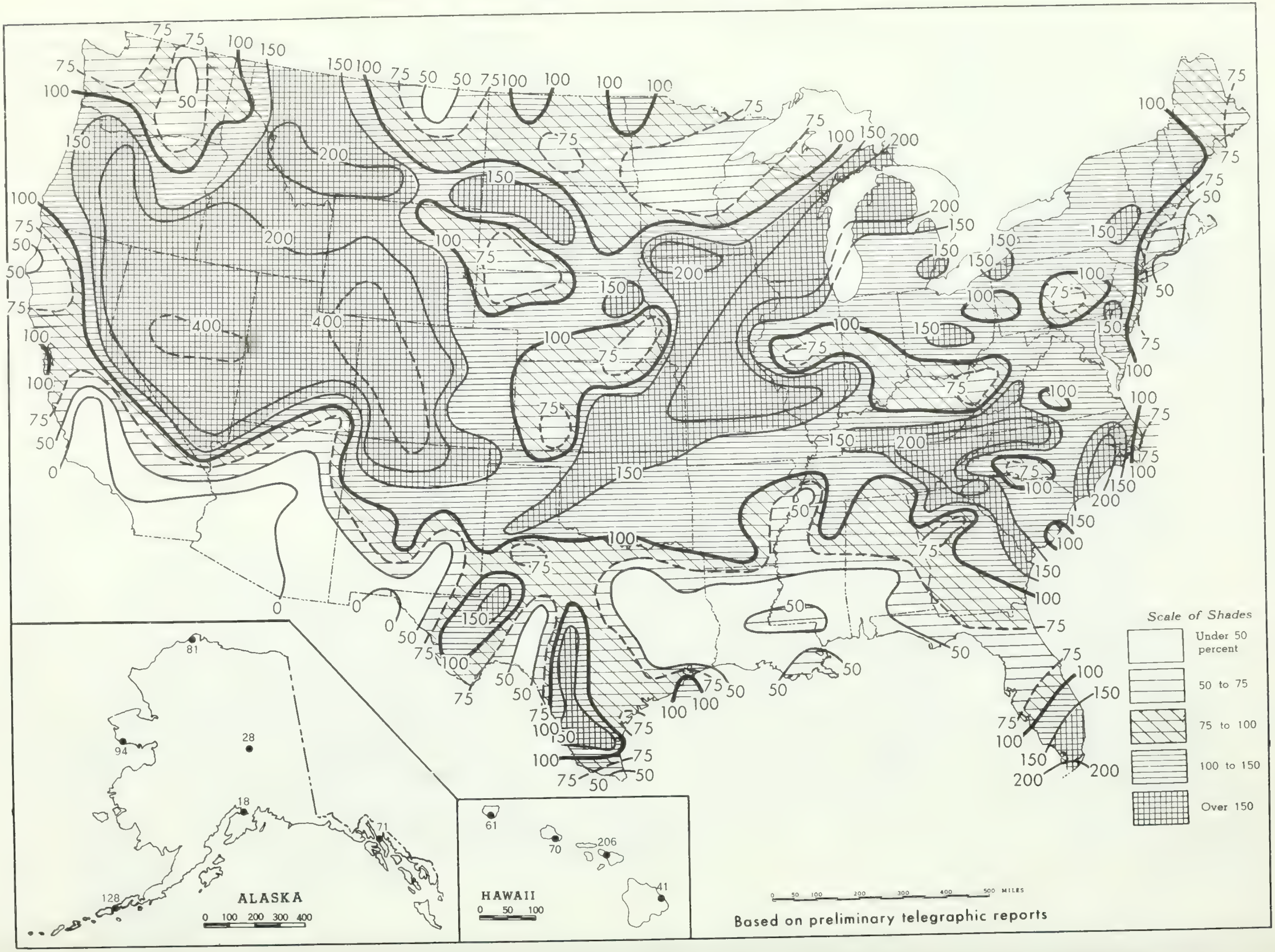
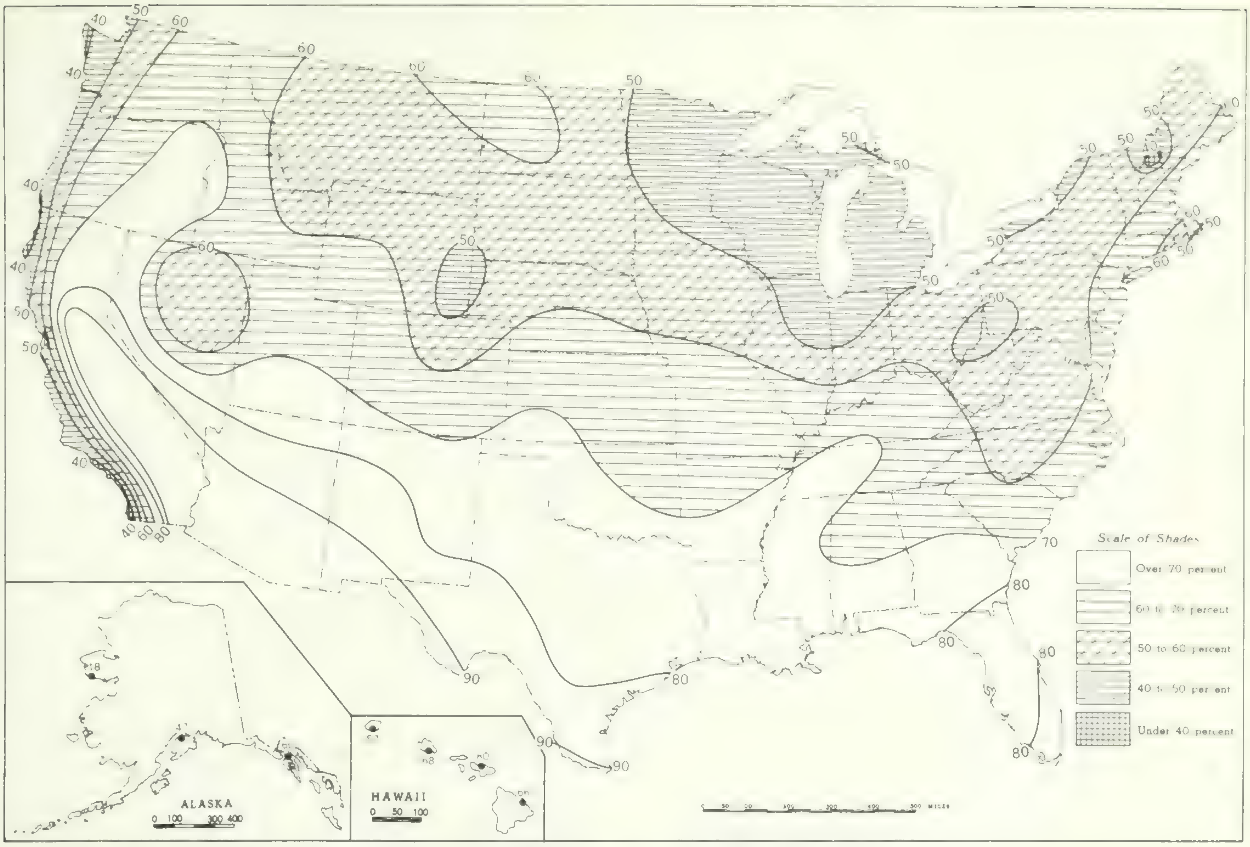
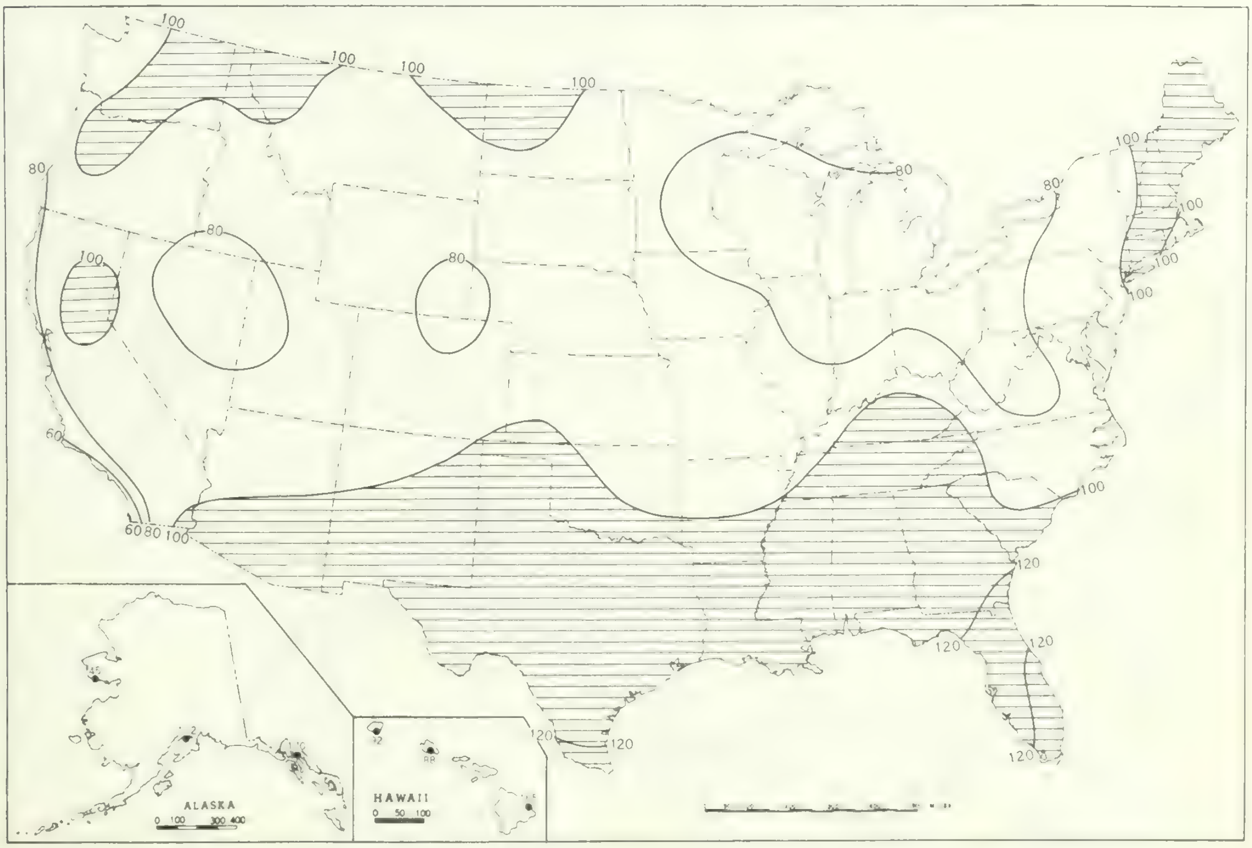


Chart VI. A. Percentage of Possible Sunshine, June 1969.

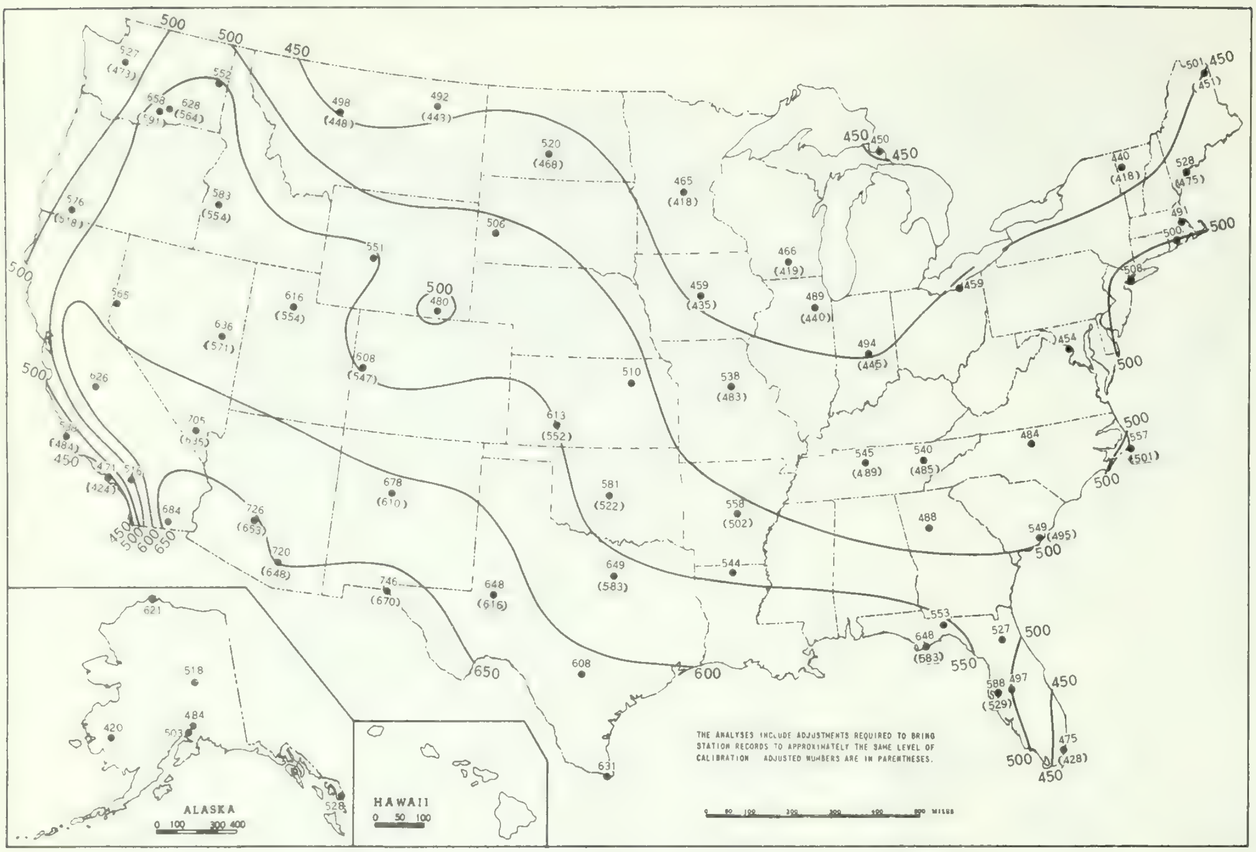


B. Percentage of Mean Monthly Sunshine, June 1969.

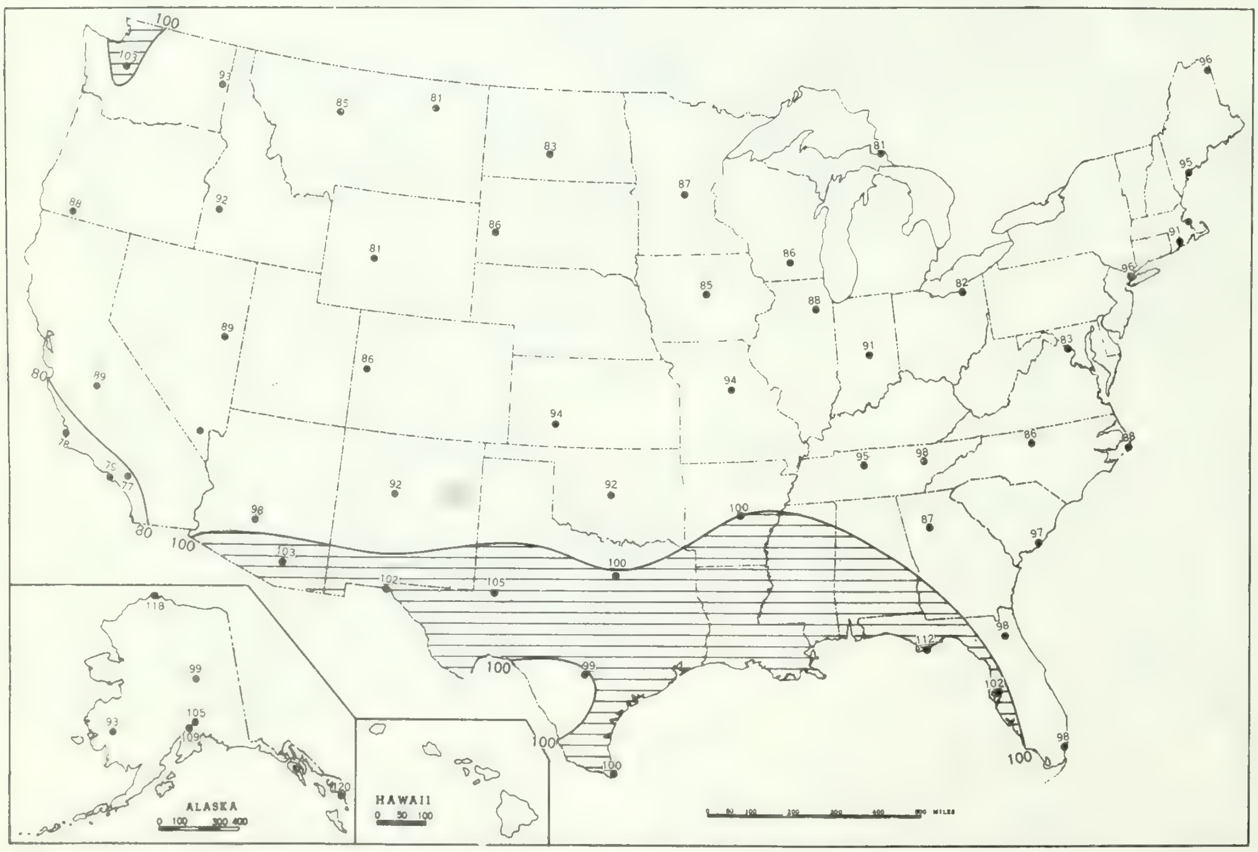


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, June 1969.

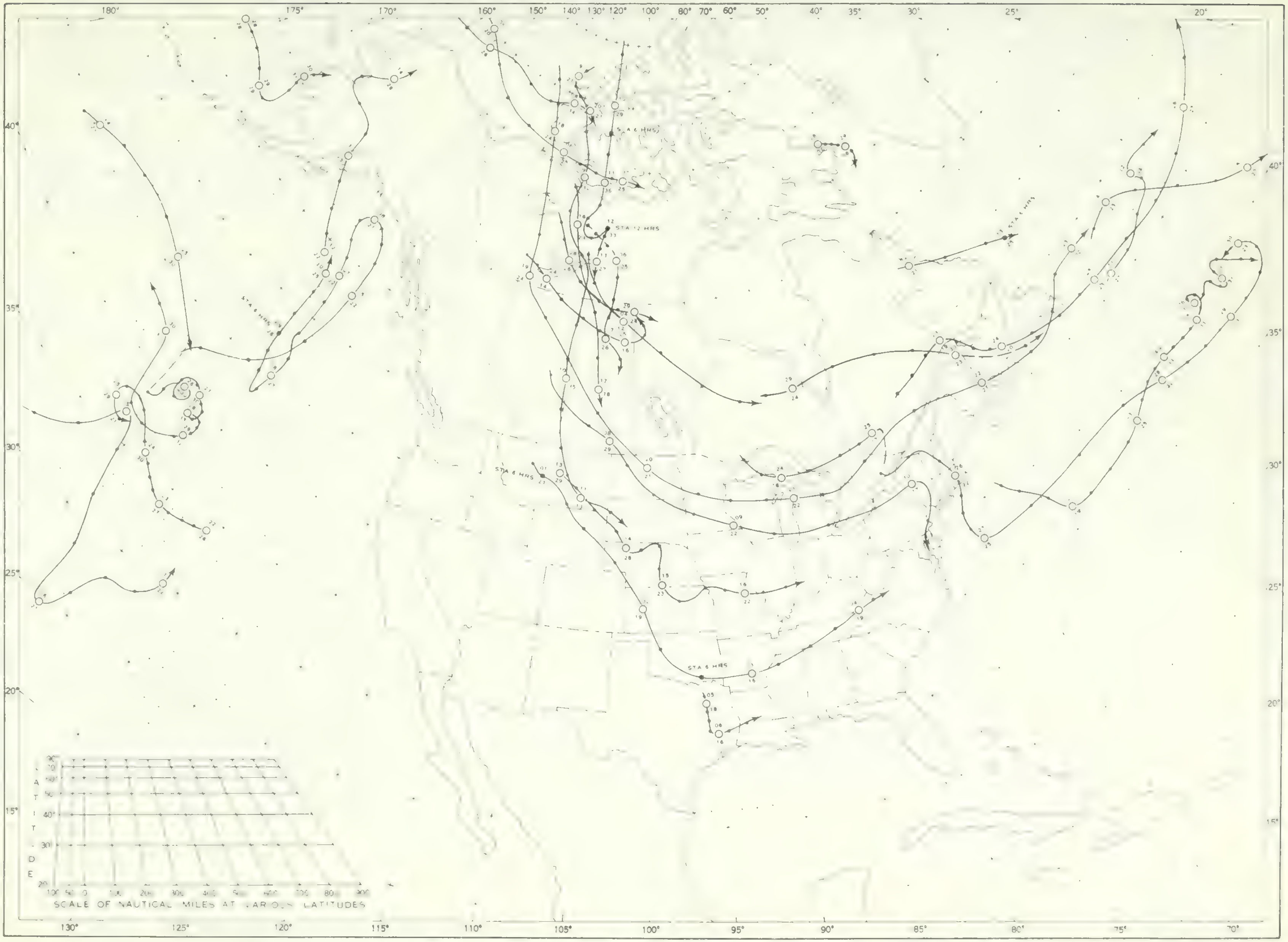


B. Percentage of Mean Daily Solar Radiation, June 1969.



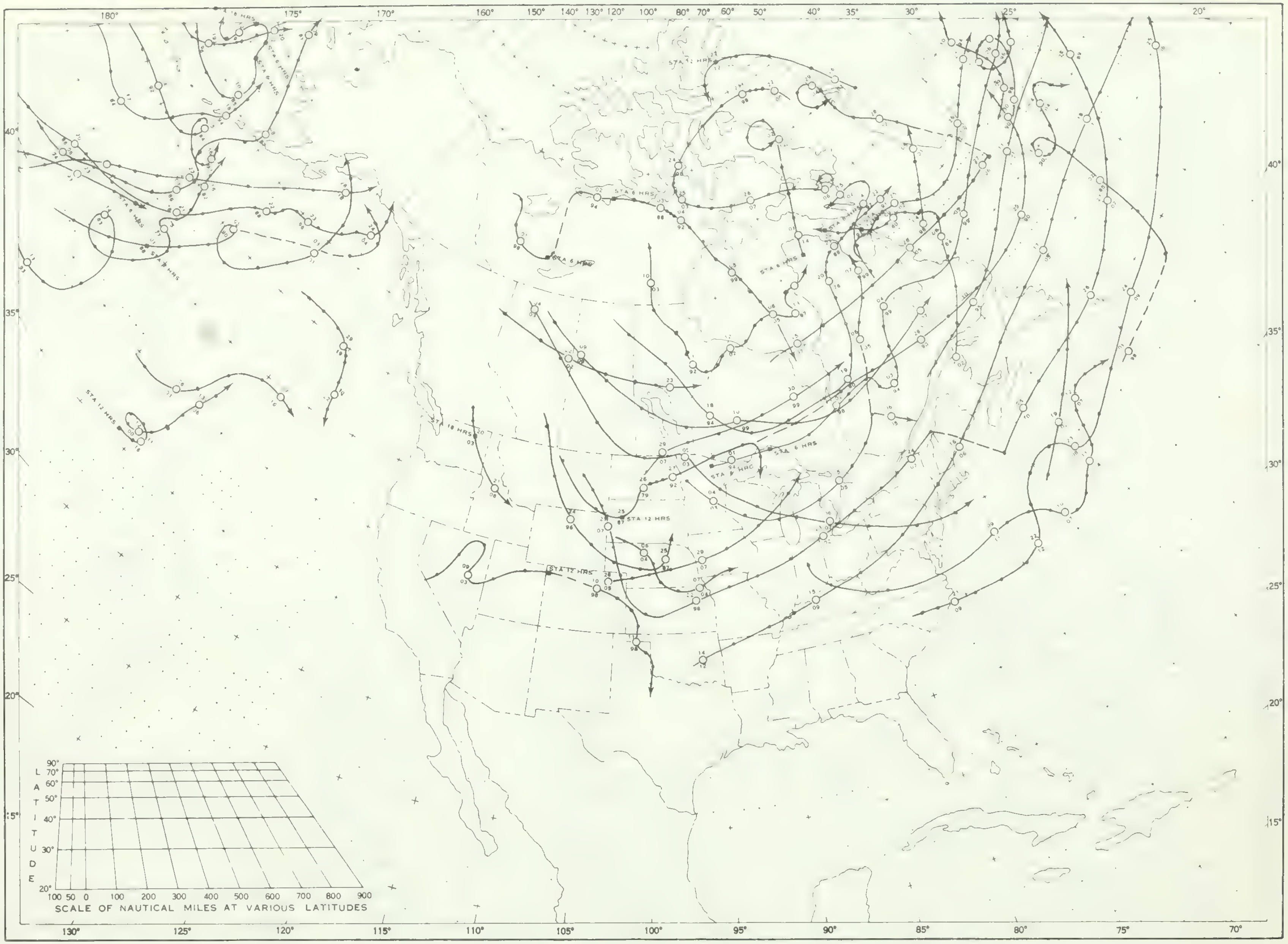
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, June 1969.



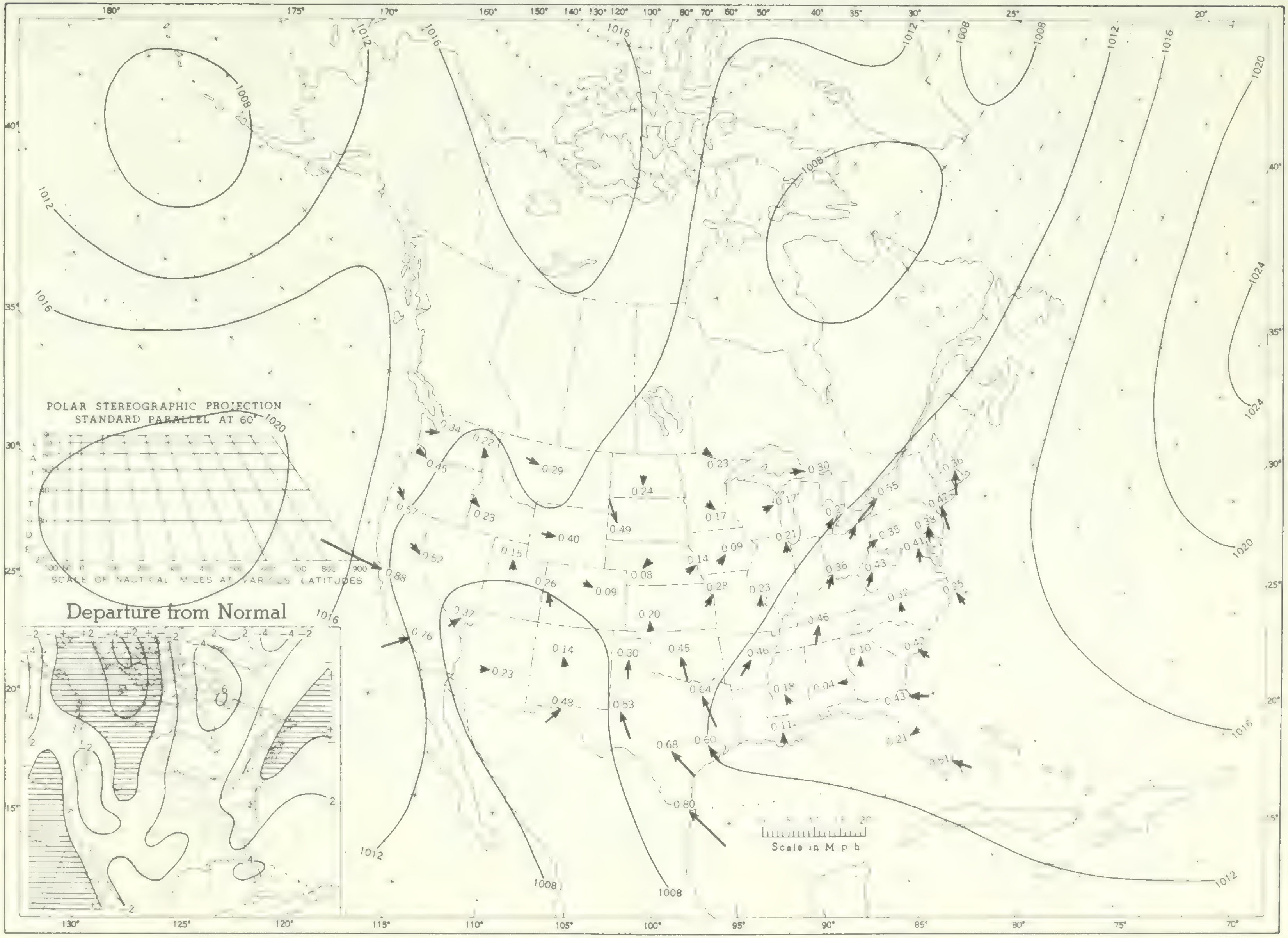
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX Tracks of Centers of Cyclones at Sea Level, June 1969.



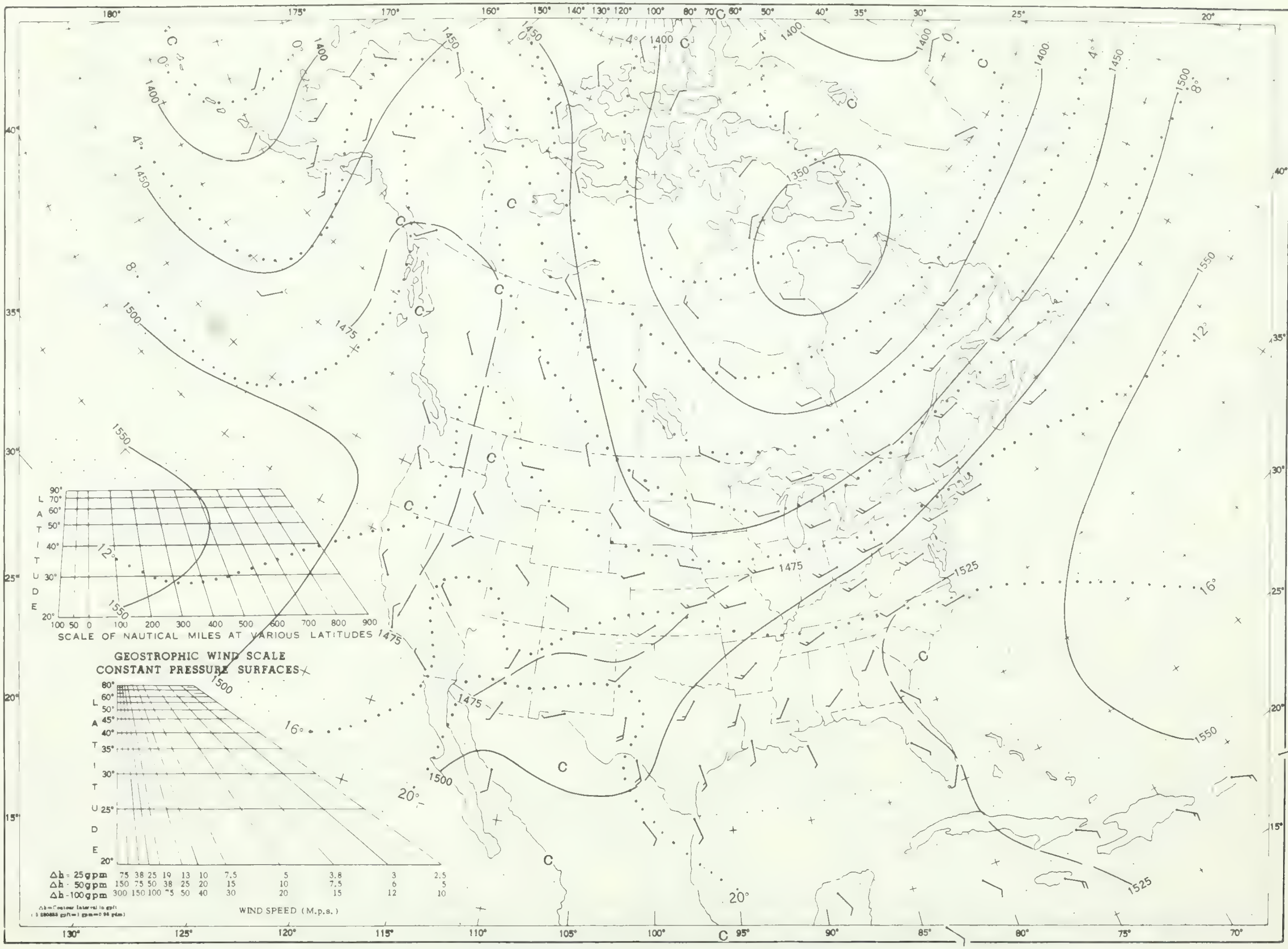
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, June 1969. Inset. Departure of Average Pressure (mb) from Normal, June 1969.



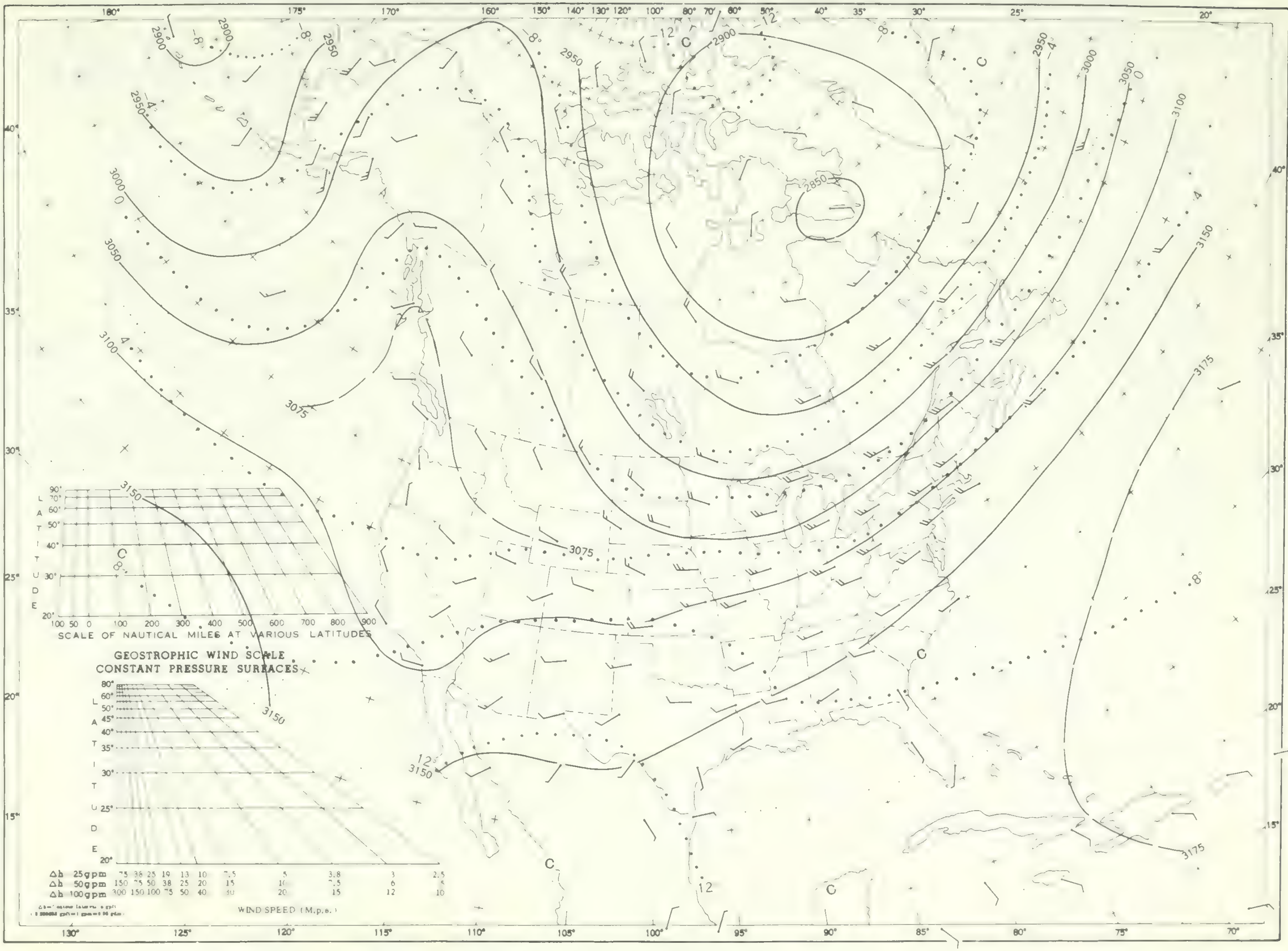
Average sea level pressures are obtained from eight daily 3 hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb Surface, 1200 GMT, June 1969. Average Height and Temperature, and Resultant Winds.



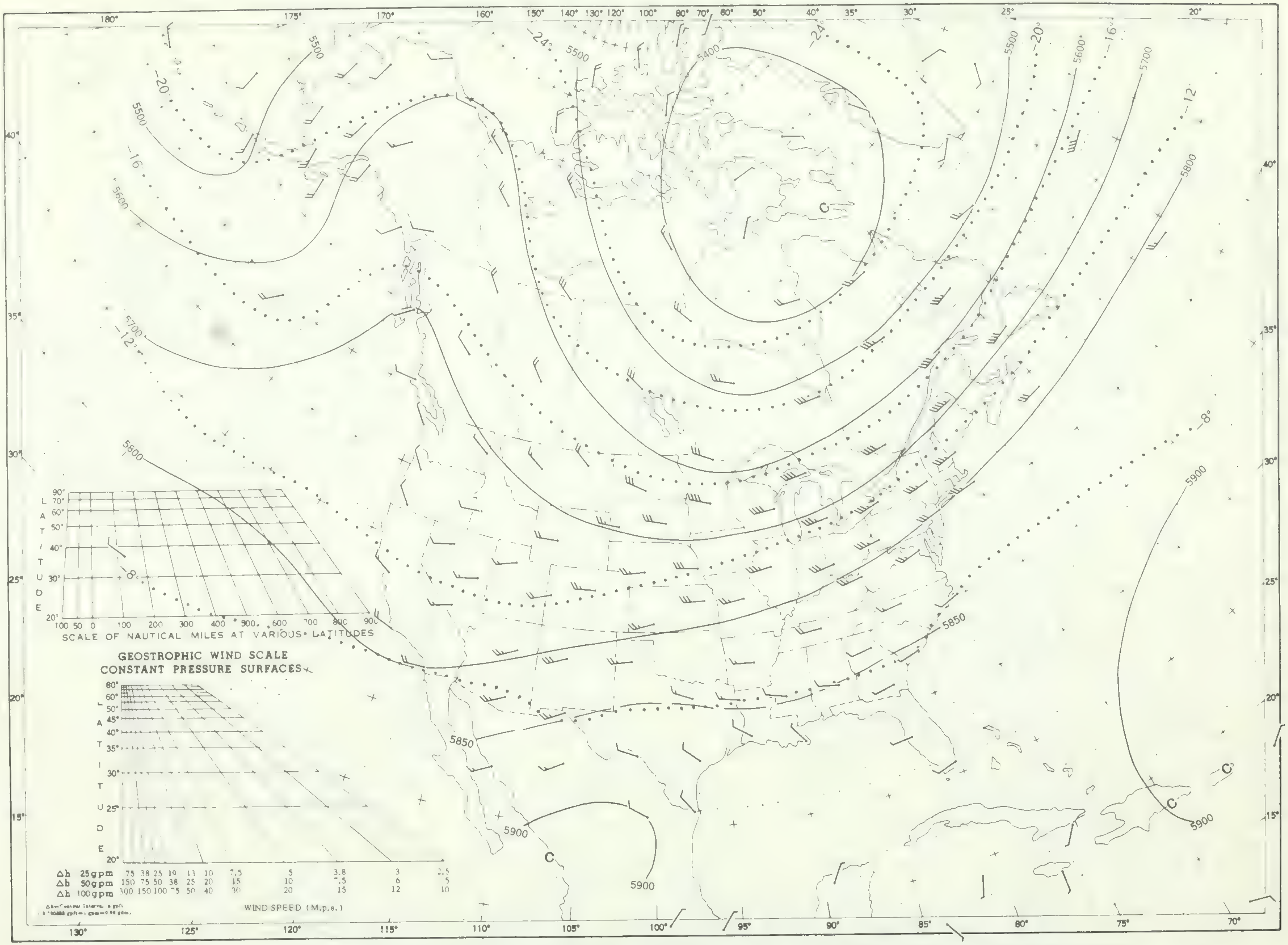
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII 700-mb Surface, 1200 GMT, June 1969. Average Height and Temperature, and Resultant Winds



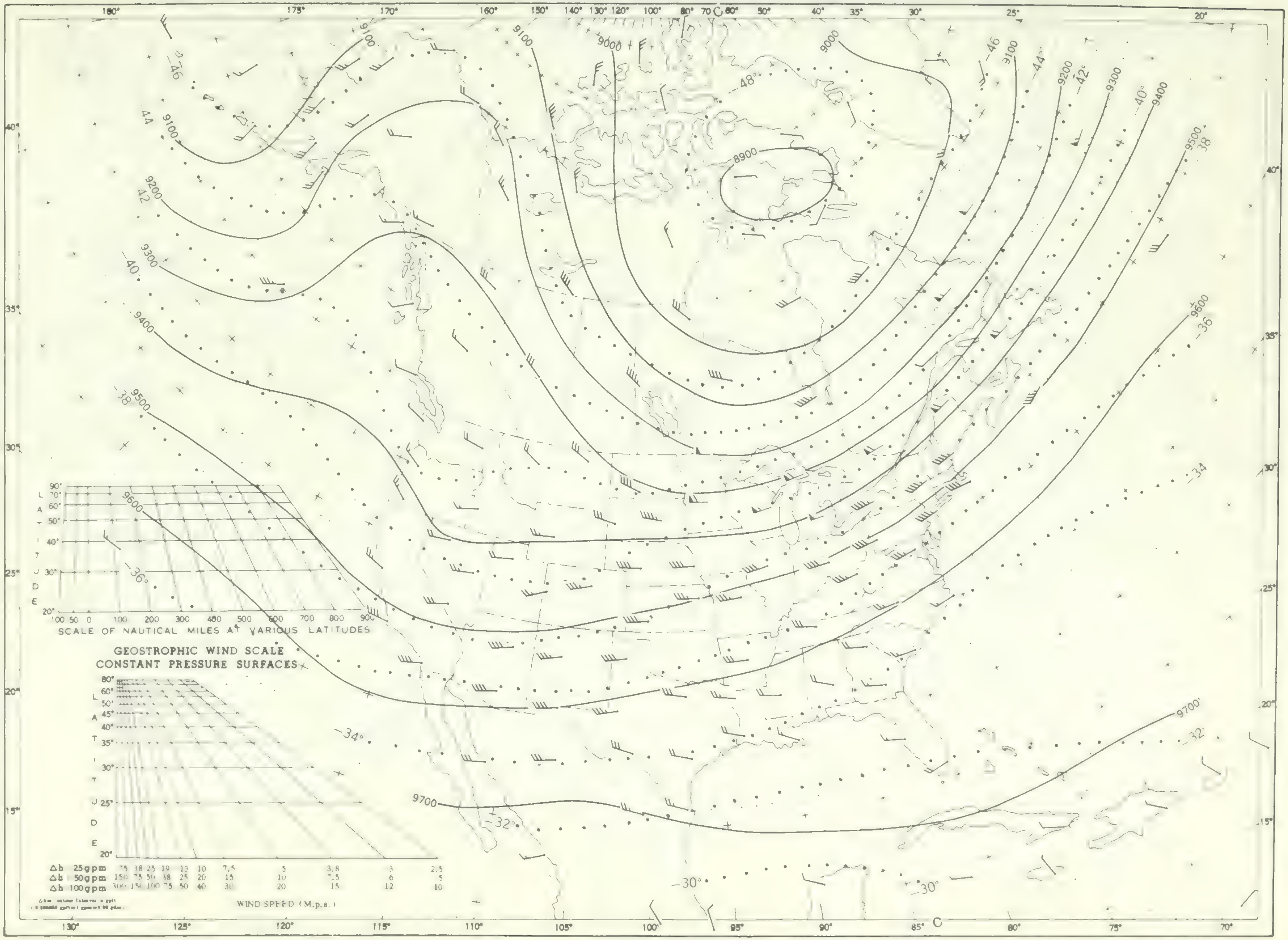
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII 500-mb Surface, 1200 GMT, June 1969. Average Height and Temperature, and Resultant Winds.



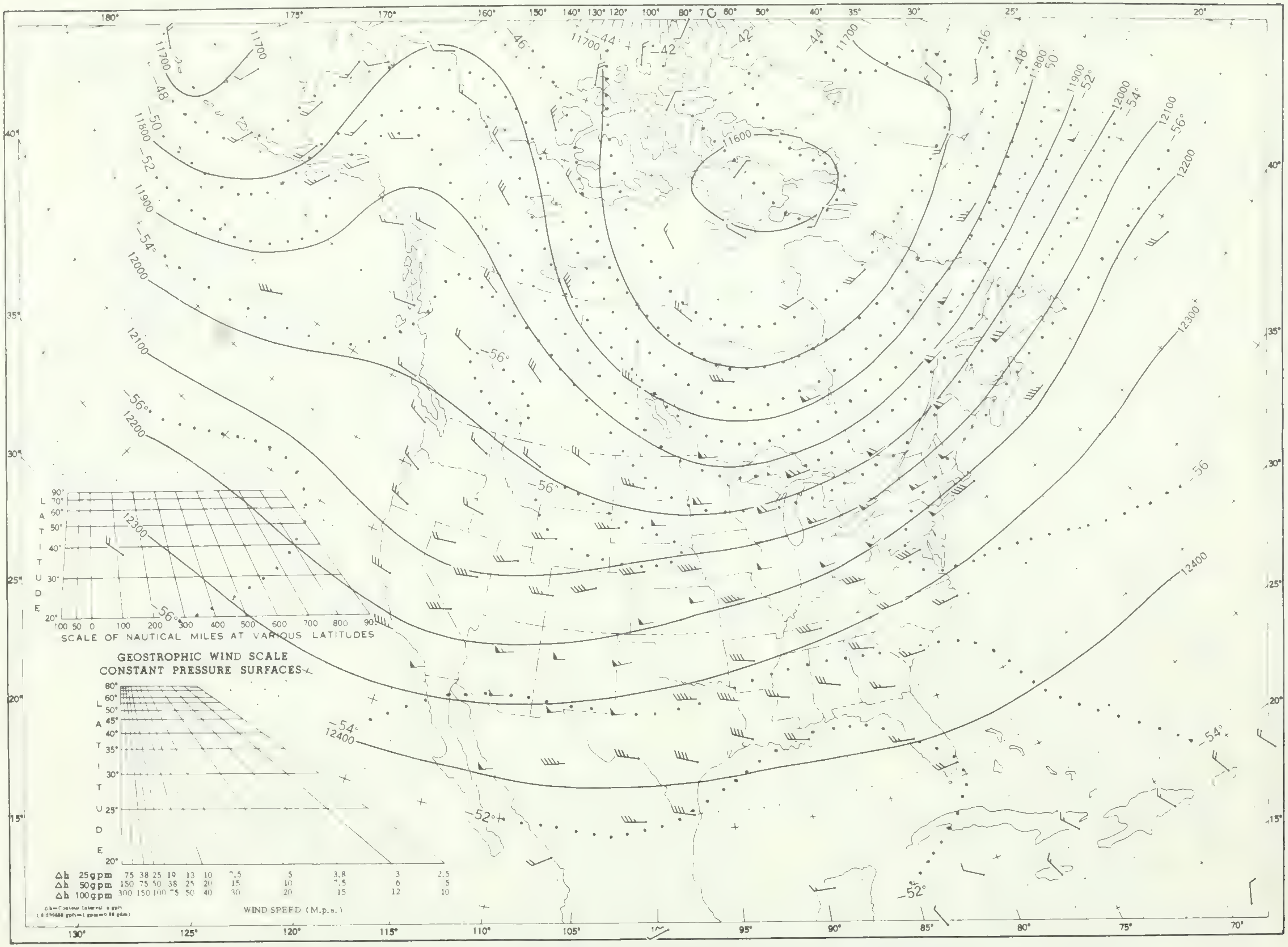
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, June 1969. Average Height and Temperature, and Resultant Winds.



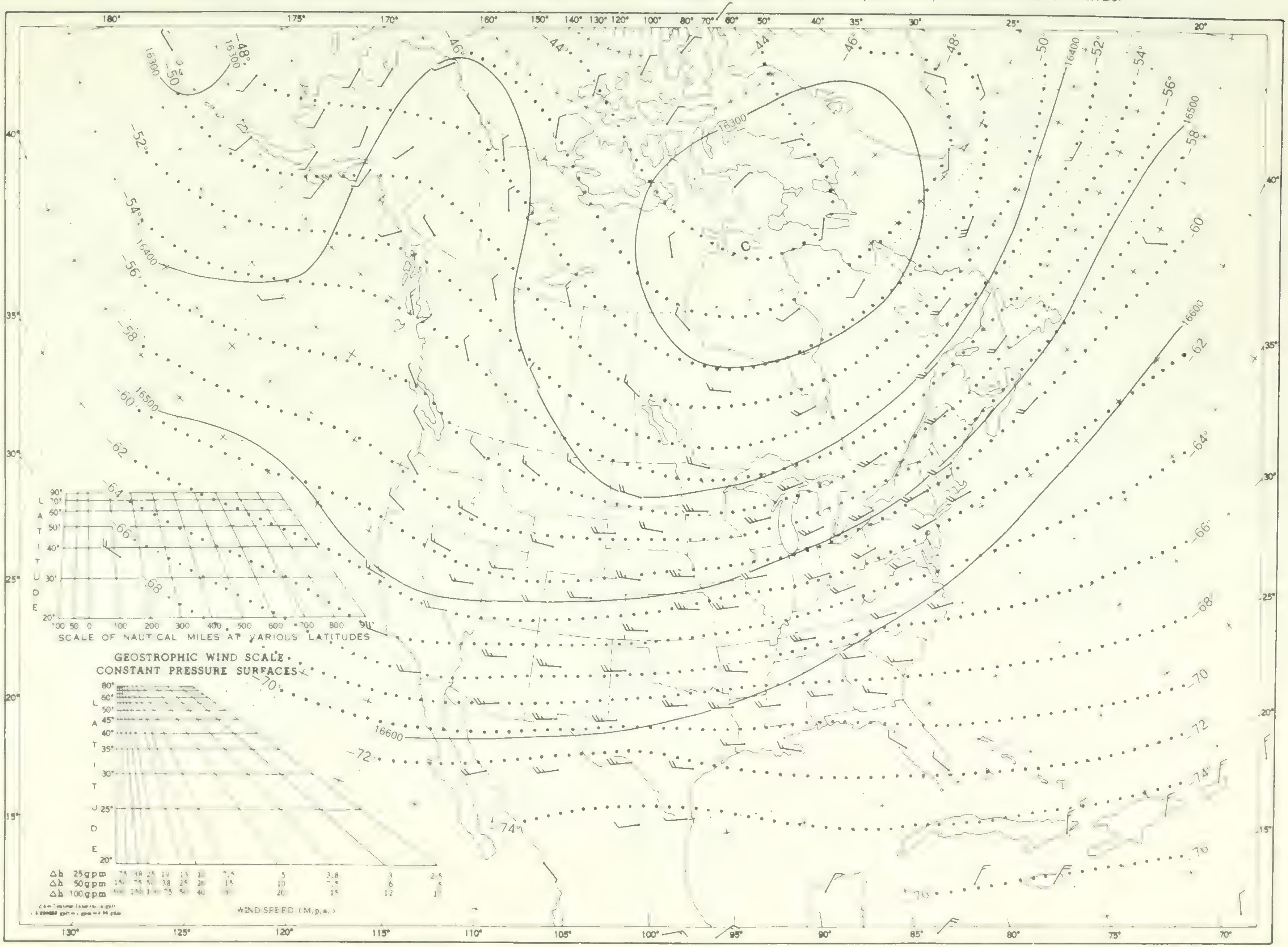
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV 200-mb Surface, 1200 GMT, June 1969. Average Height and Temperature, and Resultant Winds.



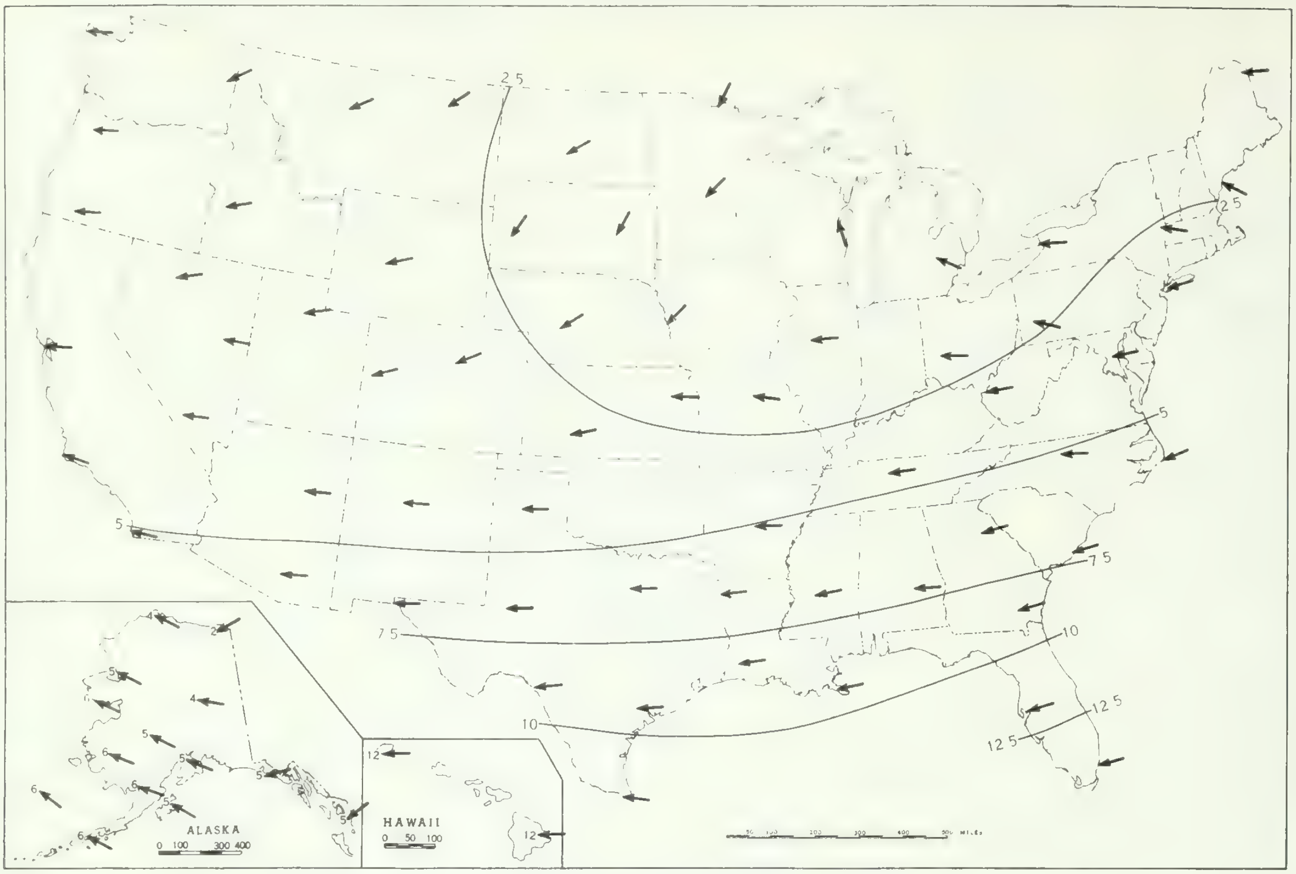
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, June 1969. Average Height and Temperature, and Resultant Winds.

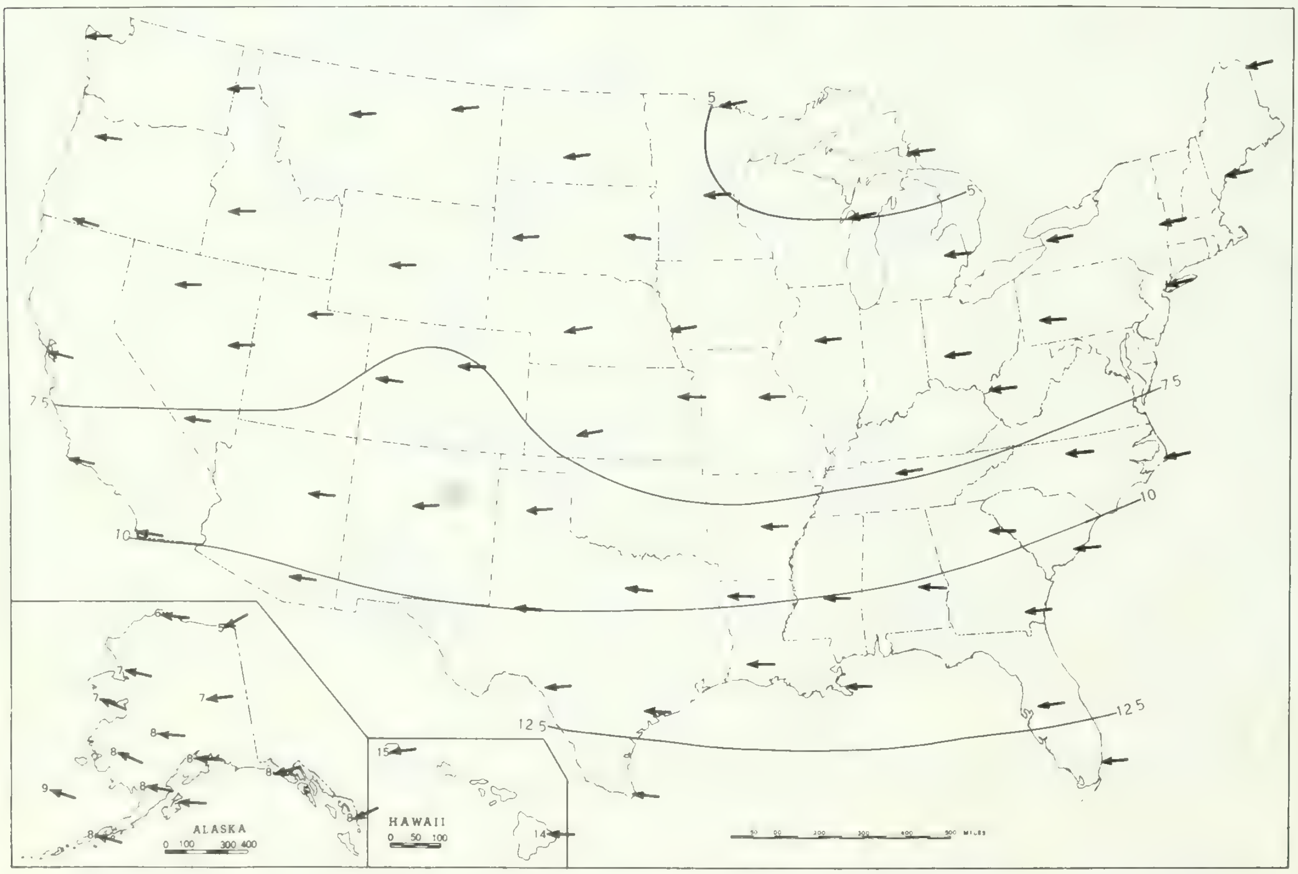


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, June 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, June 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-ESSA-Asheville, N.C. 12/12/69-1930

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SVCS ADMN
NATIONAL WEATHER RECORDS CENTER
FEDERAL BUILDING
ASHEVILLE, NORTH CAROLINA 28801

POSTAGE AND FE
UNITED STATE
DEPARTMENT OF CO
OFFICIAL BUSIN

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

July 1969

Volume 20 No. 7

Asheville 1969

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 7 JULY 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. July 1969 was cooler than normal over the northern half of the Nation and warmer than normal over the southern half.
2. Heavy rains caused severe flooding and considerable damage in some eastern locations.
3. Many persons were killed and injured by the thunderstorms that struck northern Ohio on July 4-5.

TEMPERATURE.--July temperatures averaged below normal over the northern half of the Nation and above normal over the southern half. A number of stations in the South recorded the hottest July in several decades.

Heat and humidity over the southern States intensified in the first week of July. Needles, Calif., registered 115° or higher on several afternoons. Many stations in the Southwest and the central and southern Great Plains registered 100° temperatures by midweek. The mercury climbed to 101° at Lincoln, Nebr., on the 3d. Temperatures at Roswell, N. Mex., averaged 8° above normal. Maximums at Washington, D. C., averaged 92° in the first 6 days in July. More comfortable weather prevailed over the northern Great Plains where early morning temperatures dropped to the 40's, 50's, and 60's and afternoon maximums remained in the 80's. The temperature regime over the Far West did not change much in the 2d week of July. The Northwest remained cool and comfortable; the Southwest continued hot. A polar High over the Great Lakes brought cool nighttime temperatures to the Northeast with minimums dropping to the 40's on several mornings. Another High stationary off the South Atlantic coast pumped hot humid air across the southern Great Plains that pushed afternoon temperatures into the high 90's and, in some areas, to 100° or higher on 2 or more days. Valentine, Nebr., registered 107° on July 12. Darkness brought only slight relief from the sweltering heat and humidity. Early morning temperatures fell only to the high 70's. The minimum at Kansas City, Mo., was 81° on July 9 and at Memphis, Tenn., 80° on the 10th.

The West warmed in the last half of July. Temperatures reached the 90's along the Canadian border. Stations in eastern Washington registered 90° heat on several afternoons. Interior California stations registered 100° or higher on 1 or more days and the mercury at desert locations soared to 110° or higher. Some of the deserts remained hot at night with temperatures around 90°.

The hot humid weather maintained its grip on the South Central and Southeast in the last half of the month, but in the Northeast hot humid weather alternated erratically with cooler, drier, more comfortable conditions.

The month ended with 100° heat in the Southwest and along the Mexican border. Many stations in the Southwestern Deserts registered 112° to 117° on July 31. More comfortable temperatures occurred along the northern Pacific coast, and from the northern Great Plains to New England. Cooler, less humid air was replacing the sweltering tropical heat in the Deep South.

PRECIPITATION.--Little rain fell west of the Rocky Mountains in July. Most stations in the Far West recorded less than 1 inch, wide areas received less than 1/2 inch, and much of Oregon and California received no rain or only light sprinkles. Some exceptions include parts of Arizona where more than an inch fell. Douglas, Ariz., received more than 4 inches in the 3d week of July and more than 1 inch in the last few days of the month. The July total at Milford, Utah, 1.36 inches, was among the largest July totals in several decades. At Los Angeles, Calif., Civic Center, the July amount, 0.03 inch, was the largest July total in the last half century. This is, of course, the "Dry season" in southern California.

Showers and thunderstorms left an irregular rainfall pattern from the Great Plains to the Atlantic Ocean. Kansas City, Mo., received over 10 inches -- more than twice as much as most localities in the State. Especially heavy rains fell along portions of the Gulf coast -- over 14 inches at Mobile, Ala., and almost 19 inches at Tallahassee, Fla. Washington, D. C., received 9.44 inches and Norfolk, Va., 12.70 inches, both totals being more than twice the 30-year normals. The July total at Atlantic City, N. J., 14.64 inches, is more than 3 times the normal for that location.

Generous showers occurred in central Missouri and from northern Ohio to extreme northern West Virginia in the first week of July. Portions of the latter area received 4 to 11 inches of rain during the week. A 21-county area in northern Ohio received 4 to 11 inches of rain between 6 p.m., July 4 and 11 a.m., July 5. Winds gusting to 100 m.p.h. and severe lightning accompanied the initial line of thunderstorms which extended from Toledo to Conneaut. The winds downed thousands of trees. Runoff from the heavy rains exceeded the capacity of drainage systems and headwater streams, causing rapid flooding of wide areas. The floods damaged thousands of dwellings, over a hundred bridges and culverts, and closed numerous roads and highways. Forty-one persons lost their lives -- most from drowning but several were killed by falling trees. A few were electrocuted by fallen wires and 1 was struck by lightning. The storms injured more than 550 persons and caused many millions of dollars damage to property and crops.

Heavy showers fell from eastern Nebraska to northern Illinois and along the middle Gulf coast in the 3d week of July. Weekly totals ranged up to 5 1/2 inches in south-central Iowa and to about 9 inches in Alabama. Up to 6 inches of rain fell in northeastern Ohio on the forenoon of July 20. Abundant rains fell along the Atlantic seaboard in the last few days of the month. Torrential rains from the 27th to 30th caused flash flooding, road washouts, and soil erosion from Vermont, New Hampshire, and central Maine to the South Carolina Piedmont. Damage was especially severe from Virginia northward to the coastal sections of Maine.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JULY 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Waterloo	104	11	Valley Head	53	30	Robertsdale 1E	22.91	Warrior Lock & Dam	0.77
Alaska	West Fork	87	6+	Chandalar Lake	25	24	Cape Hinchinbrook	28.71	Summit Nike Site	.00
Arizona	Willow Beach	119	4+	Fort Valley	28	6	Nogales 2N	8.75	3 Stations	.00
Arkansas	4 Stations	107	14+	Huntsville	53	29	Parks	16.21	Eureka Springs	.33
California	2 Stations	121	31+	2 Stations	26	7+	Big Bear Lake	2.13	185 Stations	.00
Colorado	4 Stations	107	4+	do	25	7+	Victor	7.02	Grand Junction WBAP	.21
Connecticut	Norwalk Gas Plant	97	18	Coventry	40	9	Burlington	9.71	West Thompson Dam	3.40
Delaware	Wilmington Porter Resvr	98	18	2 Stations	55	10+	Georgetown 5SW	9.91	Bridgeville 1NW	5.22
Florida	Palatka	102	6	Usher Tower	62	15	Tallahassee WBAP	18.83	De Soto City 8SW	1.63
Georgia	Camilla	103	7	Blairsville Exp Sta	53	30	Quitman	10.69	Waynesboro 2NE	.80
Hawaii	Keawakapu Beach 260.2	95	1	Mauna Loa Slope Obs	31	3	Puohokamoa 2 343	40.20	3 Stations	.00
Idaho	Brownlee Dam	105	28	Stanley 1NNE	23	4+	Montpelier Ranger Sta	2.00	11 Stations	.00
Illinois	Windsor	103	4	2 Stations	50	2+	Centralia 2SW	13.60	Rantoul	1.88
Indiana	Evans Landing Dam 43	101	16	LaGrange Sewage Plant	49	2	2 Stations	10.58	Salamonia 7W	2.37
Iowa	2 Stations	99	15+	Swea City 5NW	44	1	Eldora	12.97	Ida Grove	1.62
Kansas	Norton 8SSE	111	3	Winona	48	1	Chalk	14.21	Ashland	1.09
Kentucky	12 Stations	98	19+	2 Stations	50	31+	Oneida	7.77	Edmonton	.80
Louisiana	Minden	106	15	do	62	31+	Hackberry 8SSW	14.87	Haynesville 2WSW	.45
Maine	Saco	97	17	Squa Pan Dam	29	7	Ellsworth	7.79	Telos Dam	2.67
Maryland	Cumberland	101	1	4 Stations	50	15+	Solomons	17.79	Potomac Filter Plant	3.50
Massachusetts	Lowell	98	17	Chester 2	38	8	Borden Brook Reservoir	9.20	Rochester	1.35
Michigan	4 Stations	95	16+	Herman	26	6	Grosse Pointe Farms	8.37	Sault Ste Marie WBAP	.93
Minnesota	3 Stations	98	13+	Cotton 10E	30	6	Canby	8.41	Hallock	.97
Mississippi	2 Stations	104	9	Holly Springs 4N	58	30	Gulfport Naval Center	15.10	Byhalia	.68
Missouri	Joplin FAA AP	107	13	Cassville Ranger Sta	52	31	Brunswick	15.40	Seligman	.70
Montana	Miles City FAA AP	101	11	Jackson	23	4	Lambert	5.49	Babb 6NE	.03
Nebraska	2 Stations	110	4+	Agate 3E	40	27	Saint Ann 3ESE	10.46	Scottsbluff WBAP	.72
Nevada	Sunrise Manor Las Vegas	115	2	Buffalo Ranch	27	6	Penoyer Valley	2.73	7 Stations	.00
New Hampshire	2 Stations	96	16	Mount Washington	25	6	Mount Washington	15.53	Lakeport	3.10
New Jersey	do	98	19+	2 Stations	42	2	Millville	16.64	Rahway	4.84
New Mexico	Jal	111	26	Red River	36	11	Fort Bayard	14.90	Shiprock	.10
New York	2 Stations	98	17	3 Stations	34	8	Frost Valley	10.75	Watertown FAA AP	.50
North Carolina	Lexington	102	6	Transou	46	14	Wilmington WBAP	13.46	Cullowhee	1.27
North Dakota	6 Stations	98	13+	Washburn	35	1	Center	9.03	Medina	1.16
Ohio	2 Stations	99	19	Warren 3S	42	2	Beach City Dam	16.12	Hoytville 2NE	1.38
Oklahoma	Mutual	112	12	Goodwell	54	28	Billings	5.60	2 Stations	T
Oregon	McDermitt 26N	111	20	3 Stations	27	26+	Crescent Lake Junction	1.13	28 Stations	.00
Pennsylvania	Burnt Cabins 2NE	102	18	Kane 1NNE	35	2	Long Pond 2W	13.93	Stump Creek	1.60
Puerto Rico	2 Stations	97	26+	2 Stations	60	27+	San Sebastian	14.73	Juana Diaz Camp	1.00
Rhode Island	Providence WBAP	95	17	Kingston	49	10	Greenville	5.46	Newport	1.29
South Carolina	Columbia Uni of SC	102	19	Longcreek 1N	58	30	Cheraw	9.74	Antreville	.87
South Dakota	Longvalley	107	12	Ralph	38	31	Hilland 4NNW	10.40	Newell 2NW	1.02
Tennessee	Savannah	105	11	Mountain City No 2	50	14	Bristol WBAP	8.18	Waverly 4W	.69
Texas	Fowlerton	111	6	Mount Locke	55	8+	Port Arthur WBAP	10.14	28 Stations	.00
Utah	La Verkin	111	26	Soldier Creek	26	3	Boulder	5.30	3 Stations	.00
Vermont	Bellows Falls	97	17	Mount Mansfield	30	2	Huntington Center	8.64	Bethel 4N	1.80
Virginia	2 Stations	101	6+	Monterey	44	8	Richmond WBAP	13.90	Grundy 3NW	.16
Washington	Lower Granite Dam (nr)	105	28	2 Stations	32	13	Wellpinit	2.27	26 Stations	.00
West Virginia	Omps	101	1	do	45	15+	Reedsville Exp Farm	10.25	Athens Concord College	2.25
Wisconsin	3 Stations	96	13+	3 Stations	33	6+	Fort Atkinson	8.75	Montello	1.40
Wyoming	Spencer 10NE	104	13	Bondurant 3NW	20	4	Hat Creek 5E	4.83	2 Stations	.00

\+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ∅	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	993.6	1015.6	92	71	81.7	0.1	97	4	62	30	26	0	70	73	2.91	-2.25	1.07	10	10	0.0	0	0.8	22	30	N	9	4	21	6	6.0	66
HUNTSVILLE	624	992.9	1015.6	94	73	83.3	2.2	101	8	65	31+	26	0	71	70	4.36	0.11	1.51	9	12	0.0	0	1.2	17	43	27	27	9	16	6	5.3	
MOBILE	211	1007.5	1015.3	92	76	83.5	0.9	98	2	72	20	22	0	75	81	14.14	4.47	4.69	23	19	0.0	0	1.5	22	32	12	7	2	17	12	7.0	
MONTGOMERY	183	1008.5	1015.6	93	73	83.1	1.3	102	8	68	29	24	0	71	73	3.24	-2.16	0.93	13	11	0.0	0	1.5	22	30	N	9	6	14	11	6.4	56
ALASKA												B																				
ANCHORAGE	114	1007.8	1012.5	65	53	59.3	1.1	75	2	48	27	6	0	49	70	2.14	0.28	1.46	11	0	0.0	0	2.9	21	23	17	20	0	9	22	8.4	40
ANNETTE	110	1014.2	1018.1	65	53	59.0	1.7	77	16	47	5	5	0	50	77	6.09	0.07	1.92	16	0	0.0	0	5.1	16	28	14	9	2	6	23	8.5	
BARROW	31	1009.5	1010.2	39	30	34.7	-4.4	57	1	26	24	0	25	31	88	0.34	-0.43	0.08	10	0	0.8	T	3.2	28	24	23	20	0	4	27	9.0	
BARTER ISLAND	39	1008.5	1010.4	46	32	38.7	-2.6	74	5	27	31	1	20	36	88	0.90	0.02	0.28	12	0	1.1	T	1.9	5	29	27	26	1	5	25	8.7	
BETHEL	125	1008.8	1014.4	60	48	53.7	-1.0	74	4	36	29	3	0	48	82	2.49	0.46	0.39	18	0	0.0	0	5.2	26	23	29	29+	0	1	30	9.6	
BETTLES	644	985.1	1010.0	67	46	56.3		78	7	33	26	14	0	45	67	0.83		0.28	9	3	0.0	0	4.3	22	26	23	20	0	3	28	8.7	
BIG DELTA	1268			66	49	57.3		79	14	39	31	11	0			3.54		0.57	18	4	0.0	0			20	20	28	0	7	24	8.5	
COLD BAY	96	1013.9	1017.5	58	49	53.2	3.5	69	27	43	23	0	0	47	80	2.01	0.19	0.71	13	0	0.0	0	2.9	22	32	16	23	0	1	30	9.6	
FAIRBANKS	436	994.2	1011.1	69	50	59.4	-0.3	79	5	38	31	19	0	49	71	1.33	-0.51	0.43	15	1	0.0	0	2.4	19	21	18	26+	2	5	24	8.3	
GULKANA	1572	955.0	1011.3	66	46	56.0		74	18+	37	21	9	0	44	67	2.40		0.41	14	3	0.0		4.1	19	29	17	28+	3	9	19	7.5	
HOMER	67			60	46	53.3		66	25+	39	30	0	0			1.21	-0.55	0.57	15	0	0.0	0						0	8	23	8.5	
ILIAMNA	186			62	49	55.5		80	2	44	30	3	0			4.62		2.17	17	0	0.0	0						0	3	28	9.2	
JUNEAU	12	1014.6	1015.5	59	48	53.7	-1.6	72	18	42	28	1	0	50	90	7.88	3.39	1.48	21	0	0.0	0	5.6	10	29	12	25	0	3	28	9.6	11
KING SALMON	49	1011.5	1013.5	61	48	54.3	-0.6	74	1	40	26	2	0	45	74	2.19	0.13	0.52	18	0	0.0	0	5.3	22	25	24	30+	0	1	30	9.7	
KOTZEBUE	13	1010.2	1010.7	57	47	51.8	-0.9	69	4	40	23	0	0	46	82	0.66	-0.80	0.21	7	0	0.0	0	12.6	28	35	29	28+	3	12	16	7.0	
MC GRATH	344	999.7	1012.3	64	48	56.1	-2.6	78	6	41	25	8	0	45	70	3.33	0.90	1.11	13	3	0.0	0	2.2	25	20	26	22	0	7	24	8.9	
NOME	13	1010.8	1011.5	56	44	50.2	0.7	64	6+	37	21	0	0	44	78	1.84	-0.45	0.74	15	0	0.0	0	4.1	25	24	25	2	4	5	22	7.8	32
ST. PAUL ISLAND	22	1014.9	1015.9	53	44	48.3	2.8	63	31	36	1	0	0	46	91	1.32	-0.93	0.52	15	0	0.0	0	3.6	26	25	34	28	0	1	30	9.6	
SHEMYA	122	1011.5	1015.4	51	45	47.8	1.4	60	28	42	22+	0	0	45	93	1.62	-0.53	0.45	13	0	0.0	0	3.2	20	32	20	11	0	2	29	9.7	
SUMMIT	2401			60	42	51.1		69	6	32	31	0	1			2.23		0.46	14	2	0.0	0			25	23	27	0	5	26	8.9	
TALKEETNA	345	999.7	1012.7	67	48	57.5	-0.4	76	22+	38	27	11	0	49	73	3.75	0.56	1.32	14	3	0.0	0	2.2	20	17	17	3	1	7	23	8.3	
UNALAKLEET	15	1011.5	1012.1	58	48	52.8		63	20+	35	29	0	0	49	84	3.40		0.66	21	1	0.0	0	5.8	25	39	25	22	1	7	23	8.5	
YAKUTAT	28	1013.2	1014.2	57	47	52.0	-2.1	65	18	40	31+	0	0	50	94	8.16	-0.27	2.05	22	0	0.0	0	4.0	12	22	12	11	0	4	27	9.5	
ARIZONA																																
FLAGSTAFF	7006	791.4	1015.4	81	51	66.2	0.7	92	2	38	7	2	0	41	47	3.81	1.53	1.61	10	18	0.0	0	3.5	22	23	30	26+	6	14	11	5.9	
PHOENIX	1117	970.5	1008.2	105	81	93.1	3.3	113	31	68	7	31	0	56	32	0.28	-0.49	0.20	5	3	0.0	0	2.1	26	44Y	ENE	22	13	15	3	4.3	82
TUCSON	2584	924.5	1009.8	98	74	86.1	-0.2	108	2	69	17+	30	0	59	46	1.51	-0.55	0.64	11	15	0.0	0	3.4	19	40	NE	31	6	8	17	6.7	73
WINSLOW	4895	852.4	1011.7	95	63	79.4	-0.8	105	2	48	7	28	0	49	42	1.16	0.14	0.64	6	15	0.0	0	3.9	23	35	9	26	7	17	7	5.3	
YUMA	194	1001.0	1008.1	105	81	93.4	0.6	113	3	72	8+	31	0	61	37	T	-0.23	T	0	0	0.0	0	5.8	18	30	S	26+	16	9	6	3.6	87
ARKANSAS																																
FORT SMITH	447	998.0	1014.0	95	74	84.6	1.6	103	14	62	29	27	0	70	67	1.93	-0.87	0.94	8	8	0.0	0	1.1	14	31	S	27	18	6	7	4.0	78
LITTLE ROCK	257	1005.1	1014.3	96	74	84.8	2.9	104	11	65	30	27	0	72	71	3.40	0.06	1.13	9	12	0.0	0	2.3	21	40	NW	27	14	13	4	4.2	86
CALIFORNIA																																
BAKERSFIELD	475	993.9	1011.0	100	73	86.3	2.0	109	21	61	6	30	0	51	32	T	-0.01	T	0	0	0.0	0	4.3	32	21	32	23	26	4	1	1.5	
BISHOP	4108	873.0		96	57	76.5	-0.1	101	31+	48	2	27	0			0.31	0.19	0.10	5		0.0	0						21	8	2	2.6	
BLUE CANYON	5280			79	61	69.7	1.7	87	20	53	6+	0	0			0.15	0.06	0.14	2		0.0	0			15	11	7	27	4	0	1.0	
EUREKA U	43			59	52	55.6	-0.7	62	11+	49	23	0	0			0.05	-0.06	0.03	3		0.0	0			26	N	12	8	8	15	6.0	60
FRESNO	328	999.3	1010.8	98	64	80.9	-0.4	105	21	54	6	30	0	55	43	0.04	0.04	0.04	1	2	0.0	0	4.3	29	17	W	5+	25	6	0	1.3	96
LONG BEACH	34	1011.9	1013.3	83	63	73.0	1.4	92	31	59	11+	2	0	57	65	0.05	0.05	0.04	2	1	0.0	0	2.9	25	16	31	1	16	11	4	3.7	
LOS ANGELES	97	1009.1	1012.8	74	65	69.1	0.0	79	3	60	1	0	0	61	77	0.15	0.14	0.15	1	1	0.0	0	7.4	25	23Y	SW	11	18	9	4	3.8	
LOS ANGELES U	270			82	65	73.8	0.8	90	31	60	10	1	0			0.03	0.03	0.03	1		0.0	0			14	SW	11+	22	9	0	2.4	96
MT SHASTA R	3544			85	52	68.5	0.5	96	22	46	3	6	0			0.03	-0.27	0.03	1		0.0	0										
OAKLAND	6	1013.9	1014.2	69	56	62.2	-2.1	80	17	53	1	0	0	54	78	T	0.00	T	0	0	0.0	0	8.0	30	22	32	5	21	9	1	2.5	
RED BLUFF	342	999.0	1011.2	101	67	83.6	-0.2	109	20	62	6+	31	0	48	32	0.05	0.01	0.04	2	2	0.0	0	0.8	19	23	N	4	29	2	0	0.6	98
SACRAMENTO	17	1010.8	1011.6	95	58	76.3	0.9	103	18+	53	30	27	0	55	55	T	0.00	T	0	1	0.0	0	5.6	21	20	SW	5	30	1	0	0.5	100
SANDBERG R	4517	863.9		83	63	73.0	-1.4	91	30	47	6	1	0			0.20	0.18	0.11	2		0.0	0			26	35	31+	24	5	2	1.7	
SAN DIEGO	13	1012.2	1013.0	74	65	69.4	-0.7	81	31	61	6+	0	0	62	80	T	-0.01	T	0	0	0.0	0	4.7	28	17	W	24+	13	10	8	5.2	71
SAN FRANCISCO	8	1013.5	1014.4	72	53	62.3	-0.4	84	17	51	31+	0	0	51	74	T	-0.01	T	0	0	0.0	0	12.5	30	30	30	29+	26	5	0	1.5	
SAN FRANCISCO U	52			63	52	57.6	-1.2	74	17	49	19	0	0			T	-0.01	T	0		0.0	0			29	W	5					77
SANTA MARIA	236			72	54	62.9	0.7	82	12	47	4	0	0			T	-0.03	T	0		0.0	0						18	11	2	3.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ○	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h.							%
CALIFORNIA																																
STOCKTON	22	1011.2	1012.1	96	61	78.4	0.2	103	17	55	6	29	0	55	49	0.00	- 0.01	0.00	0	0	0.0	0	7.1	30	23	26	5	29	2	0	0.7	
COLORADO																																
ALAMOSA	7536	777.2		82	51	66.4	1.5	90	3	43	8	1	0			1.92	0.85	0.74	12		0.0	0						8	16	7	5.4	
COLORADO SPRINGS	6145	815.1	1014.6	85	58	71.7	1.2	96	3	52	2	8	0	50	54	3.90	1.53	0.88	15	17	0.0	0	1.8	4	35	30	3	8	15	8	5.6	
DENVER	5283	838.8	1012.2	89	61	74.7	1.8	97	2	54	5	17	0	51	51	1.81	0.28	1.26	9	8	0.0	0	1.3	20	39	27	14	12	10	9	5.0	72
GRAND JUNCTION	4843	852.7	1010.8	95	66	80.3	2.1	102	27	58	8+	28	0			0.21	- 0.36	0.13	5	7	0.0	0	4.2	15	40	S	28	15	9	7	4.2	74
PUEBLO	4684	857.1	1011.9	94	67	80.2	3.7	103	3	59	2	26	0	54	46	1.73	- 0.09	0.68	7	6	0.0	0	1.0	6	54	NW	5	9	15	7	5.2	68
CONNECTICUT																																
BRIDGEPORT	7	1015.2	1015.8	79	64	71.6	- 2.1	92	17	55	9	4	0	63	76	5.46	1.69	1.39	14	3	0.0	0	0.9	19	24	18	28+	2	8	21	7.9	
HARTFORD	169	1008.8	1015.3	80	61	70.6	- 2.8	95	17+	49	9+	3	0	61	74	5.79	2.18	2.13	12	3	0.0	0	1.7	20	22	NW	17	0	11	20	8.2	45
DELAWARE																																
WILMINGTON	74	1012.5	1015.6	83	68	75.7	- 0.3	94	18+	60	9	3	0	65	72	6.48	2.23	3.21	10	5	0.0	0	1.3	12	25	26	28+	2	11	18	7.6	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1013.2	1015.5	88	71	79.5	1.3	98	18	66	13+	16	0	66	68	9.44	5.29	4.40	13	8	0.0	0	1.2	19	34	S	20+	3	11	17	7.4	44
FLORIDA																																
APALACHICOLA U	13			89	76	82.4	0.9	95	7	72	28	13	0			9.43	1.50	2.61	18	16	0.0	0			29	F	15	8	8	15	6.4	48
DAYTONA BEACH	31	1015.9	1017.3	92	74	82.8	2.7	97	8	70	3	28	0	71	74	2.61	- 4.13	0.75	16	20	0.0	0	2.1	18	26	24	23	4	10	17	7.5	
FORT MYERS	15	1016.6	1017.0	90	76	83.0	0.8	92	17+	73	18+	20	0	75	82	7.11	- 1.97	2.74	12	16	0.0	0	1.2	18	32	16	17	4	13	14	6.7	
JACKSONVILLE	20	1015.6	1016.8	94	74	84.3	1.7	100	6	71	30+	29	0	74	78	5.89	- 1.79	1.51	15	20	0.0	0	3.8	22	34	SW	12	3	14	14	6.7	63
KEY WEST	4	1015.9	1016.5	90	81	85.3	2.0	92	16+	76	18+	17	0			4.19	0.03	2.55	10	13	0.0	0	5.2	12	34	E	18	5	15	11	6.2	81
LAKELAND U	214			91	74	82.8	1.2	96	10+	71	18	25	0			7.96	- 0.34	1.97	21		0.0	0						3	18	10	6.5	61
MIAMI	7	1016.3	1016.6	91	77	84.1	2.3	96	26	72	30+	24	0	73	72	8.48	1.73	2.70	18	21	0.0	0	3.4	13	28	11	4	4	13	14	6.5	
ORLANDO	108	1012.9	1017.1	94	75	84.4	1.9	98	8	71	4	28	0	73	77	6.73	- 1.27	2.22	18	20	0.0	0	2.3	21	26	30	25	4	8	19	7.2	
TALLAHASSEE	55	1013.9	1016.4	91	73	82.1	0.8	97	8+	70	30+	22	0	75	87	18.83	10.78	4.68	23	25	0.0	0	1.3	21	30	36	29	0	18	13	7.0	
TAMPA	19	1016.3	1016.5	91	75	83.1	1.5	95	10+	71	19+	23	0	73	75	7.39	- 1.23	2.06	12	16	0.0	0	2.0	23	25	30	18	1	13	17	7.2	80
WEST PALM BEACH	15	1016.3	1016.9	91	75	82.8	0.2	96	12	73	29+	19	0	73	76	7.43	0.77	1.69	18	18	0.0	0	2.6	13	31	34	25	4	8	19	7.2	
GEORGIA																																
ATHENS	802	987.1	1015.4	94	71	82.6	2.9	99	19+	66	30	30	0	69	71	2.28	- 2.71	0.66	10	10	0.0	0	1.5	25	17	31	1	6	19	6	5.5	
ATLANTA	1010	980.0	1015.9	91	71	80.8	1.9	95	13+	66	31+	18	0	71	77	2.64	- 2.08	1.51	11	11	0.0	0	2.0	26	27	SE	16	6	17	8	5.8	73
AUGUSTA	136	1010.2	1015.4	92	71	81.6	0.9	97	7	67	31+	26	0	72	77	6.63	2.13	1.76	11	10	0.0	0	1.6	19	40	4	8	3	21	7	6.1	
COLUMBUS	385	1002.0		92	73	82.4	1.3	99	7	69	18+	21	0	72	76	6.55	0.68	2.34	16	15	0.0	0	0.7	19	35	2	13	5	13	13	6.7	
MACON	354	1003.4	1016.0	93	71	82.1	0.2	98	8+	68	31	28	0	71	76	3.64	- 2.00	1.16	12	15	0.0	0	1.8	20	35	NW	8	3	15	13	6.4	68
SAVANNAH	46	1014.6	1016.2	91	73	82.2	0.9	98	7	70	2	18	0	73	79	7.57	0.96	1.26	19	20	0.0	0	3.0	21	36	E	2	3	16	12	6.5	52
HAWAII																																
HILO	27	1015.9	1017.0	84	68	75.8	0.9	88	18	65	3	0	0	70	83	11.75	1.93	1.68	30	0	0.0	0	0.8	20	19	E	27+	1	10	20	7.8	52
HONOLULU	7	1015.9	1016.4	87	74	80.9	2.1	92	28	72	9+	5	0	68	67	0.63	0.19	0.33	11	0	0.0	0	14.1	6	30	NE	8	5	19	7	5.9	70
KAHULUI	48	1013.5		89	72	80.1	1.8	93	27	66	4	8	0	68	71	0.53	0.10	0.25	8	0	0.0	0	12.7	5	33	E	11	11	13	7	4.8	78
LIHUE	103	1012.9	1018.0	85	74	79.5	1.9	88	27	70	27	0	0	70	76	1.47	- 0.47	0.27	21	0	0.0	0	11.5	6	26	E	15	0	17	14	7.2	54
IDAHO																																
BOISE	2838	914.7	1012.7	89	57	72.9	- 2.3	98	10	47	4	16	0	42	35	0.02	- 0.19	0.02	1	1	0.0	0	3.3	31	23	SW	24	25	4	2	1.7	93
LEWISTON	1413			88	58	72.8	- 1.0	97	27+	50	15	14	0			0.21	- 0.22	0.21	1		0.0	0						20	5	6	3.0	
POCATELLO	4454	864.2	1013.8	87	52	69.7	- 2.7	100	27	40	8	13	0	41	39	0.14	- 0.37	0.14	1	2	0.0	0	5.8	24	31	W	3	20	9	2	2.6	88
ILLINOIS																																
CAIRO U	314			91	74	82.5	1.4	97	13+	67	29	20	0			2.10	- 1.09	0.71	8		0.0	0			35	NW	24	10	17	4	4.8	72
CHICAGO O HARE	658	990.9	1014.8	81	65	73.0	0.3	92	16	55	2	3	0	63	73	3.43	0.04	0.84	12	6	0.0	0	0.4	29	30	18	26	4	13	14	6.6	
CHICAGO MIDWAY	607	992.9	1015.0	83	67	74.9	- 0.7	95	16	57	2	6	0	63	69	7.58	4.21	3.29	14	11	0.0		0.5	17	40	N	28	7	14	10	6.1	58
MOLINE	582	993.2	1014.2	84	67	75.0	- 0.6	94	16+	60	1	6	0	68	80	11.39	8.13	3.85	10	12	0.0	0	0.5	18	43	SW	3	5	14	12	6.1	58
PEORIA	652	991.2	1014.8	85	67	75.6	- 0.4	94	16	60	30	4	0	67	77	5.55	2.01	1.53	9	10	0.0	0	0.8	20	30	W	27+	5	15	11	6.2	60
ROCKFORD	724	987.5	1014.0	81	64	72.6	- 1.6	92	4	55	2	2	0	63	74	5.72	1.58	3.63	10	4	0.0	0	0.5	19	25	27	26	5	13	13	6.6	
SPRINGFIELD	588	992.6	1014.1	88	68	77.9	- 0.1	95	16	60	30+	9	0	68	74	4.60	1.11	1.71	10	12	0.0	0	1.9	21	31	NW	26+	8	15	8	5.6	70

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ○	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
INDIANA																																
EVANSVILLE	381	1001.0	1014.7	89	70	79.2	0.4	96	5	60	31+	14	0	68	71	8.72	5.40	3.36	13	11	0.0	0	1.1	23	31	SE	3	11	12	8	5.5	67
FORT WAYNE	791	985.8	1015.1	84	66	74.9	0.7	92	17	56	2	3	0	65	73	3.99	0.62	0.92	12	9	0.0	0	1.8	24	31	W	26	5	9	17	7.0	62
INDIANAPOLIS	792	986.1	1014.5	85	67	75.8	0.6	92	16+	57	30	5	0	70	83	8.02	4.52	4.00	11	6	0.0	0	2.3	22	36	NW	11	9	11	11	5.9	60
SOUTH BEND	773	987.1	1014.6	82	64	73.1	-0.5	94	16	56	2	2	0	66	81	4.88	1.41	2.49	12	9	0.0	0	1.4	23	22	24	26	4	13	14	6.5	
IOWA																																
BURLINGTON	692			85	67	75.8	-0.8	95	16	57	1	5	0	68	74	5.90	2.50			13	0.0		0.5	21	28	30	26	3	16	12	6.4	
DES MOINES	938	980.4	1014.5	85	67	76.0	-0.3	95	12	57	1	7	0	67	75	4.34	1.28	0.88	14	12	0.0	0	1.5	16	33	NW	26	8	10	13	5.9	57
DUBUQUE	1056	976.3		81	64	72.1	-0.5	90	12+	53	1	2	0			5.39	1.88	2.04	15		0.0	0						6	12	13	6.6	
SIOUX CITY	1095	974.6	1013.7	86	66	76.0	-1.4	98	14+	52	1	6	0	68	79	4.92	1.81	1.19	12	11	0.0	0	2.4	13	52	SW	4	9	12	10	5.5	68
WATERLOO	868			82	63	72.6	-1.2	90	16+	50	1	3	0			8.90	5.11	3.54	16	12	0.0	0			41	20	16	6	13	12	6.3	
KANSAS																																
CONCORDIA	1470	961.1	1012.6	90	68	78.9	-1.4	105	3	59	28	15	0	68	73	6.17	3.34	1.38	11	12	0.0	0	4.9	15	38	NW	23	14	7	10	4.9	63
DODGE CITY	2582	923.8	1012.0	96	70	82.5	2.3	104	3+	57	28	25	0	63	57	2.17	-0.14	0.55	13	17	0.0	0	5.2	17	37	N	4	9	13	9	5.2	68
GOODLAND	3654	888.6	1011.8	91	63	77.3	0.7	107	3	50	1	19	0	58	57	2.46	-0.21	1.06	5	13	0.0	0	4.3	15	35	15	6	13	12	6	4.5	
TOPEKA	876	982.4	1013.4	88	71	79.4	-0.5	97	3	58	29	12	0	71	79	3.26	-0.34	0.96	12	12	0.0	0	2.5	16	35	W	24	7	13	11	5.7	65
WICHITA	1321	965.5	1012.7	94	72	82.9	2.0	106	15	63	29	22	0	66	61	6.23	2.59	3.74	11	10	0.0	0	5.6	17	32	N	24	15	7	9	4.5	74
KENTUCKY																																
COVINGTON	869	984.4	1015.3	86	68	77.3	1.9	95	5	60	31	7	0	67	74	3.28	-0.33	0.87	12	7	0.0	0	2.7	24	26	27	10	5	14	12	6.5	
LEXINGTON	966	981.0	1015.6	87	69	77.8	0.4	94	5	59	31	8	0	66	70	4.37	0.39	1.96	8	7	0.0	0	2.3	23	21	25	5	13	7	11	5.3	
LOUISVILLE	477	997.3	1014.6	88	70	78.7	1.1	94	5	60	31	11	0	69	74	4.05	0.69	0.93	10	8	0.0	0	2.1	24	29	NW	8	7	17	7	5.5	68
LOUISIANA																																
BATON ROUGE	64	1012.5	1015.2	92	75	83.5	0.8	99	3+	72	21+	23	0	75	82	9.85	3.58	4.26	17	14	0.0	0	2.6	23	35	8	14	3	15	13	6.7	
LAKE CHARLES	9	1013.9	1014.9	91	75	82.8	0.5	97	15	71	20+	23	0	75	82	10.06	2.77	3.63	12	18	0.0	0	2.9	22	24	4	17	3	16	12	6.8	
NEW ORLEANS	3	1014.6	1015.5	91	74	82.1	0.5	98	3+	70	30	19	0	75	83	6.64	-0.08	1.55	15	12	0.0	0	3.2	24	32	7	14	4	14	13	6.5	
SHREVEPORT	254	1005.1	1014.2	98	76	86.6	2.9	103	15+	68	30	30	0	70	62	1.06	-2.69	0.63	4	5	0.0	0	2.1	19	28	3	15	9	14	8	5.2	73
MAINE																																
CARIBOU	624	991.9		73	53	62.9	-1.6	87	16	36	7	0	0			3.73	-0.31	1.22	12		0.0	0						3	13	15	7.1	
PORTLAND	47	1012.9	1015.2	76	60	67.6	-0.5	93	17+	46	9+	3	0	59	77	5.45	2.59	1.73	13	2	0.0	0	1.8	19	22	N	14	5	9	17	7.1	51
MARYLAND																																
BALTIMORE	148	1010.2	1015.5	87	68	77.4	0.6	98	18+	61	9	13	0	66	72	5.22	1.00	1.44	14	9	0.0	0	0.6	22	49	NW	12	4	9	18	7.3	40
MASSACHUSETTS																																
BLUE HILL OBS R	629			77	61	68.8	-2.1	93	16	53	8	2	0			3.04	-0.23	1.30	10		0.0	0			35	SSW	28					45
BOSTON	15	1014.2	1015.4	77	65	71.0	-2.7	95	17	58	8+	3	0	60	71	2.98	0.10	0.84	10	2	0.0	0	2.4	17	28	NW	30	3	11	17	7.4	50
NANTUCKET	43	1015.6	1016.0	74	61	67.7	-0.3	90	18	50	7	1	0	62	84	2.31	-0.40	0.73	11	4	0.0	0	1.4	15	26	N	14	2	7	22	8.2	40
WORCESTER	986	980.0	1016.5	76	60	68.4	-1.4	91	17+	52	7	2	0	57	71	3.81	0.18	1.48	11	3	0.0	0	2.4	25	23	30	30	2	8	21	7.8	
MICHIGAN																																
ALPENA	689	990.2	1015.1	78	54	65.7	-0.2	91	15	36	7	2	0	54	69	1.82	-1.04	0.79	9	9	0.0	0	0.8	11	24	NE	20	7	17	7	5.6	66
DETROIT	619			80	64	72.3	-2.1	91	16	56	9	1	0	61	68	7.05	4.23	2.65	11	9	0.0		0.3	21	29	31	12					
DETROIT M WAYNE CO	633	990.9	1014.4	82	64	73.2	0.8	91	16	57	2	1	0	62	70	6.02	3.33	2.67	14	9	0.0	0	0.0	6	33	N	4	4	13	14	6.5	57
FLINT	771	987.1	1014.5	78	60	69.0	-2.2	88	16	50	7+	0	0	59	72	5.92	3.01	2.06	12	9	0.0	0	0.9	19	28	34	24	7	13	11	6.1	
GRAND RAPIDS	784	985.8	1014.5	82	61	71.3	-1.0	92	16	48	2	3	0	60	69	6.42	3.69	2.53	13	11	0.0	0	0.6	20	24	W	31	5	11	15	6.7	60
HOUGHTON LAKE	1149	973.9	1015.4	79	56	67.5	0.5	88	14	41	7	0	0	57	72	3.57	0.69	1.93	8	10	0.0	0	0.6	27	18	22	4	8	11	12	6.0	
LANSING	841	983.4	1014.7	82	61	71.1	-0.6	94	16	47	2	1	0	63	78	4.89	2.31	1.57	14	11	0.0	0	0.9	26	25	NW	23	5	15	11	6.2	57
MARQUETTE	677			74	57	65.3	-1.4	93	13	41	7+	1	0			1.48	-1.72	0.33	8		0.0	0			22	SE	27	8	12	11	5.6	71
MUSKEGON	625	991.5	1014.3	81	61	70.9	-0.4	88	14	50	2	0	0	60	72	3.00	0.59	1.10	6	5	0.0	0	0.6	23	29	32	2	9	7	15	5.9	
SAULT STE MARIE	721	988.5	1014.9	76	51	63.3	-1.3	87	15	40	8+	0	0	53	72	0.93	-1.55	0.46	8	4	0.0	0	0.9	29	19	NW	29+	7	13	11	5.9	68
MINNESOTA																																
DULUTH	1428	964.4	1015.4	76	52	64.0	-1.5	88	14	39	1	0	0	52	66	3.03	-0.51	1.36	12	9	0.0	0	1.3	13	34	E	8	9	8	14	6.2	66
INTERNATIONAL FALLS	1179	971.6	1014.1	77	53	65.1	-0.5	93	12	37	1	1	0	53	68	4.80	1.31	1.84	12	9	0.0	0	0.9	25	25	32	30	5	13	13	6.5	
MINNEAPOLIS	834	984.4	1014.2	83	64	73.6	1.3	95	12	46	1	3	0	61	66	2.95	-0.32	0.96	11	6	0.0	0	1.0	16	54	W	13	10	12	9	5.4	61

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In.	M.p.h.		M.p.h							%
MINNESOTA																																
ROCHESTER	1297	967.5	1014.6	79	60	69.8	- 2.5	90	12	45	1	1	0	61	76	5.38	1.70	2.34	8	9	0.0	0	1.5	16	31	12	14	7	14	10	5.8	
ST CLOUD	1034	977.0	1014.1	81	59	70.0	- 1.0	95	12	40	1	2	0		72	2.81	- 0.45	0.79	9		0.0	0						12	7	12	5.4	
MISSISSIPPI																																
JACKSON	310	1003.4	1015.1	94	73	83.5	1.2	102	9+	66	31	25	0	74	78	5.46	0.70	1.33	14	11	0.0	0	1.0	19	26	NE	2	4	19	8	5.9	57
MERIDIAN	290	1004.4	1015.2	93	72	82.5	1.0	102	4	67	31+	22	0	72	76	4.60	- 1.62	1.15	15	12	0.0	0	1.1	22	24	1	2	4	18	9	6.4	
MISSOURI																																
COLUMBIA	778	986.5	1013.8	90	71	80.5	1.8	98	13	62	30	18	0	69	72	5.04	1.63	1.52	10	12	0.0	0	1.7	18	50	NW	26	6	14	11	5.9	75
KANSAS CITY	742	987.1	1013.6	90	73	81.4	- 0.1	99	13	65	28+	15	0	70	71	10.29	7.10	2.95	11	8	0.0	0	2.5	17	54	SW	9	8	13	10	5.4	71
ST JOSEPH	811			92	72	82.1	2.7	102	13	62	29	21	0	68	69	2.03	- 1.19		8	7	0.0		2.1	16	23	30	26+	8	13	10	5.4	
ST LOUIS	535	994.9	1014.9	90	71	80.5	2.4	97	16	63	30	15	0	70	74	7.08	3.78	1.55	15	15	0.0	0	2.4	20	40	NW	9	4	20	7	5.8	69
SPRINGFIELD	1268	970.5	1014.7	92	69	80.6	1.8	101	13	55	29	21	0	68	71	1.33	- 2.56	0.42	5	7	0.0	0	2.5	18	43	NE	2	15	11	5	4.3	77
MONTANA																																
BILLINGS	3567	891.6	1013.5	82	57	69.3	- 5.4	97	11	47	4+	4	0	50	54	1.69	0.79	0.96	8	8	0.0	0	1.4	34	42	NW	3	18	9	4	3.6	76
GLASGOW	2284	933.3	1013.9	78	54	66.1	- 4.6	95	11	45	1	3	0	53	68	3.45	2.12	1.88	17	17	0.0	0	2.4	10	33	29	26	11	14	6	4.9	
GREAT FALLS	3662	888.9	1013.5	82	55	68.3	- 1.1	95	29	48	13	8	0	45	47	1.11	- 0.17	1.02	4	1	0.0	0	3.5	25	38	SW	25	18	8	5	3.5	88
HAVRE	2584	922.8	1013.3	82	53	67.7	- 2.3	96	28	47	13	8	0	48	55	2.13	0.86	0.88	8	8	0.0	0	0.8	28	56	NW	2	13	12	6	4.5	85
HELENA	3828	881.5	1014.5	83	52	67.9	- 0.5	97	29	44	8+	7	0	46	50	1.77	0.74	1.50	6	4	0.0	0	3.5	29	42	W	3	18	8	5	3.3	88
KALISPELL	2965	912.0	1015.4	80	44	62.1	- 3.6	90	28+	34	26	3	0	44	56	0.10	- 0.94	0.06	2	3	0.0	0	2.4	21	30	24	25	16	10	5	3.5	
MILES CITY	2629	921.8	1012.7	85	59	71.8	- 3.5	101	11	51	27+	7	0	55	58	3.40	2.06		11	10	0.0		1.9	5								
MISSOULA	3190	905.2	1015.8	82	47	64.3	- 2.7	94	27	39	13	5	0	44	52	0.25	- 0.60	0.20	3	2	0.0	0	3.0	31	31	SW	25	16	11	4	3.2	84
NEBRASKA																																
GRAND ISLAND	1841	948.9	1013.3	89	66	77.2	0.0	104	13	55	1	13	0	65	71	3.10	0.59	0.80	9	9	0.0	0	3.0	14	25	33	16	12	9	10	4.9	
LINCOLN U	1150			88	70	79.1	- 1.0	101	13+	59	1	12	0			3.93	0.66	1.95	8		0.0	0			42	SW	4	13	8	10	4.7	68
NORFOLK	1544			85	65	75.4	- 1.6	100	13	55	1	9	0			3.40	0.38	1.09	12		0.0	0						10	12	9	5.2	
NORTH PLATTE	2775	917.4	1013.0	86	60	73.0	- 3.1	102	13	48	28	8	0	62	71	2.52	0.00	0.68	10	10	0.0	0	4.1	12	66	SE	5	15	8	8	4.6	72
OMAHA	977	978.7	1013.3	88	69	78.2	- 0.3	99	13	60	29	12	0	68	72	4.27	0.90	2.55	11	8	0.0	0	2.6	14	27	SW	14	7	13	11	5.6	73
SCOTTSBLUFF	3957	880.1	1012.7	92	58	74.9	0.2	102	12	48	27	18	0	55	56	0.72	- 0.73	0.36	6	13	0.0	0	3.7	11	25	6	17	17	10	4	3.6	
VALENTINE	2587			88	61	74.5	- 0.9	107	12	47	28	10	0			2.42	0.10	0.61	11		0.0	0			41	NW	4	10	15	6	4.6	68
NEVADA																																
ELY	6253	811.4	1012.2	87	50	68.5	1.0	92	25	38	4	11	0	42	43	0.55	- 0.10	0.15	7	10	0.0	0	4.5	21	35	SW	6	12	16	3	4.1	75
LAS VEGAS	2162	935.0	1009.0	104	76	89.7	0.0	112	31+	67	8	31	0	46	27	0.06	- 0.44	0.05	2	4	0.0	0	4.1	21	35	NE	19	19	7	5	3.3	84
RENO	4404	866.6	1012.9	92	49	70.8	3.1	101	20	37	1	23	0	42	37	0.17	- 0.10	0.13	2	2	0.0	0	2.2	29	29	NE	8	25	5	1	1.7	93
WINNEMUCCA	4301	867.9	1012.5	92	51	71.5	0.5	102	20+	40	7+	23	0	40	33	0.01	- 0.26	0.01	1	0	0.0	0	2.2	33	36	NW	5	23	6	2	2.2	89
NEW HAMPSHIRE																																
CONCORD	342	1003.4	1015.8	75	55	65.4	- 4.2	90	16	40	8	1	0	59	82	4.40	0.99	1.61	11	3	0.0	0	0.9	21	20	W	1	4	9	18	7.2	51
MT WASHINGTON OBS	6262			53	42	47.3	- 1.8	67	16	25	6	0	3			15.53	8.82	7.37	13	3	0.0	0			82Y	NW	5	0	8	23	8.5	31
NEW JERSEY																																
ATLANTIC CITY	64	1013.2	1015.5	82	65	73.2	- 1.9	97	1	52	9	4	0	65	78	12.64	8.92	4.85	15	7	0.0	0	2.5	18	29	17	28	3	11	17	7.6	43
ATLANTIC CITY U	11			80	70	75.2	1.0	95	18	62	9	2	0			11.11	7.25	6.62	12						39	NE	23					
NEWARK	7	1014.6	1015.5	81	68	74.2	- 2.1	95	17	59	7	4	0	63	70	7.11	3.44	1.86	18	6	0.0	0	0.7	16	29	31	18	1	12	18	7.8	
TRENTON U	56			82	66	73.9	- 2.1	94	17	60	24+	3	0			7.51	3.33	2.94	12		0.0	0			29	NW	27	3	10	18	7.3	45
NEW MEXICO																																
ALBUQUERQUE	5311	840.5	1012.0	94	67	80.2	1.7	100	30+	61	5	26	0	52	43	0.94	- 0.26	0.54	11	11	0.0	0	2.0	17	35	E	30+	8	16	7	5.3	71
CLAYTON	4969			89	63	75.8	1.3	101	30	57	10	13	0			2.21	- 0.12	0.85	11		0.0	0						12	11	8	5.1	
ROSWELL	3617			98	67	82.9	4.3	105	26	62	2	31	0			1.32	- 0.45	0.53	6		0.0	0			29	SW	5					78
NEW YORK																																
ALBANY	275	1004.7	1015.4	81	58	69.7	- 2.4	93	16	43	8	2	0	61	75	5.08	1.59	1.46	11	7	0.0	0	2.3	18	25	W	1	2	9	20	7.9	51
BINGHAMTON	1590	958.7	1016.6	75	59	67.0	- 1.4	85	16	48	8	0	0	60	81	4.32	0.61	1.08	10	5	0.0	0	1.5	22	23	W	5	3	8	20	7.9	54
BUFFALO	705	989.8	1015.0	79	62	70.5	0.7	87	15	50	8	0	0	61	73	3.83	1.26	0.88	9	8	0.0	0	3.4	23	29	SW	28+	6	14	11	6.5	68
J.F. KENNEDY	13	1014.9	1015.7	82	68	75.0	- 0.9	97	17	60	7	4	0	64	72	8.48	4.44	3.21	15	4	0.0	0	1.8	17	37	34	18	2	10	19	7.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW YORK																																
NEW YORK U	132	1012.2	1015.2	82	67	74.8	- 2.0	96	17	60	7	5	0	63	72	7.37	3.67	1.16	16	5	0.0	0	0.8	11	35	NW	18					40
NEW YORK LA GUARDIA	11	1013.9	1015.7	80	67	73.2	- 3.6	95	17	57	3	3	0	61	68	8.35	4.64	1.59	17	7	0.0	0	0.7	16	52	N	3	2	9	20	7.8	
ROCHESTER	547	995.6	1015.6	81	61	70.7	- 0.9	92	16	47	8	3	0	61	74	1.83	- 1.01	0.90	10	8	0.0	0	2.0	23	26	SW	5	7	13	11	6.1	60
SYRACUSE	410	1000.3	1015.0	80	59	69.9	- 2.3	93	16	46	8	2	0	58	68	0.90	- 2.19	0.35	6	4	0.0	0	0.8	25	21	S	25+	6	10	15	6.7	67
NORTH CAROLINA																																
ASHEVILLE	2140	942.1	1016.6	87	64	75.9	3.5	94	5	58	17	8	0	68	83	7.53	1.68	4.02	17	15	0.0	0	1.7	35	23	19	27+	7	14	10	5.8	71
CAPE HATTERAS R	7	1015.9	1016.1	86	72	78.9	0.9	95	6	64	16+	2	0	72	81	6.69	0.54	2.04	15	11	0.0	0	3.7	20	37	NW	12	13	5	13	5.8	71
CHARLOTTE	736	988.5	1015.4	90	71	80.8	1.6	96	19+	66	13	18	0	69	71	3.48	- 1.40	0.90	9	11	0.0	0	1.4	19	32	NW	7	10	13	8	5.5	73
GREENSBORO	897	984.8	1015.8	90	71	80.4	3.1	98	19+	65	14	20	0	71	78	4.11	- 0.68	1.57	15	12	0.0	0	1.2	20	40	W	28	8	10	13	6.1	64
RALEIGH	434	999.7	1015.3	88	68	78.0	0.1	95	6	62	14	7	0	69	80	4.40	- 1.09	1.60	11	12	0.0	0	2.6	20	35	36	10	10	10	11	5.7	67
WILMINGTON	28	1014.9	1016.2	90	72	80.8	0.8	98	7	68	16	14	0	73	81	13.46	5.78	3.27	16	12	0.0	0	2.2	20	35	NW	7+	6	14	11	6.3	72
NORTH DAKOTA																																
BISMARCK	1647	955.3	1014.0	83	58	70.4	- 1.3	98	12	46	1	2	0	57	65	5.24	3.05	2.33	14	14	0.0	0	0.6	10	40	N	22	14	11	6	4.8	77
FARGO	896	981.4	1013.7	80	57	68.4	- 3.0	95	12	41	1	1	0	61	77	5.92	3.01	3.06	9	8	0.0	0	1.0	25	30	NE	14	13	10	8	4.7	70
WILLISTON	1899	946.2	1013.8	80	56	67.9	- 3.4	95	29+	43	31	4	0	55	68	3.47	1.60	1.30	13	11	0.0	0	0.8	31	45	NW	22	8	15	8	5.3	80
OHIO																																
AKRON	1208	971.9	1015.5	81	63	72.1	- 0.5	89	16	53	8+	0	0	65	81	6.08	2.31	3.61	11	7	0.0	0	1.3	24	29	33	4	4	11	16	7.2	
CINCINNATI OBS	761			87	68	77.4	0.5	96	5	61	31+	10	0			3.82	0.23	1.30	10		0.0	0			14	W	10+					56
CLEVELAND	777	986.8	1015.3	81	64	72.4	0.5	92	16	55	2	1	0	62	71	6.47	3.16	2.87	12	6	0.0	0	1.3	25	40	N	4	5	11	15	6.4	54
COLUMBUS	812	985.8	1015.4	83	65	74.1	- 0.7	92	18+	58	14+	5	0	67	80	7.65	3.72	3.82	12	8	0.0	0	0.6	23	32	N	19	4	9	18	7.2	54
DAYTON	1002	979.7	1015.2	83	67	75.2	0.0	91	16+	59	31	5	0	65	73	5.71	2.18	2.46	12	7	0.0	0	2.1	25	40	NW	11+	7	14	10	6.4	52
MANSFIELD	1295			83	66	74.6	2.9	91	16	55	8	2	0	64	72	8.06	4.58	5.06	9	10	0.0	0	2.3	23	23	17	5+	7	9	15	6.4	
TOLEDO	669	990.5	1015.2	82	62	71.8	- 0.9	92	16	54	2	1	0	64	77	6.75	4.16	4.39	12	9	0.0	0	0.5	27	53	NW	4	3	13	15	6.9	53
YOUNGSTOWN	1178	973.6	1015.7	79	60	69.8	- 0.7	88	16	44	2	0	0	63	80	5.79	1.47	2.32	14	9	0.0	0	1.0	20	22	30	17+	3	11	17	7.4	
OKLAHOMA																																
OKLAHOMA CITY	1285	968.2	1013.2	96	72	83.9	1.4	104	12	63	29	28	0	66	59	1.42	- 0.95	0.90	4	3	0.0	0	6.2	17	24	SW	4	17	11	3	3.7	88
TULSA	650	989.8	1013.6	97	75	85.9	3.7	104	15+	60	29	28	0	68	59	1.08	- 1.86	1.03	5	0	0.0	0	4.9	19	23	S	4	15	12	4	4.1	79
OREGON																																
ASTORIA	8	1019.3	1020.2	66	51	58.6	- 2.0	72	23	44	26+	0	0	52	80	0.56	- 0.71	0.24	7	0	0.0	0	5.8	30	21	32	21+	7	11	13	6.2	
BURNS U	4151	874.4	1014.7	85	52	68.5	- 1.0	94	27+	42	4	11	0	38	35	T	- 0.34	T	0		0.0	0	4.4	32				23	8	0	2.3	
EUGENE	359	1005.1	1018.4	81	52	66.5	- 0.1	95	23	45	30+	3	0	51	63	T	- 0.27	T	0	0	0.0	0	3.1	33	18	1	20	16	6	9	4.5	
MEACHAM	4050	878.8	1015.5	74	50	62.1	- 1.3	85	23	40	13	0	0			0.09	- 0.41	0.09	1		0.0	0			18	27	25	18	7	6	3.1	
MEDFORD	1298	969.2	1016.1	91	54	72.3	0.3	100	26+	45	16	19	0	49	49	0.02	- 0.19	0.02	2	2	0.0	0	3.0	31	17	29	10+	24	7	0	1.9	
PENDLETON	1482	962.8	1015.5	88	57	72.5	- 1.1	100	9	49	26+	17	0	41	36	0.02	- 0.20	0.02	1	0	0.0	0	4.7	27	24	26	25+	23	7	1	2.2	
PORTLAND	21	1016.9	1018.2	78	55	66.6	- 0.6	91	23	49	13	1	0	52	64	0.14	- 0.27	0.07	4	0	0.0	0	5.3	32	26	NW	22	12	12	7	4.3	69
SALEM	196	1011.2	1018.6	81	49	64.9	- 1.2	96	23	42	15	5	0	50	62	0.05	- 0.30	0.05	1	0	0.0	0	3.5	34	17	1	22+	15	9	7	4.2	
SEXTON SUMMIT R	3836	886.2	1016.1	73	50	61.8	- 1.8	85	26	43	15+	0	0			0.19	- 0.13	0.16	2		0.0	0			30	36	21	24	7	0	1.5	
PACIFIC AREA																																
JOHNSTON	7	1013.5	1014.0	87	77	81.6	0.5	89	21	72	16	0	0	72	74	0.56	- 0.74	0.19	8	0	0.0	0	15.8	8	29	NE	14	4	12	15	6.9	76
KOROR R	94	1006.1	1009.6	86	75	80.8	- 0.1	91	16	72	30+	3	0	76	85	28.21	13.04	5.82	27	3	0.0	0	3.7	26	34	W	22	0	2	29	9.5	33
KWAJALEIN	8	1009.1	1009.8	86	77	81.8	0.2	89	18	74	24+	0	0	76	82	12.81	3.90	3.73	26	1	0.0	0	11.1	8	28	8	14+	0	1	30	9.8	
MAJURO	10	1009.8	1010.1	85	76	80.5	0.3	89	27	72	2	0	0	75	83	16.65	4.12	2.52	27	0	0.0	0	8.1	7	23	NE	20+	0	2	29	9.1	50
PAGO PAGO	12	1012.2	1012.3	82	75	78.4		87	4	71	20	0	0	73	84	11.42		4.12	18	0	0.0	0	11.7	13	28	SE	15	1	13	17	7.9	38
PONAPE R	123	1004.1	1009.5	87	73	79.7	0.0	90	12+	71	28+	2	0	75	87	28.90	12.68	4.77	30	3	0.0	0	3.2	11	18	NE	31	1	8	22	8.5	35
TAGUAC GUAM R	361	997.3	1009.9	87	73	80.1	0.6	90	7	69	20+	1	0	75	84	13.83	4.85	5.17	26	1	0.0	0	7.8	11	26	E	21	0	11	20	8.3	59
TRUK MOEN ISLAND	5	1009.1	1009.4	86	75	80.7	0.2	89	12	73	30+	0	0	75	84	16.38	4.05	3.21	25	1	0.0	0	3.9	8	21	SE	21	0	2	29	9.5	71
WAKE	11	1013.9	1014.2	89	77	83.4	1.4	91	31+	75	23+	17	0	73	73	1.15	- 3.45	0.35	15	0	0.0	0	16.8	9	29	E	19+	5	14	12	6.4	75
YAP R	44	1006.8	1008.6	86	75	80.5	- 0.9	89	16+	70	28	0	0	76	86	34.71	20.93	7.44	27	6	0.0	0	1.4	24	26	N	28	0	6	25	9.0	38
PENNSYLVANIA																																
ALLENTOWN	387	1001.7	1015.5	82	63	72.2	- 1.9	94	17	50	2	3	0	63	78	10.42	5.60	4.54	12	5	0.0	0	0.1	14	22	17	27+	3	9	19	7.5	
ERIE	731	988.8	1015.3	77	61	69.0	- 2.1	87	16	50	8+	0	0	62	78	3.65	- 0.02	1.59	12	9	0.0	0	1.9	21	32	21	4	6	15	10	6.2	
HARRISBURG	338	1002.7	1015.3	84	66	75.3	- 0.9	98	17	54	2	8	0	63	69	9.72	6.21	5.36	12	7	0.0	0	0.4	21	32	NE	12	5	7	19	7.5	44

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In.	M.p.h.		M.p.h.							%
PENNSYLVANIA																																
PHILADELPHIA	5	1013.9	1015.0	83	68	75.1	-0.5	93	18	60	9	3	0	67	78	8.33	4.17	4.26	12	6	0.0	0	1.2	16	32	NW	12	1	11	19	7.8	39
PITTSBURGH	1137	972.2	1015.3	82	63	72.7	0.6	90	18+	51	2	2	0	62	72	4.52	0.64	2.33	15	7	0.0	0	1.5	26	40	31	4	3	9	19	7.5	49
SCRANTON	930	982.4	1016.2	79	62	70.8	-1.6	91	17	50	9	1	0	61	76	6.81	2.02	2.33	17	7	0.0	0	0.5	21	31	W	12	2	9	20	7.8	54
WILLIAMSPORT	524	997.0	1015.8	81	63	71.7	-1.9	93	17	50	2	2	0	65	84	6.46	2.28	1.31	17	8	0.0	0	0.8	28	28	35	12	1	11	19	7.8	
RHODE ISLAND																																
BLOCK ISLAND	110			74	64	69.0	-0.6	85	18	57	9+	0	0			4.02	1.33	1.20	9		0.0	0										
PROVIDENCE	51	1013.5	1015.8	80	63	71.5	-0.6	95	17	52	9	3	0	60	69	2.98	0.07	1.38	8	2	0.0	0	1.6	23	20	17	28+	2	10	19	7.7	42
SOUTH CAROLINA																																
CHARLESTON	40	1014.2	1016.2	92	74	82.7	2.1	98	7+	71	31+	24	0	73	77	5.34	-2.37	2.24	11	13	0.0	0	3.2	20	43Y	NE	14	5	17	9	5.5	64
CHARLESTON U	9			90	77	83.6	2.1	95	11	73	2	18	0			4.19	-3.59	1.10	12		0.0	0			34	SE	8					
COLUMBIA	213	1007.8	1015.7	94	72	83.1	1.5	99	19+	68	16	28	0	72	76	4.31	-1.78	1.69	8	13	0.0	0	1.9	21	23	33	7	5	18	8	5.6	54
GNVLE-SPARTANBURG	957	982.1	1015.9	92	70	80.6	1.6	97	19+	63	13	24	0	69	73	3.17	-1.48	1.14	11	9	0.0	0	1.0	29	31	N	1	7	18	6	5.3	64
SOUTH DAKOTA																																
ABERDEEN	1296	967.8	1013.8	81	59	70.0	-3.5	94	12	45	1	2	0	62	76	4.07	1.57	1.29	12	12	0.0	0	1.4	7	35	27	14+	10	14	7	5.0	
HURON	1281	967.8	1013.4	84	60	71.7	-3.3	95	13	46	1	3	0	59	64	4.52	2.71	1.51	10	9	0.0	0	1.7	12	56	NW	14	9	15	7	5.1	70
RAPID CITY	3162	904.8	1013.5	85	57	71.0	-2.8	98	12	49	1	5	0	55	63	6.13	4.35	1.80	11	16	0.0	0	2.6	5	54	NW	3	18	7	6	3.7	73
SIOUX FALLS	1418	963.4	1013.7	85	62	73.5	-0.8	98	13	47	1	5	0	61	67	2.73	-0.11	1.84	12	12	0.0	0	1.5	11	39	10	3	10	15	6	5.4	
TENNESSEE																																
BRISTOL	1507	963.1	1016.1	86	67	76.4	0.5	91	6+	59	30	5	0	68	80	8.18	2.63	1.76	12	14	0.0	0	0.5	32	20	2	9	7	14	10	5.7	
CHATTANOOGA	665	990.9	1015.0	91	67	78.6	-2.1	96	4	56	31	23	0	69	76	2.32	-2.79	0.70	8	9	0.0	0	1.1	22	33	NW	8	10	12	9	5.2	62
KNOXVILLE	980	981.0	1015.3	89	69	78.9	0.5	95	6+	62	31+	14	0	68	74	3.51	-1.31	1.39	10	11	0.0	0	1.8	25	40	NW	8	9	13	9	5.7	76
MEMPHIS	258	1004.7	1014.5	95	75	84.9	3.6	103	11	66	30	26	0	71	68	1.92	-1.62	0.79	8	8	0.0	0	1.8	20	45	NW	2	14	9	8	4.8	73
NASHVILLE	590	993.6	1014.7	94	72	82.7	2.5	100	11	63	31	26	0	70	72	5.33	1.61	1.75	10	13	0.0	0	1.8	23	42	W	27	9	17	5	5.0	71
OAK RIDGE R	905			90	68	79.1	1.9	95	6+	59	30	18	0			5.27	-0.68	1.81	9		0.0	0			24Y		27+	10	10	11	5.5	
TEXAS																																
ABILENE	1762	952.6	1012.3	99	76	87.4	4.2	102	15+	68	29	31	0	63	46	2.15	-0.13	2.13	2	1	0.0	0	8.3	17	35	N	22	18	8	5	4.0	88
AMARILLO	3604	892.0	1011.4	96	70	82.6	2.0	104	30	61	28	28	0	59	49	2.55	0.21	1.78	7	8	0.0	0	6.8	18	42	SE	5	15	11	5	4.2	84
AUSTIN	597	992.2	1013.8	98	75	86.3	1.8	102	29	71	16	31	0	68	60	0.12	-2.06	0.10	2	3	0.0	0	6.6	18	43	SE	15	12	16	3	4.5	77
BROWNSVILLE	19	1012.9	1013.6	96	78	87.2	3.2	99	29	75	31+	31	0	73	68	0.23	-1.45	0.21	2	0	0.0	0	11.9	15	30	SE	24	16	13	2	4.0	90
CORPUS CHRISTI	41	1012.5	1013.9	96	77	86.6	2.5	99	22	72	20	31	0	73	67	0.03	-2.29	0.02	2	2	0.0	0	12.6	15	29	S	27+	12	15	4	4.8	77
DALLAS	481	996.3	1013.3	100	81	90.2	5.3	104	24+	73	30+	31	0	67	49	T	-1.94	T	0	0	0.0	0	6.7	16	25	SE	15	18	7	6	3.7	80
DEL RIO	1026	976.6	1011.7	100	76	88.4	2.2	104	24	71	27	31	0	66	51	1.47	0.16	1.47	2	4	0.0	0	11.0	12	38	32	27	13	13	5	4.5	
EL PASO	3918	881.8	1009.9	97	73	84.9	3.0	103	5	66	10	28	0	57	43	1.14	-0.15	0.63	7	12	0.0	0	2.2	16	38	SW	11	6	20	5	5.2	77
FORT WORTH	537	993.6	1013.6	99	77	87.9	2.5	104	15	69	30+	31	0	69	57	0.77	-0.98	0.70	3	1	0.0	0	6.1	18	22	16	15+	18	6	7	3.7	
GALVESTON U	7			88	80	84.3	1.2	94	15	69	20	7	0			4.76	-0.03	2.01	9		0.0	0			45	E	15					79
HOUSTON INTERCON	98	1010.8	1014.7	96	73	84.4	2.0	101	15	68	15	29	0	74	77	3.89	-0.14	1.03	7	10	0.0	0	2.8	18	46	10	15	5	15	11	5.9	77
LUBBOCK	3254	903.8	1011.8	97	70	83.3	3.8	102	4	65	29+	30	0	59	47	2.99	0.98	2.75	5	6	0.0	0	5.9	17	43	1	21	16	9	6	4.1	
MIDLAND	2851	916.0	1011.5	98	71	84.1	1.2	104	26	67	11+	31	0	56	42	0.74	-1.14	0.33	4	6	0.0	0	6.8	15	26	1	26	14	12	5	4.2	
PORT ARTHUR	16	1014.2	1015.0	95	75	84.9	3.0	100	15+	70	20	26	0	76	81	10.14	4.14	2.86	13	12	0.0	0	3.9	21	47	S	11	4	17	10	6.0	63
SAN ANGELO	1903	947.2	1011.7	101	74	87.5	2.7	105	25+	67	20	31	0	62	46	0.62	-0.79	0.48	2	2	0.0	0	7.2	16	26	13	27	14	10	7	4.0	
SAN ANTONIO	788	986.5	1013.9	98	76	86.8	2.8	102	29	70	18	31	0	70	61	0.36	-1.73	0.33	3	2	0.0	0	7.4	16	37	E	21	7	20	4	5.0	80
VICTORIA	104	1010.2	1014.3	97	77	87.0	3.8	100	29+	73	16	31	0	73	69	1.74	-1.87	0.60	3	4	0.0	0	7.8	18	41Y	S	21+	2	18	11	6.1	
WACO	501	995.9	1013.7	102	79	90.5	5.2	107	15	71	29	31	0	69	53	0.05	-1.94	0.05	1	1	0.0	0	8.2	16	23	12	15	20	8	3	3.2	
WICHITA FALLS	994	977.0	1012.5	104	74	88.8	3.2	109	24+	63	29	31	0	65	50	0.34	-1.63	0.24	2	4	0.0	0	8.3	16	38	35	25	16	10	5	4.1	
UTAH																																
MILFORD	5028	846.9		93	57	74.9	1.1	100	27	44	9	27	0			1.36	0.66	0.42	7		0.0	0						17	8	6	3.3	
SALT LAKE CITY	4220	871.3	1011.9	92	61	76.6	-0.3	99	27	50	8+	24	0	46	37	1.51	0.93	1.36	3	4	0.0	0	2.4	15	43	W	6	20	10	1	3.0	93
WENDOVER	4237	871.0	1012.8	91	68	79.2	-0.2	98	2	49	7	23	0			0.26	-0.05	0.21	4		0.0	0										
VERMONT																																
BURLINGTON	332	1002.7	1015.0	79	56	67.8	-1.2	94	16	40	8	2	0	57	73	2.40	-1.45	0.73	13	6	0.0	0	2.1	18	32	S	5	5	10	16	6.9	80

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h		M.p.h.							%
VIRGINIA																																
LYNCHBURG	916			87	66	76.2	- 0.1	97	5	59	15+	10	0			4.06	- 0.15	1.15	16		0.0	0			26	W	6	12	7	12	5.5	56
NORFOLK	22	1014.2	1015.3	86	72	79.2	0.4	97	20+	68	26+	7	0	69	73	12.70	6.78	5.64	17	13	0.0	0	2.6	17	33	NE	8	8	10	13	6.2	57
RICHMOND	164	1009.5	1015.5	87	69	78.3	0.2	97	1	64	15	10	0	70	81	13.90	8.29	5.73	15	11	0.0	0	1.1	19	31	SW	20	5	11	15	7.1	48
ROANOKE	1149	974.6	1015.8	86	66	76.0	- 0.6	94	5	58	14	9	0	66	75	5.35	1.10	1.02	17	12	0.0	0	0.5	26	21	29	6	9	11	11	5.5	
WALLOPS ISLAND	9			83	71	77.2		95	1	62	9	4	0			4.76		1.38	14		0.0	0			44Y	W	20					
WASHINGTON																																
OLYMPIA	195	1011.9	1019.1	76	48	62.1	- 1.8	89	23	42	30+	0	0			0.50	- 0.26	0.24	4	0	0.0	0			21	23	24	12	11	8	4.6	
QUILLAYUTE	179	1012.5	1020.0	67	49	58.0	- 1.7	77	18+	43	30+	0	0	51	82	1.59	- 0.72	1.10	7	0	0.0	0	3.2	27	18	NW	24	10	8	13	5.8	52
SEATTLE TACOMA	400	1002.7	1019.1	75	54	64.7	- 0.2	85	23+	50	15+	0	0	51	64	0.27	- 0.54	0.20	4	1	0.0	0	2.0	29	20	SW	10	14	10	7	4.2	67
SPOKANE	2356	931.9	1014.2	83	52	67.4	- 3.1	93	20	42	26+	7	0	40	40	0.03	- 0.35	0.03	1	1	0.0	0	4.1	21	29	SW	25	17	9	5	3.1	80
STAMPEDE PASS R	3958	882.5		62	46	54.2	- 2.0	76	30+	39	25+	0	0			1.59	0.13	0.54	8		0.0	0						15	3	13	4.9	
WALLA WALLA U	949			87	61	73.8	- 2.2	97	23+	53	13	14	0			0.01	- 0.20	0.01	1		0.0	0			21	W	3	20	8	3	2.7	88
YAKIMA	1052	977.0	1014.9	85	52	68.4	- 2.6	95	24	43	13	8	0	42	39	T	- 0.13	T	0	0	0.0	0	4.6	31	23	33	22+	26	4	1	1.7	
WEST INDIES																																
SAN JUAN P.R.	13	1014.9	1017.2	86	75	80.9	0.5	89	15	72	19+	0	0	72	77	7.49	1.24	2.28	22	11	0.0	0	7.3	9	29	SE	18	4	17	10	6.1	74
SWAN ISLAND	28			87	77	82.3	- 0.2	89	30+	70	6	0	0			10.51	6.31	3.76	19		0.0	0						2	16	13	6.9	
WEST VIRGINIA																																
BECKLEY	2504	929.9	1015.8	81	62	71.5	0.6	88	5	54	14	0	0	64	79	5.14	0.56	2.01	11	12	0.0	0	2.4	24	29	28	5	6	14	11	6.3	
CHARLESTON	939	981.7	1015.1	87	66	76.6	1.7	97	5	60	29+	9	0	69	81	6.13	0.46	1.56	13	10	0.0	0	1.8	22	21	25	10+	5	14	12	6.6	
ELKINS	1970	946.8		82	59	70.7	0.6	88	27+	54	31+	0	0			6.82	1.33	1.22	14		0.0	0						2	14	15	7.4	
HUNTINGTON	827	986.1	1015.5	87	69	77.9	2.7	95	5	60	2	9	0	68	75	3.34	- 1.16	0.63	12	11	0.0	0	1.9	21	31	35	6	2	16	13	6.8	
PARKERSBURG U	615			85	67	76.3	0.5	94	19	59	2	7	0			3.83	- 0.28	1.24	12		0.0	0			31	SW	27+					48
WISCONSIN																																
GREEN BAY	682	989.2	1014.5	79	57	68.0	- 2.5	90	16	45	6+	1	0	58	73	2.51	- 0.20	1.19	8	4	0.0	0	0.5	1	25	N	28	7	11	13	6.3	58
LA CROSSE	651	990.2	1014.3	82	63	72.5	- 1.3	93	12	49	1	3	0	64	77	3.00	- 0.75		12	9	0.0		0.7	16								
MADISON	858	983.4	1014.5	80	59	69.6	- 1.5	89	12	48	1	0	0	63	79	4.28	0.70	0.90	12	7	0.0	0	0.2	25	32	N	23	7	8	16	6.9	57
MILWAUKEE	672	989.8	1014.7	76	59	67.8	- 0.9	89	16+	51	2	0	0	60	73	6.61	3.66	2.29	12	10	0.0	0	1.0	36	46	SW	16	7	9	15	6.5	53
WYOMING																																
CASPER	5338	839.1	1012.7	90	53	71.6	- 0.1	97	12	43	4+	15	0	44	44	0.70	- 0.30	0.27	9	8	0.0	0	2.8	27	37	26	14+	20	9	2	3.1	
CHEYENNE	6126	815.8	1014.1	87	56	71.5	1.5	94	12	48	27	11	0	46	47	0.58	- 1.24	0.18	5	11	0.0	0	3.2	23	40	NW	26	12	13	6	4.6	67
LANDER	5563	831.0	1012.7	87	56	71.4	0.8	94	12	44	4	12	0	42	38	0.07	- 0.70	0.06	3	10	0.0	0	3.2	26	43	W	25	19	9	3	3.6	88
SHERIDAN	3964	879.8	1014.2	83	52	67.9	- 3.4	95	12	43	4	4	0	50	56	0.47	- 0.72	0.35	7	8	0.0	0	1.9	31	61	NW	3	17	10	4	3.6	76

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm.	M.p.s.		M.p.s							%
ALABAMA																																
BIRMINGHAM	189	993.6	1015.6	33.3	21.7	27.6	0.1	36.1	4	16.7	30	26	0	21.1	73	74	- 57	27	10	11	0	0	0.4	22	13.4	N	[illegible]	4	21	6	6.0	66
HUNTSVILLE	190	992.9	1015.6	34.4	22.8	28.5	1.2	38.3	6	16.3	31+	26	0	21.7	70	111	3	38	9	12	0	0	0.5	17	19.2	27	27	9	16	6	5.6	
MOBILE	64	1007.5	1015.3	33.3	24.4	28.6	0.5	36.7	2	22.2	20	22	0	23.9	81	359	114	119	23	19	0	0	0.7	21	14.3	12	7	2	17	12	7.0	
MONTGOMERY	56	1008.5	1015.6	33.9	22.8	28.4	0.7	38.9	8	20.0	29	24	0	21.7	73	82	- 55	24	13	11	0	0	0.7	22	13.4	N	9	6	14	11	6.4	56
ALASKA																																
ANCHORAGE	35	1007.8	1012.5	18.3	11.7	15.2	0.6	23.9	2	8.9	27	6	0	9.4	70	54	7	37	11		0	0	1.3	21	10.3	17	20	0	9	22	8.4	40
ANNETTE	34	1014.2	1018.1	18.3	11.7	15.0	0.9	25.0	16	8.3	5	5	0	10.0	77	155	2	49	16	0	0	0	2.3	16	12.5	14	9	2	6	23	8.5	
BARROW	9	1009.5	1010.2	3.9	- 1.1	1.5	- 2.4	13.9	1	- 3.3	24	0	25	- 0.6	88	9	- 11	2	10	0	20	T	1.4	28	10.7	23	20	0	4	27	9.0	
BARTER ISLAND	12	1008.5	1010.4	7.8	0.0	3.7	- 1.4	23.3	5	- 2.8	31	1	20	2.2	88	23	1	7	12	0	25	T	0.8	5	13.0	27	26	1	5	25	8.7	
BETHEL	38	1008.8	1014.4	15.6	8.9	12.1	- 0.6	23.3	4	2.2	29	3	0	8.9	82	63	12	10	18	0	0	0	2.3	26	10.3	29	29+	0	1	30	9.6	
BETTLES	196	985.1	1010.0	19.4	7.8	13.5		25.6	7	0.6	26	14	0	7.2	67	21		7	9	3	0	0	1.7	22	11.6	23	20	0	3	28	8.7	
BIG DELTA	386			18.9	9.4	14.1		26.1	14	3.9	31	11	0			90		14	18	4	0	0			8.9	20	28	0	7	24	8.5	
COLD BAY	29	1013.9	1017.5	14.4	9.4	11.8	1.9	20.6	27	6.1	23	0	0	8.3	80	51	5	18	13	0	0	0	1.3	22	14.3	16	23	0	1	30	9.6	
FAIRBANKS	133	994.2	1011.1	20.6	10.0	15.2	- 0.2	26.1	5	3.3	31	19	0	9.4	71	34	- 13	11	15	1	0	0	1.1	19	9.4	18	26+	2	5	24	8.3	
GULKANA	479	955.0	1011.3	18.9	7.8	13.3		23.3	18+	2.8	21	9	0	6.7	67	61		10	14	3	0		1.8	14	13.0	17	28+	3	9	19	7.5	
HOMER	20			15.6	7.8	11.8		18.9	25+	3.9	30	0	0			31	- 14	14	15	0	0	0						0	8	23	8.5	
ILIAMNA	57			16.7	9.4	13.1		26.7	2	6.7	30	3	0			117		55	17	0	0	0						0	3	28	9.2	
JUNEAU	4	1014.6	1015.5	15.0	8.9	12.1	- 0.9	22.2	18	5.6	28	1	0	10.0	90	200	86	38	21	0	0	0	2.5	10	13.0	12	25	0	3	28	9.6	11
KING SALMON	15	1011.5	1015.5	16.1	8.9	12.4	- 0.3	23.3	1	4.4	26	2	0	7.2	74	56	3	13	18	0	0	0	2.4	12	11.2	24	30+	0	1	30	9.7	
KOTZEBUE	3	1010.2	1010.7	14.9	8.3	11.6	- 0.5	20.6	4	4.4	23	0	0	7.8	82	17	- 20	5	7	0	0	0	5.6	28	15.6	29	28+	3	12	16	7.0	
MC GRATH	105	999.7	1012.3	17.8	8.9	13.4	- 1.4	25.6	6	5.0	25	8	0	7.2	70	85	23	28	13	3	0	0	1.0	25	8.5	26	22	0	7	24	8.4	
NOME	4	1010.8	1011.5	13.3	6.7	10.1	0.4	17.8	6+	2.8	21	0	0	6.7	78	47	- 11	19	15	0	0	0	1.8	25	10.7	25	2	4	5	22	7.8	32
ST. PAUL ISLAND	7	1014.9	1015.9	11.7	6.7	9.1	1.6	17.2	31	2.2	1	0	0	7.8	91	34	- 24	13	15	0	0	0	1.6	26	11.2	34	28	0	1	30	9.6	
SHEMYA	37	1011.5	1015.4	10.6	7.2	8.8	0.8	15.6	28	5.6	22+	0	0	7.2	93	41	- 13	11	13	0	0	0	1.4	20	14.3	20	11	0	2	29	9.7	
SUMMIT	732			15.6	5.6	10.6		20.6	6	0.0	31	0	1			57		12	14	2	0	0			11.2	23	27	0	5	26	8.9	
TALKEETNA	105	999.7	1012.7	19.4	8.9	14.2	- 0.2	24.4	22+	3.3	27	11	0	9.4	73	95	14	34	14	3	0	0	1.0	20	7.6	17	3	1	7	23	8.3	
UNALAKLEET	5	1011.5	1012.1	14.4	8.9	11.6		17.2	20+	1.7	29	0	0	9.4	84	86		17	21	1	0	0	2.6	25	17.4	25	22	1	7	23	8.5	
YAKUTAT	9	1013.2	1014.2	13.9	8.3	11.1	- 1.2	18.3	18	4.4	31+	0	0	10.0	94	207	- 7	52	22	0	0	0	1.8	12	9.8	12	11	0	4	27	9.5	
ARIZONA																																
FLAGSTAFF	2135	791.4	1015.4	27.2	10.6	19.0	0.4	33.3	2	3.3	7	2	0	5.0	47	97	39	41	10	18	0	0	1.6	22	10.3	30	26+	6	14	11	5.9	
PHOENIX	340	970.5	1008.2	40.6	27.2	33.9	1.8	45.0	31	20.0	7	31	0	13.3	32	7	- 12	5	5	3	0	0	0.9	26	19.7Y	E	22	13	15	3	4.3	82
TUCSON	788	924.5	1009.8	36.7	23.3	30.1	- 0.1	42.2	2	20.6	17+	30	0	15.0	46	38	- 14	16	11	15	0	0	1.5	19	17.9	NE	31	6	8	17	6.7	73
WINSLOW	1492	852.4	1011.7	35.0	17.2	26.3	- 0.4	40.6	2	8.9	7	28	0	9.4	42	29	4	16	6	15	0	0	1.7	23	15.6	9	26	7	17	7	5.3	
YUMA	59	1001.0	1008.1	40.6	27.2	34.1	0.3	45.0	3	22.2	8+	31	0	16.1	37	T	- 6	T	0	0	0	0	2.6	18	13.4	S	26+	16	9	6	3.6	87
ARKANSAS																																
FORT SMITH	136	998.0	1014.0	35.0	23.3	29.2	0.9	39.4	14	16.7	29	27	0	21.1	67	49	- 22	24	8	8	0	0	0.5	14	13.9	S	27	18	6	7	4.0	78
LITTLE ROCK	78	1005.1	1014.3	35.6	23.3	29.3	1.6	40.0	11	18.3	30	27	0	22.2	71	86	2	29	9	12	0	0	1.0	21	17.9	NW	27	14	13	4	4.2	86
CALIFORNIA																																
BAKERSFIELD	145	993.9	1011.0	37.8	22.8	30.2	1.1	42.8	21	16.1	6	30	0	10.6	32	T	T	T	0	0	0	0	1.9	32	9.4	32	23	26	4	1	1.5	
BISHOP	1252	873.0		35.6	13.9	24.7	- 0.1	38.3	31+	8.9	2	27	0			8	5	3	5		0	0						21	8	2	2.6	
BLUE CANYON	1609			26.1	16.1	20.9	0.9	30.6	20	11.7	6+	0	0			4	2	4	2		0	0			6.7	11	7	27	4	0	1.0	
EUREKA U	13			15.0	11.1	13.1	- 0.4	16.7	11+	9.4	23	0	0			1	- 2	1	3		0	0			11.6	N	12	8	8	15	6.0	60
FRESNO	100	999.3	1010.8	36.7	17.8	27.2	- 0.2	40.6	21	12.2	6	30	0	12.8	43	1	1	1	1	2	0	0	1.9	29	7.6	W	5+	25	6	0	1.3	96
LONG BEACH	10	1011.9	1013.3	28.3	17.2	22.8	0.8	33.3	31	15.0	11+	2	0	13.9	65	1	1	1	2	1	0	0	1.3	25	7.2	31	1	16	11	4	3.7	
LOS ANGELES	30	1009.1	1012.8	23.3	18.3	20.6	0.0	26.1	3	15.6	1	0	0	16.1	77	4	4	4	1	1	0	0	3.3	25	10.3Y	SW	11	18	9	4	3.8	
LOS ANGELES U	82			27.8	18.3	23.2	0.4	32.2	31	15.6	10	1	0			1	1	1	1		0	0			6.3	SW	11+	22	9	0	2.4	96
MT SHASTA R	1080			29.4	11.1	20.3	0.3	35.6	22	7.8	3	6	0			1	- 7	1	1		0	0										
OAKLAND	2	1013.9	1014.2	20.6	13.3	16.8	- 1.2	26.7	17	11.7	1	0	0	12.2	78	T	0	T	0	0	0	0	3.6	30	9.8	32	9	21	9	1	2.5	
RED BLUFF	104	999.0	1011.2	38.3	19.4	28.7	- 0.1	42.8	20	16.7	6+	31	0	8.9	32	1	T	1	2	2	0	0	0.4	19	10.3	N	4	29	2	0	0.6	98
SACRAMENTO	5	1010.8	1011.6	35.0	14.4	24.6	0.5	39.4	18+	11.7	30	27	0	12.8	55	T	0	T	0	1	0	0	3.0	21	8.9	SW	5	30	1	0	0.5	100
SANDBERG R	1377	863.9		28.3	17.2	22.8	- 0.8	32.8	30	8.3	6	1	0			5	5	3	2		0	0			11.6	35	31+	24	5	2	1.7	
SAN DIEGO	4	1012.2	1013.0	23.3	18.3	20.8	- 0.4	27.2	31	16.1	6+	0	0	16.7	80	T	T	T	0	0	0	0	2.1	28	7.6	W	24+	13	10	8	5.2	71
SAN FRANCISCO	2	1013.5	1014.4	22.2	11.7	16.8	- 0.2	28.9	17	10.6	31+	0	0	10.6	74	T	T	T	0	0	0	0	5.6	30	13.4	30	29+	26	5	0	1.5	
SAN FRANCISCO U	16			17.2	11.1	14.2	- 0.7	23.3	17	9.4	19	0	0			T	T	T	0		0	0			13.0	W	5					77
SANTA MARIA	72			22.2	12.2	17.2	0.4	27.8	12	8.3	4	0	0			T	- 1	T	0		0	0						18	11	2	3.5	
STOCKTON	7	1011.2	1012.1	35.6	16.1	25.8	0.1	39.4	17	12.8	6	29	0	12.8	49	0	- T	0	0	0	0	0	3.2	30	10.3	26	5	29	2	0	0.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb.	C.	C.	C.	C	C		C.				C.	%
COLORADO															
ALAMOSA	2297	777.2		27.8	10.6	19.1	0.8	32.2	3	6.1	8	1	0		
COLORADO SPRINGS	1873	815.1	1014.6	27.4	14.4	22.1	0.7	35.6	3	11.1	2	8	0	10.0	54
DENVER	1610	838.8	1012.2	31.7	16.1	23.7	1.0	36.1	2	12.2	5	17	0	10.6	51
GRAND JUNCTION	1476	852.7	1010.8	35.0	18.9	26.8	1.2	38.9	27	14.4	8+	28	0		
PUEBLO	1428	857.1	1011.9	34.4	19.4	26.8	2.1	39.4	3	15.0	2	26	0	12.2	46
CONNECTICUT															
BRIDGEPORT	2	1015.2	1015.8	26.1	17.8	22.0	- 1.2	33.3	17	12.8	9	4	0	17.2	76
HARTFORD	52	1008.8	1015.3	26.7	16.1	21.4	- 1.6	35.0	17+	9.4	9+	3	0	16.1	74
DELAWARE															
WILMINGTON	23	1012.5	1015.6	28.3	20.0	24.3	- 0.2	34.4	18+	15.6	9	3	0	18.3	72
DIST. OF COLUMBIA															
WASH NATL AP	3	1013.2	1015.5	31.1	[illegible]	26.4	0.7	36.7	18	18.9	13+	16	0	18.9	68
FLORIDA															
APALACHICOLA	4			31.7	24.4	28.0	0.5	35.0	7	22.2	28	13	0		
DAYTONA BEACH	9	1015.9	1017.3	33.3	23.3	28.2	1.5	36.1	8	21.1	3	28	0	21.7	74
FORT MYERS	5	1016.6	[illegible]	32.2	24.4	28.3	1.4	33.3	17+	22.8	18+	20	0	23.9	82
JACKSONVILLE	6	1015.6	1016.8	34.4	23.3	29.1	0.9	37.8	6	21.7	10+	29	0	23.3	78
KEY WEST	1	1015.9	1016.5	32.2	27.2	29.6	1.1	33.3	16+	24.4	18+	17	0		
LAKELAND	65			32.8	23.3	28.2	0.7	35.6	13+	21.7	18	25	0		
MIAMI	2	1016.3	1016.6	32.8	25.0	28.9	1.3	35.6	26	22.2	10+	24	0	22.8	72
ORLANDO	33	1012.9	1017.1	34.4	23.9	29.1	1.1	36.7	8	21.7	4	28	0	22.8	77
TALLAHASSEE	17	[illegible]	1016.4	32.8	22.8	27.8	0.4	36.1	8+	21.1	30+	22	0	23.9	87
TAMPA	6	[illegible]	1016.5	32.8	23.9	28.4	0.8	35.0	10+	21.7	19+	23	0	22.8	75
WEST PALM BEACH	5	[illegible]	1016.9	32.8	23.9	28.2	0.1	35.6	12	22.8	29+	19	0	22.8	76
GEORGIA															
ATHENS	244	987.1	1015.4	34.4	21.7	28.1	1.6	37.2	19+	18.9	30	30	0	20.6	71
ATLANTA	308	980.0	1015.9	32.8	21.7	27.1	1.1	35.0	13+	18.9	1+	18	0	21.7	77
AUGUSTA	41	[illegible]	1015.4	33.3	21.7	27.6	0.5	36.1	7	19.4	21+	26	0	22.2	77
COLUMBUS	117	1002.0		33.3	22.6	28.0	0.7	37.2	7	20.6	19+	21	0	22.2	76
MACON	108	[illegible]	[illegible]	33.9	21.7	27.8	0.1	36.7	8+	20.0	31	28	0	21.7	76
SAVANNAH	14	1014.6	1016.2	32.8	22.8	27.9	0.5	36.7	7	21.1	2	18	0	22.8	79
HAWAII															
HILO	8	1015.9	1017.0	28.9	[illegible]	24.3	0.5	31.1	18	18.3	3	0	0	21.1	83
HONOLULU	2	1015.9	1016.4	30.6	23.3	27.2	1.2	33.3	28	22.2	9+	5	0	20.0	67
KAHULUI	15	1013.5		31.7	22.2	26.7	1.0	33.9	27	18.9	4	8	0	20.0	71
LIHUE	31	1012.9	1018.0	29.4	23.3	26.4	1.1	31.1	27	21.1	27	0	0	21.1	76
IDAHO															
BOISE	865	914.7	1012.7	31.7	13.9	22.7	- 1.3	36.7	10	8.3	4	16	0	5.5	35
LEWISTON	43[illegible]			31.1	14.4	22.7	- 0.6	36.1	27+	10.0	15	14	0		
POCATELLO	1358	864.2	1013.8	30.6	11.1	20.9	- 1.5	37.8	27	4.4	8	13	0	5.0	39
ILLINOIS															
CAIRO	96			32.8	[illegible]	28.1	0.9	36.1	[illegible]	19.4	29	20	0		
CHICAGO O HARE	201	990.9	1014.8	27.2	[illegible]	22.8	0.2	33.3	16	12.8	2	[illegible]	0	17.2	73
CHICAGO MIDWAY	185	992.9	1015.0	28.3	19.4	23.8	- 0.4	35.0	16	13.9	2	6	0	17.2	69
MOLINE	177	[illegible]	1014.2	28.9	19.4	[illegible]	- 0.3	34.4	16+	15.6	1	6	0	20.0	80
PEORIA	199	991.2	1014.8	29.4	19.4	24.2	- 0.2	34.4	16	15.6	30	4	0	19.4	77
ROCKFORD	[illegible]	[illegible]	[illegible]	[illegible]	17.8	22.6	- 0.9	33.3	4	12.8	2	2	0	[illegible]	74
SPRINGFIELD	179	[illegible]	1014.1	[illegible]	[illegible]	25.5	- 0.1	35.0	16	15.6	10+	9	0	[illegible]	74
INDIANA															
EVANSVILLE	116	1001.0	1014.7	[illegible]	21.1	[illegible]	0.2	35.6	5	15.6	11+	14	0	20.0	71
FORT WAYNE	241	985.8	1015.1	28.9	18.9	[illegible]	0.4	[illegible]	17	[illegible]	2	3	0	[illegible]	73

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm.	Mm.			Mm	Mm	M.p.s		M.p.s							%
COLORADO																	
ALAMOSA	49	22	19	12		0	0						8	16	7	5.4	
COLORADO SPRINGS	99	39	22	15	17	0	0	0.8	4	15.6	30	3	8	15	8	5.6	
DENVER	46	7	42	9	8	0	0	0.6	20	17.4	27	14	12	10	9	5.0	72
GRAND JUNCTION	5	- 9	3	5	7	0	0	1.3	15	17.9	[illegible]	28	15	9	7	4.2	74
PUEBLO	44	- 2	17	7	6	0	0	0.4	6	24.1	NW	5	9	15	7	[illegible]	68
CONNECTICUT																	
BRIDGEPORT	139	43	35	14	3	0	0	0.4	19	16.7	16	28+	2	8	21	7.9	
HARTFORD	147	55	54	[illegible]	3	0	0	0.8	20	9.8	NW	17	[illegible]	11	20	8.2	45
DELAWARE																	
WILMINGTON	165	57	82	10	5	0	0	0.6	12	11.2	26	28+	2	11	18	7.6	
DIST. OF COLUMBIA																	
WASH NATL AP	240	134	112	13	8	0	0	0.5	17	15.2	[illegible]	[illegible]	3	11	17	7.4	44
FLORIDA																	
APALACHICOLA	240	38	66	18	16	0	0			13.0	E	15	8	8	15	6.4	48
DAYTONA BEACH	66	-105	19	16	[illegible]	0	0	[illegible]	18	[illegible]	24	[illegible]	4	[illegible]	[illegible]	7.5	
FORT MYERS	181	[illegible]	[illegible]	12	[illegible]	0	0	[illegible]	18	14.3	16	[illegible]	4	[illegible]	[illegible]	[illegible]	
JACKSONVILLE	150	- 45	38	15	[illegible]	0	0	1.7	22	15.2	[illegible]	12	3	14	14	6.7	63
KEY WEST	106	1	65	10	13	0	0	2.3	12	15.2	[illegible]	18	5	15	11	6.2	51
LAKELAND	202	- 9	50	21		0	0						3	18	10	6.5	[illegible]
MIAMI	215	44	69	18	21	0	0	1.5	13	12.5	[illegible]	[illegible]	4	[illegible]	14	6.5	
ORLANDO	171	- 32	56	18	20	0	0	1.0	21	11.6	30	[illegible]	4	8	19	7.2	
TALLAHASSEE	478	274	119	23	25	0	0	0.6	21	13.4	36	29	0	18	13	7.0	
TAMPA	188	- 31	52	12	16	0	0	0.9	23	11.2	[illegible]	[illegible]	1	[illegible]	17	7.2	60
WEST PALM BEACH	189	20	43	18	18	0	0	1.2	13	13.9	34	25	4	8	19	7.2	
GEORGIA																	
ATHENS	58	- 69	17	10	10	0	0	0.7	26	7.6	[illegible]	1	[illegible]	19	6	[illegible]	
ATLANTA	67	- 53	38	11	11	0	0	0.9	26	12.1	[illegible]	[illegible]	6	17	8	[illegible]	[illegible]
AUGUSTA	168	54	45	11	10	0	0	0.7	19	17.9	[illegible]	8	3	21	7	6.1	
COLUMBUS	166	17	[illegible]	[illegible]	15	0	0	0.3	19	15.6	[illegible]	[illegible]	[illegible]	13	13	[illegible]	
MACON	92	- 51	29	12	15	0	0	0.8	[illegible]	[illegible]	NW	[illegible]	3	15	13	[illegible]	[illegible]
SAVANNAH	192	24	32	19	20	0	0	1.3	21	16.1	[illegible]	[illegible]	[illegible]	16	[illegible]	6.5	[illegible]
HAWAII																	
HILO	298	49	43	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	17+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HONOLULU	16	5	8	11	[illegible]	0	0	6.3	6	[illegible]	NE	8	[illegible]	[illegible]	7	[illegible]	76
KAHULUI	13	3	6	3	[illegible]	0	0	5.7	5	14.8	[illegible]	[illegible]	11	[illegible]	7	4.8	78
LIHUE	37	- 12	7	21	[illegible]	0	0	[illegible]	[illegible]	[illegible]	E	[illegible]	0	17	14	[illegible]	[illegible]
IDAHO																	
BOISE	1	[illegible]	1	1	1	0	0	1.5	[illegible]	[illegible]	[illegible]	24	25	4	[illegible]	1.7	[illegible]
LEWISTON	5	- 6	5	1		0	0						[illegible]	[illegible]	[illegible]	[illegible]	
POCATELLO	4	- 9	4	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	[illegible]	88
ILLINOIS																	
CAIRO	53	- 28	18	6						[illegible]	NW	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CHICAGO O HARE	87	1	[illegible]	12	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
CHICAGO MIDWAY	193	107	84	14	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N	28	7	14	10	[illegible]	[illegible]
MOLINE	289	127	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SW	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]
PEORIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROCKFORD	145	40	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	11.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SPRINGFIELD	117	28	43	[illegible]	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]
INDIANA																	
EVANSVILLE	[illegible]	[illegible]	[illegible]	[illegible]	11	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FORT WAYNE	[illegible]	16	[illegible]	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1969

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	°C		C.				C	%	Mm.	Mm	Mm.			Mm.	Mm.	M.p.s.		M.p.s							%
INDIANA																																
INDIANAPOLIS	241	986.1	1014.5	29.4	19.4	24.3	0.3	33.3	16+	13.9	30	5	0	21.1	83	204	115	102	11	6	0	0	1.0	22	16.1	NW	11	9	11	11	5.9	60
SOUTH BEND	236	987.1	1014.6	27.8	17.8	22.8	- 0.3	34.4	16	13.3	2	2	0	18.9	81	124	36	63	12	9	0	0	0.6	23	9.8	24	26	4	13	14	6.5	
IOWA																																
BURLINGTON	211			29.4	19.4	24.3	- 0.4	35.0	16	13.9	1	5	0	20.0	74	156	64			13	0		0.2	21	12.5	30	26	3	16	12	6.4	
DES MOINES	286	980.4	1014.5	29.4	19.4	24.4	- 0.2	35.0	12	13.9	1	7	0	19.4	75	110	33	22	14	12	0	0	0.7	16	14.8	NW	26	8	10	13	5.9	57
DUBUQUE	322	976.3		27.2	17.8	22.3	- 0.3	32.2	12+	11.7	1	2	0			137	48	52	15		0	0						6	12	13	6.6	
SIOUX CITY	334	974.6	1013.7	30.0	18.9	24.4	- 0.8	36.7	14+	11.1	1	6	0	20.0	79	125	46	30	12	11	0	0	1.1	13	23.2	SW	4	9	12	10	5.5	68
WATERLOO	265			27.8	17.2	22.6	- 0.7	32.2	16+	10.0	1	3	0			226	130	90	16	12	0	0			18.3	20	16	6	13	12	6.3	
KANSAS																																
CONCORDIA	448	961.1	1012.6	32.2	20.0	26.1	- 0.8	40.6	3	15.0	28	15	0	20.0	73	157	85	35	11	12	0	0	2.2	15	17.0	NW	23	14	7	10	4.9	63
DODGE CITY	787	923.8	1012.0	35.6	21.1	28.1	1.3	40.0	3+	13.9	28	25	0	17.2	57	55	4	14	13	17	0	0	2.3	17	16.5	N	4	5	13	9	5.2	68
GOODLAND	1114	888.6	1011.8	32.8	17.2	25.2	0.4	41.7	3	10.0	1	19	0	14.4	57	62	- 5	27	5	13	0	0	1.9	15	15.6	15	6	13	12	6	4.5	
TOPEKA	267	982.4	1013.4	31.1	21.7	26.3	- 0.3	36.1	3	14.4	29	12	0	21.7	79	83	- 9	24	12	12	0	0	1.1	16	15.6	W	24	7	13	11	5.7	65
WICHITA	403	965.5	1012.7	34.4	22.2	28.3	1.1	41.1	15	17.2	29	22	0	18.9	61	158	66	95	11	10	0	0	2.5	17	14.3	N	24	15	7	9	4.5	74
KENTUCKY																																
COVINGTON	265	984.4	1015.3	30.0	20.0	25.2	1.1	35.0	5	15.6	31	7	0	19.4	74	83	- 8	22	12	7	0	0	1.2	24	11.6	27	10	5	14	12	6.5	
LEXINGTON	294	981.0	1015.6	30.6	20.6	25.4	0.2	34.4	5	15.0	31	8	0	18.9	70	111	10	50	8	7	0	0	1.0	23	9.4	25	5	13	7	11	5.3	
LOUISVILLE	145	997.3	1014.6	31.1	21.1	25.9	0.6	34.4	5	15.6	31	11	0	20.6	74	103	18	24	10	8	0	0	0.9	24	13.0	NW	8	7	17	7	5.5	68
LOUISIANA																																
BATON ROUGE	20	1012.5	1015.2	33.3	23.9	28.6	0.4	37.2	3+	22.2	21+	23	0	23.9	82	250	91	108	17	14	0	0	1.2	23	15.6	8	14	3	15	13	6.7	
LAKE CHARLES	3	1013.9	1014.9	32.8	23.9	28.2	0.3	36.1	15	21.7	20+	23	0	23.9	82	256	71	92	12	18	0	0	1.3	22	10.7	4	17	3	16	12	6.8	
NEW ORLEANS	1	1014.6	1015.5	32.8	23.3	27.8	0.3	36.7	3+	21.1	30	19	0	23.9	83	169	- 2	39	15	12	0	0	1.4	24	14.3	7	14	4	14	13	6.5	
SHREVEPORT	77	1005.1	1014.2	36.7	24.4	30.3	1.6	39.4	15+	20.0	30	30	0	21.1	62	27	- 68	16	4	5	0	0	0.9	19	12.5	3	15	9	14	8	5.2	73
MAINE																																
CARIBOU	190	991.9		22.8	11.7	17.2	- 0.9	30.6	16	2.2	7	0	0			95	- 8	31	12		0	0						3	13	15	7.1	
PORTLAND	14	1012.9	1015.2	24.4	15.6	19.8	- 0.3	33.9	17+	7.8	9+	3	0	15.0	77	138	66	44	13	2	0	0	0.8	19	9.8	N	14	5	9	17	7.1	51
MARYLAND																																
BALTIMORE	45	1010.2	1015.5	30.6	20.0	25.2	0.3	36.7	18+	16.1	9	13	0	18.9	72	133	25	37	14	9	0	0	0.3	22	21.9	NW	12	4	9	18	7.3	40
MASSACHUSETTS																																
BLUE HILL OBS R	192			25.0	16.1	20.4	- 1.2	33.9	16	11.7	8	2	0			77	- 6	33	10		0	0			15.6	SSW	28					45
BOSTON	5	1014.2	1015.4	25.0	18.3	21.7	- 1.5	35.0	17	14.4	8+	3	0	15.6	71	76	3	21	10	2	0	0	1.1	17	12.5	NW	30	3	11	17	7.4	50
NANTUCKET	13	1015.6	1016.0	23.3	16.1	19.8	- 0.2	32.2	18	10.0	7	1	0	16.7	84	59	- 10	19	11	4	0	0	0.6	15	11.6	N	14	2	7	22	8.2	40
WORCESTER	301	980.0	1016.5	24.4	15.6	20.2	- 0.8	32.8	17+	11.1	7	2	0	13.9	71	97	5	38	11	3	0	0	1.1	25	10.3	30	30	2	8	21	7.8	
MICHIGAN																																
ALPENA	210	990.2	1015.1	25.6	12.2	18.7	- 0.1	32.8	15	2.2	7	2	0	12.2	69	46	- 26	20	9	9	0	0	0.4	11	10.7	NE	20	7	17	7	5.6	66
DETROIT	189			26.7	17.8	22.4	- 1.2	32.8	16	13.3	9	1	0	16.1	68	179	107	67	11	9	0		0.1	21	13.0	31	12					
DETROIT M WAYNE CO	193	990.9	1014.4	27.8	17.8	22.9	0.4	32.8	16	13.9	2	1	0	16.7	70	153	85	68	14	9	0	0	0.0	6	14.8	N	4	4	13	14	6.5	57
FLINT	235	987.1	1014.5	25.6	15.6	20.6	- 1.2	31.1	16	10.0	7+	0	0	15.0	72	150	76	52	12	9	0	0	0.4	19	12.5	34	24	7	13	11	6.1	
GRAND RAPIDS	239	985.8	1014.5	27.8	16.1	21.8	- 0.6	33.3	16	8.9	2	3	0	15.6	69	163	94	64	13	11	0	0	0.3	20	10.7	W	31	5	11	15	6.7	60
HOUGHTON LAKE	350	973.9	1015.4	26.1	13.3	19.7	0.3	31.1	14	5.0	7	0	0	13.9	72	91	18	49	8	10	0	0	0.3	27	8.0	22	4	8	11	12	6.0	
LANSING	256	983.4	1014.7	27.8	16.1	21.7	- 0.3	34.4	16	8.3	2	1	0	17.2	78	124	59	40	14	11	0	0	0.4	26	11.2	NW	23	5	15	11	6.2	57
MARQUETTE U	206			23.3	13.9	18.5	- 0.8	33.9	13	5.0	7+	1	0			38	- 44	8	8		0	0			9.8	SE	27	8	12	11	5.6	71
MUSKEGON	191	991.5	1014.3	27.2	16.1	21.6	- 0.2	31.1	14	10.0	2	0	0	15.6	72	76	15	28	6	5	0	0	0.3	23	13.0	32	2	9	7	15	5.9	
SAULT STE MARIE	220	988.5	1014.9	24.4	10.6	17.4	- 0.7	30.6	15	4.4	8+	0	0	11.7	72	24	- 39	12	8	4	0	0	0.4	29	8.5	NW	29+	7	13	11	5.9	68
MINNESOTA																																
DULUTH	435	964.4	1015.4	24.4	11.1	17.8	- 0.8	31.1	14	3.9	1	0	0	11.1	66	77	- 13	35	12	9	0	0	0.6	13	15.2	E	8	9	8	14	6.2	66
INTERNATIONAL FALLS	359	971.6	1014.1	25.0	11.7	18.4	- 0.3	33.9	12	2.8	1	1	0	11.7	68	122	33	47	12	9	0	0	0.4	25	11.2	32	30	5	13	13	6.5	
MINNEAPOLIS	254	984.4	1014.2	28.3	17.8	23.1	0.7	35.0	12	7.8	1	3	0	16.1	66	75	- 8	24	11	8	0	0	0.4	16	24.1	W	13	10	12	9	5.4	61
ROCHESTER	395	967.5	1014.6	26.1	15.6	21.0	- 1.4	32.2	12	7.2	1	1	0	16.1	76	137	43	59	8	9	0	0	0.7	16	13.9	12	14	7	14	10	5.8	
ST CLOUD	315	977.0	1014.1	27.2	15.0	21.1	- 0.6	35.0	12	4.4	1	2	0		72	71	- 11	20	9		0	0						12	7	12	5.4	
MISSISSIPPI																																
JACKSON	94	1003.4	1015.1	34.4	22.8	28.6	0.7	38.9	9+	18.9	31	25	0	23.3	78	139	18	34	14	11	0	0	0.4	19	11.6	NE	2	4	19	8	5.9	57

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant speed	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C.	C.	C.	C		C.				C	%	Mm.	Mm.	Mm			Mm	Mm	M p s		M p s							%
MISSISSIPPI																																
MERIDIAN	88	1004.4	1015.2	33.[illegible]	22.2	28.1	0.6	38.9	4	19.4	31+	22	0	22.2	76	117	- 41	29	15	12	0	0	0.5	22	10.7	1	2	4	18	9	6.4	
MISSOURI																																
COLUMBIA	2?7	986.5	101?.8	32.2	21.7	26.9	1.0	36.7	13	16.7	30	18	0	20.6	72	128	41	39	10	12	0	0	0.8	18	22.4	NW	26	6	14	11	5.9	75
KANSAS CITY	226	987.1	1013.6	33.2	22.8	27.4	- 0.1	37.2	13	18.3	28+	15	0	21.1	71	261	180	75	11	8	0	0	1.1	17	24.1	SW	9	8	13	10	5.4	71
ST JOSEPH	247			33.3	22.2	27.8	1.5	38.9	1?	16.7	29	21	0	20.0	69	52	- 30		8	7	0		0.9	16	10.3	30	26+	5	13	10	5.4	
ST LOUIS	163	994.7	1014.9	32.2	21.7	26.9	1.3	36.1	16	17.2	30	15	0	21.1	74	180	96	39	15	15	0	0	1.1	20	17.9	NW	9	4	20	7	5.8	67
SPRINGFIELD	386	970.5	1014.7	33.3	20.[illegible]	27.0	1.0	38.3	13	12.8	29	21	0	20.0	71	34	- 65	11	5	7	0	0	1.1	18	19.2	NW	2	15	11	5	4.3	77
MONTANA																																
BILLINGS	1087	891.6	1013.6	27.8	13.9	20.7	- 3.0	36.1	11	8.3	4+	4	0	10.0	54	43	20	24	8	8	0	0	0.6	34	18.8	NW	3	18	9	4	3.6	76
GLASGOW	696	93?.?	1013.9	25.6	12.2	18.9	- 2.6	35.0	11	7.2	1	3	0	11.7	68	88	54	48	17	17		0	1.1	10	14.8	29	25	11	14	6	4.9	
GREAT FALLS	1116	888.7	1013.5	27.8	12.8	20.2	- 0.6	35.0	23	8.3	13	8	0	7.2	47	28	- 4	26	4	1	0	0	1.6	25	17.0	SW	25	18	8	5	3.5	88
HAVRE	788	922.8	1013.3	27.8	11.7	19.8	- 1.4	35.6	28	8.3	13	8	0	8.9	55	54	22	22	8	8	0	0	0.4	28	25.0	NW	2	13	12	6	4.5	85
HELENA	1167	881.5	1014.6	28.3	11.1	19.9	- 0.3	36.1	29	6.7	8+	7	0	7.8	50	45	19	38	6	4	0	0	1.6	29	18.8	W	3	18	8	5	3.3	85
KALISPELL	904	912.0	1015.4	26.7	6.7	16.7	- 2.0	32.2	28+	1.1	26	3	0	6.7	56	3	- 24	2	2	3	0	0	1.1	21	13.4	24	25	16	10	5	3.5	
MILES CITY	801	921.8	1012.7	29.4	15.0	22.1	- 1.9	38.3	1?	10.6	27+	7	0	12.8	58	86	52		11	11	0		0.8	6								
MISSOULA	972	90?.2	1015.8	27.8	8.3	17.9	- 1.5	34.4	27	3.9	13	5	0	6.7	52	6	- 15	5	3	2	0	0	1.3	31	13.9	SW	25	16	11	4	3.2	84
NEBRASKA																																
GRAND ISLAND	561	948.7	1013.3	31.7	18.9	25.1	0.0	40.0	13	12.8	1	13	0	18.3	71	79	15	20	9	9	0	0	1.3	14	11.2	33	16	12	9	10	4.9	
LINCOLN	351			31.1	21.1	26.2	- 0.6	38.3	13+	15.0	1	12	0			100	17	50	5		0	0			18.8	SW	4	13	8	10	4.7	68
NORFOLK	471			29.4	18.3	24.1	- 0.9	37.8	13	12.8	1	9	0			86	10	28	12		0	0						10	12	9	5.1	
NORTH PLATTE	846	917.4	1013.0	30.0	15.6	22.8	- 1.7	38.9	13	8.9	28	8	0	16.7	71	64	0	17	10	10	0	0	1.8	12	29.5	SE	5	15	8	8	4.6	72
OMAHA	298	978.7	1013.3	31.1	20.6	25.7	- 0.2	37.2	13	15.6	29	12	0	20.0	72	108	23	65	11	8	0	0	1.2	14	12.1	SW	14	7	13	11	5.6	73
SCOTTSBLUFF	1206	880.1	1012.7	33.[illegible]	14.4	23.8	0.1	38.9	12	8.9	27	18	0	12.8	56	18	- 19	9	6	13	0	0	1.7	11	11.2	[illegible]	[illegible]	17	[illegible]	4	3.6	
VALENTINE	789			31.1	16.1	23.6	- 0.5	41.7	12	8.3	28	10	0			61	3	15	11		0	0			18.3	NW	4	10	1?	6	4.6	68
NEVADA																																
ELY	1906	81?.4	1011.2	30.6	10.0	20.3	0.6	33.3	25	3.3	4	11	0	5.6	43	14	- 3	4	7	1	0	0	2.0	21	15.6		6	12	16	3	4.1	75
LAS VEGAS	659	93?.0	1009.0	40.0	24.4	32.1	0.?	44.4	21+	19.4	8	31	0	7.8	27	2	- 11	1	2	4	0	0	1.8	21	15.6	NE	19	19	7	5	3.3	84
RENO	1342	866.6	1012.9	33.3	9.4	21.6	1.7	38.3	20	2.8	1	23	0	5.6	37	4	- 3	3	2	2	0	0	1.0	27	13.0	NE	8	[illegible]	[illegible]	1	1.7	93
WINNEMUCCA	1311	867.9	1012.5	33.3	10.6	21.9	0.3	38.9	20+	4.4	7+	23	0	4.4	33	T	- 7	T	1	0	0	0	1.0	33	16.1	NW	[illegible]	23	6	2	2.2	89
NEW HAMPSHIRE																																
CONCORD	104	1003.4	1015.8	25.9	12.8	18.5	- 1.3	32.2	10	4.4	8	1	0	15.0	82	112	25	41	11	3	0	0	0.4	21	8.9	W	1	4	9	18	7.2	51
MT WASHINGTON	1909			11.7	5.6	8.5	- 1.0	17.4	16	- 3.9	6	0	3			394	224	187	13	3	0	0			36.7+	NW	6	0	8	23	8.9	1?
NEW JERSEY																																
ATLANTIC CITY	20	[illegible]	1015.5	27.8	18.[illegible]	22.9	- 1.1	36.1	1	11.1	9	4	0	18.3	78	321	227	123	15	7	0	0	1.1	18	13.0	17	28	[illegible]	11	17	7.6	43
ATLANTIC CITY	3			26.7	21.1	24.0	0.6	35.0	18	16.7	9	2	0			282	184	168	13						17.4	NE	23					
NEWARK	2	1014.6	1015.5	27.2	20.0	23.4	- 1.2	35.0	17	15.0	7	4	0	17.2	70	181	87	47	18	6	0	0	0.[illegible]	16	13.[illegible]	[illegible]	18	1	11	18	7.8	
TRENTON	17			27.8	18.9	23.3	- 1.2	34.4	17	15.6	24+	3	0			191	85	75	12		0	0			13.0	NW	27	[illegible]	10	18	7.3	45
NEW MEXICO																																
ALBUQUERQUE	1619	840.5	1012.1	34.4	19.4	26.8	0.9	37.8	30+	16.1	5	26	0	11.1	43	24	- 7	14	11	11	0	0	0.9	17	15.6	[illegible]	30+	8	16	7	5.[illegible]	71
CLAYTON	1515			31.7	17.2	24.3	0.7	38.3	30	13.9	10	13	0			56	- 3	22	11		0	0						12	11	8	5.1	
ROSWELL	1102			36.7	19.4	28.3	2.4	40.6	26	16.7	2	31	0			34	- 11	13	6		0				13.[illegible]	[illegible]	5					78
NEW YORK																																
ALBANY	84	1004.7	1015.4	27.2	14.4	20.9	- 1.3	33.9	16	6.1	8	2	0	16.1	75	129	40	37	11	7	[illegible]	[illegible]	1.[illegible]	[illegible]	11.2	W	[illegible]	[illegible]	9	[illegible]	7.9	51
BINGHAMTON	485	958.7	1016.6	23.9	[illegible]	17.4	- 0.8	29.4	16	8.9	8	0	0	15.6	81	110	15	27	10	5	[illegible]	[illegible]	[illegible]	[illegible]	10.[illegible]	W	5	[illegible]	6	[illegible]	7.9	54
BUFFALO	215	989.8	101?.?	26.1	16.7	21.4	0.4	30.6	15	10.0	8	0	0	16.1	73	97	32	22	9	8	[illegible]	[illegible]	1.[illegible]	[illegible]	15.0	SW	28+	[illegible]	14	10	[illegible]	68
J.F. KENNEDY	4	1014.7	1015.7	27.8	20.0	23.9	- 0.5	36.1	17	15.6	7	4	0	17.8	72	215	113	82	15	4	[illegible]	[illegible]	[illegible]	17	16.5	[illegible]	18	[illegible]	10	[illegible]	7.6	
NEW YORK	4?	1012.2	1015.1	27.8	[illegible]	[illegible]	- 1.1	35.6	17	15.6	7	5	0	17.2	72	187	93	29	16	5	[illegible]	[illegible]	[illegible]	11	15.6	NW	1?					40
NEW YORK LA GUARDIA	3	1013.7	1015.7	26.7	19.4	22.9	- 1.1	35.0	17	13.9	3	3	0	16.1	68	212	118	41	17	7	[illegible]	[illegible]	[illegible]	[illegible]	20.2	N	3	[illegible]	9	[illegible]	7.6	
ROCHESTER	167	995.6	1015.6	27.2	16.1	21.5	- 0.5	33.3	16	8.3	8	3	0	16.1	74	46	- 26	23	10	8	[illegible]	[illegible]	[illegible]	23	11.6	W	5	7	1?	11	6.1	60
SYRACUSE	125	[illegible]	[illegible]	[illegible]	17.0	[illegible]	- 1.3	33.9	16	7.8	8	2	0	14.4	68	23	- 56	9	6	4	0	[illegible]	[illegible]	[illegible]	9.4	[illegible]	21+	6	10	[illegible]	6.7	67
NORTH CAROLINA																																
ASHEVILLE	652	[illegible]	[illegible]	[illegible]	17.8	[illegible]	1.9	34.4	5	14.4	17	8	0	20.0	83	191	43	102	17	15	0	[illegible]	[illegible].8	[illegible]	10.3	[illegible]	27+	[illegible]	14	10	5.8	71

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm	Mm.			Mm	Mm.	M p s.		M.p.s							%
NORTH CAROLINA																																
CAPE HATTERAS R	2	1015.9	1016.1	30.0	22.2	26.1	0.5	35.0	6	17.8	16+	2	0	22.2	81	170	14	52	15	11	0	0	1.7	20	16.5	NW	12	13	5	13	5.8	[illegible]
CHARLOTTE	224	988.5	1015.4	32.2	21.7	27.1	0.9	35.6	19+	18.9	13	18	0	20.6	71	88	- 36	23	9	11	0	0	0.6	19	14.3	NW	7	10	13	8	5.5	73
GREENSBORO	273	984.6	1015.8	32.2	21.7	26.9	1.7	36.7	19+	18.3	14	20	0	21.7	78	104	- 17	40	15	12	0	0	0.5	[illegible]	17.9	W	[illegible]	8	10	13	6.1	64
RALEIGH	132	999.7	1015.3	31.1	20.0	25.6	0.1	35.0	6	16.7	14	7	0	20.6	80	112	- 28	41	11	12	0	0	1.2	20	15.6	36	10	10	10	11	5.7	67
WILMINGTON	9	1014.9	1016.2	32.2	22.2	27.1	0.4	36.7	7	20.0	16	14	0	22.8	81	342	147	83	16	12	0	0	1.0	[illegible]	15.6	NW	7+	6	14	11	6.3	72
NORTH DAKOTA																																
BISMARCK	502	955.3	1014.0	28.3	14.4	21.3	- 0.7	36.7	12	7.8	1	2	0	13.9	65	133	77	59	14	14	0	0	0.3	10	17.9	N	22	14	11	6	4.8	77
FARGO	273	981.4	1013.7	26.7	13.9	20.2	- 1.7	35.0	12	5.0	1	1	0	16.1	77	150	76	78	9	8	0	0	0.4	25	13.4	NE	14	13	10	8	4.7	70
WILLISTON	579	946.2	1013.8	26.7	13.3	19.9	- 1.9	35.0	29+	6.1	31	4	0	12.8	68	88	41	33	13	11	0	0	0.4	31	20.1	NW	22	8	15	8	5.3	80
OHIO																																
AKRON	368	971.9	1015.5	27.2	17.2	22.3	- 0.3	31.7	16	11.7	8+	0	0	18.3	81	154	59	92	11	7	0	0	0.6	24	13.0	33	4	4	11	16	7.2	
CINCINNATI OBS	232			30.6	20.0	25.2	0.3	35.6	5	16.1	31+	10	0			97	6	33	10		0	0			6.3	W	10+					56
CLEVELAND	237	986.8	1015.3	27.2	17.8	22.4	0.3	33.3	16	12.3	2	1	0	16.7	71	164	80	73	12	6	0	0	0.6	25	17.9	N	4	5	11	15	6.4	54
COLUMBUS	247	985.8	1015.4	28.3	18.3	23.4	- 0.4	33.3	18+	14.4	14+	5	0	19.4	80	194	94	97	12	8	0	0	0.3	23	14.3	N	19	4	9	18	7.2	54
DAYTON	305	979.7	1015.2	28.3	19.4	24.0	0.0	32.8	16+	15.0	31	5	0	18.3	73	145	55	62	12	7	0	0	0.9	25	17.9	NW	11+	7	14	10	6.4	52
MANSFIELD	395			28.3	18.9	23.7	1.6	32.8	16	12.8	8	2	0	17.8	72	205	116	129	9	10	0	0	1.0	23	10.3	27	5+	7	9	15	6.4	
TOLEDO	204	990.5	1015.2	27.8	16.7	22.1	- 0.5	33.3	16	12.2	2	1	0	17.8	77	171	106	112	12	9	0	0	0.2	27	23.7	NW	4	3	13	15	6.9	53
YOUNGSTOWN	359	973.6	1015.7	26.1	15.6	21.0	- 0.4	31.1	16	6.7	2	0	0	17.2	80	147	37	59	14	9	0	0	0.4	20	9.8	30	17+	3	11	17	7.4	
OKLAHOMA																																
OKLAHOMA CITY	392	968.2	1013.2	35.6	22.2	28.8	0.8	40.0	12	17.2	29	28	0	18.9	59	36	- 24	23	4	3	0	0	2.8	17	10.7	SW	4	17	11	3	3.7	88
TULSA	198	989.8	1013.6	36.1	23.9	29.9	2.1	40.0	15+	15.6	29	28	0	20.0	59	27	- 47	26	5	0	0	0	2.2	19	10.3	S	4	15	12	4	4.1	79
OREGON																																
ASTORIA	2	1019.3	1020.2	18.9	10.6	14.8	- 1.1	22.2	23	6.7	26+	0	0	11.1	80	14	- 18	6	7	0	0	0	2.6	30	9.4	32	21+	7	11	13	6.2	
BURNS U	1265	874.4	1014.7	29.4	11.1	20.3	- 0.6	34.4	27+	5.6	4	11	0	3.3	35	T	- 9	T	0		0	0	2.0	32				23	8	0	2.3	
EUGENE	109	1005.1	1018.4	27.2	11.1	19.2	- 0.1	35.0	23	7.2	30+	3	0	10.6	63	T	- 7	T	0	0	0	0	1.4	33	8.0	1	20	16	6	9	4.5	
MEACHAM	1234	878.6	1015.5	23.3	10.0	16.7	- 0.7	29.4	23	4.4	13	0	0			2	- 10	2	1		0	0			8.0	27	25	18	7	6	3.1	
MEDFORD	396	969.2	1016.1	32.8	12.2	22.4	0.2	37.8	26+	7.2	16	19	0	9.4	49	1	- 5	1	2	2	0	0	1.3	31	7.6	29	10+	24	7	0	1.9	
PENDLETON	452	962.8	1015.5	31.1	13.9	22.5	- 0.6	37.8	9	9.4	26+	17	0	5.0	36	1	- 5	1	1	0	0	0	2.1	27	10.7	26	25+	23	7	1	2.2	
PORTLAND	6	1016.9	1018.2	25.6	12.8	19.2	- 0.3	32.8	23	9.4	13	1	0	11.1	64	4	- 7	2	4	0	0	0	2.4	32	11.6	NW	22	12	12	7	4.3	69
SALEM	60	1011.2	1018.6	27.2	9.4	18.3	- 0.7	35.6	23	5.6	15	5	0	10.0	62	1	- 8	1	1	0	0	0	1.6	34	7.6	1	22+	15	9	7	4.2	
SEXTON SUMMIT R	1169	886.2	1016.1	22.8	10.0	16.6	- 1.0	29.4	26	6.1	15+	0	0			5	- 3	4	2		0	0			13.4	36	21	24	7	0	1.5	
PACIFIC AREA																																
JOHNSTON	2	1013.5	1014.0	30.6	25.0	27.6	0.3	31.7	21	22.2	16	0	0	22.2	74	14	- 19	5	8	0	0	0	7.1	8	13.0	NE	14	4	12	15	6.9	76
KOROR R	29	1006.1	1009.6	30.0	23.9	27.1	- 0.1	32.8	16	22.2	30+	3	0	24.4	85	717	331	148	27	3	0	0	1.7	26	15.2	W	22	0	2	29	9.5	33
KWAJALEIN	2	1009.1	1009.8	30.0	25.0	27.7	0.1	31.7	18	23.3	24+	0	0	24.4	82	325	99	95	26	1	0	0	5.0	8	12.5	8	14+	0	1	30	9.8	
MAJURO	3	1009.8	1010.1	29.4	24.4	26.9	0.2	31.7	27	22.2	2	0	0	23.9	83	423	105	64	27	0	0	0	3.6	7	10.3	NE	20+	0	2	29	9.1	50
PAGO PAGO	4	1012.2	1012.3	27.8	23.9	25.8		30.6	4	21.7	20	0	0	22.8	84	290		105	18	0	0	0	5.2	13	12.5	SE	15	1	13	17	7.9	38
PONAPE R	37	1004.1	1009.5	30.6	22.8	26.5	0.0	32.2	12+	21.7	28+	2	0	23.9	87	734	322	121	30	3	0	0	1.4	11	8.0	NE	31	1	8	22	8.5	35
TAGUAC GUAM R	110	997.3	1009.9	30.6	22.8	26.7	0.3	32.2	7	20.6	20+	1	0	23.9	84	351	123	131	26	1	0	0	3.5	11	11.6	E	21	0	11	20	8.3	59
TRUK MOEN ISLAND	2	1009.1	1009.4	30.0	23.9	27.1	0.1	31.7	12	22.8	30+	0	0	23.9	84	416	103	82	25	1	0	0	1.7	8	9.4	SE	21	0	2	29	9.5	71
WAKE	3	1013.9	1014.2	31.7	25.0	28.6	0.8	32.8	31+	23.9	23+	17	0	22.8	73	29	- 88	9	15	0	0	0	7.5	9	13.0	E	19+	5	14	12	6.4	75
YAP R	13	1006.8	1008.6	30.0	23.9	26.9	- 0.5	31.7	16+	21.1	28	0	0	24.4	86	882	532	189	27	6	0	0	0.6	24	11.6	N	28	0	6	25	9.0	38
PENNSYLVANIA																																
ALLENTOWN	118	1001.7	1015.5	27.8	17.2	22.3	- 1.1	34.4	17	10.0	2	3	0	17.2	78	265	142	115	12	5	0	0	0.0	14	9.8	17	27+	3	9	19	7.5	
ERIE	223	988.8	1015.3	25.0	16.1	20.6	- 1.2	30.6	16	10.0	8+	0	0	16.7	78	93	- 1	40	12	9	0	0	0.8	21	14.3	21	4	6	15	10	6.2	
HARRISBURG	103	1002.7	1015.3	28.9	18.9	24.1	- 0.5	36.7	17	12.2	2	8	0	17.2	69	247	158	136	12	7	0	0	0.2	21	14.3	NE	12	5	7	19	7.5	44
PHILADELPHIA	2	1013.9	1015.0	28.3	20.0	23.9	- 0.3	33.9	18	15.6	9	3	0	19.4	78	212	106	108	12	6	0	0	0.5	16	14.3	NW	12	1	11	19	7.8	39
PITTSBURGH	347	972.2	1015.3	27.8	17.2	22.6	0.3	32.2	18+	10.6	2	2	0	16.7	72	115	16	59	15	7	0	0	0.7	26	17.9	31	4	3	9	19	7.5	49
SCRANTON	283	982.4	1016.2	26.1	16.7	21.6	- 0.9	32.8	17	10.0	9	1	0	16.1	76	173	51	59	17	7	0	0	0.2	21	13.9	W	12	2	9	20	7.8	54
WILLIAMSPORT	160	997.0	1015.8	27.2	17.2	22.1	- 1.1	33.9	17	10.0	2	2	0	18.3	84	164	58	33	17	8	0	0	0.4	28	12.5	35	12	1	11	19	7.8	
RHODE ISLAND																																
BLOCK ISLAND	34			23.3	17.8	20.6	- 0.3	29.4	18	13.9	9+	0	0			102	34	30	9		0	0										
PROVIDENCE	16	1013.5	1015.[illegible]	26.7	17.2	21.9	- 0.3	35.0	17	11.1	9	3	0	15.6	69	76	2	35	8	2	0	0	0.7	23	8.9	17	28+	2	10	19	7.7	42

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb.	C	C.	C.	C.	C.		C				C.	%	Mm.	Mm.	Mm			Mm	Mm.	M.p.s.		M.p.s							%
SOUTH CAROLINA																																
CHARLESTON	12	1014.2	1016.2	33.3	23.3	28.2	1.2	36.7	7+	21.7	31+	24	0	22.8	77	136	- 60	57	14	13	0	0	1.4	20	19.2Y	NE	14	5	17	9	5.5	64
CHARLESTON	3			32.2	25.0	28.7	1.2	35.0	11	22.8	2	18	0			106	- 91	28	12		0	0			15.2	SE	8					
COLUMBIA	65	1007.8	1015.7	34.4	22.2	28.4	0.8	37.2	19+	20.0	16	28	0	22.2	76	109	- 45	43	8	13	0	0	0.8	21	10.3	33	7	5	18	8	5.6	54
GREER-SPARTANBURG	292	982.1	1015.9	33.3	21.1	27.0	0.9	36.1	19+	17.2	13	24	0	20.6	73	81	- 38	29	11	9	0	0	0.4	29	13.9	N	1	7	18	6	5.3	64
SOUTH DAKOTA																																
ABERDEEN	395	967.8	1012.8	27.2	15.0	21.1	- 1.9	34.4	12	7.2	1	2	0	16.7	76	103	40	33	12	12	0	0	0.6	7	15.6	27	14+	10	14	7	5.0	
HURON	390	967.3	1013.4	28.9	15.6	22.1	- 1.8	35.0	13	7.8	1	3	0	15.0	64	115	69	38	10	9	0	0	0.8	12	25.0	NW	14	9	15	7	5.1	70
RAPID CITY	964	904.8	1013.5	29.4	13.9	21.7	- 1.6	36.7	12	9.4	1	5	0	12.8	63	156	113	46	11	16	0	0	1.2	5	24.1	NW	3	18	7	6	3.7	73
SIOUX FALLS	432	963.4	1013.7	29.4	16.7	23.1	- 0.4	36.7	13	8.3	1	5	0	16.1	67	69	- 3	47	12	12	0	0	0.7	11	17.4	10	3	10	15	6	5.4	
TENNESSEE																																
BRISTOL	459	965.1	1016.1	30.0	19.4	24.7	0.3	32.8	6+	15.0	30	5	0	20.0	80	208	67	45	12	14	0	0	0.2	32	8.9	2	9	7	14	10	5.7	
CHATTANOOGA	210	[illegible]	[illegible]	32.8	19.4	25.9	- 1.2	35.6	4	13.3	31	23	0	20.6	76	59	- 71	18	6	9	0	0	0.5	22	14.8	NW	8	10	12	9	5.2	62
KNOXVILLE	299	981.0	1015.3	31.7	20.6	26.1	0.4	35.0	6+	16.7	31+	14	0	20.0	74	89	- 33	35	10	11	0	0	0.8	25	17.9	NW	8	9	13	9	5.7	76
MEMPHIS	79	1004.7	1014.4	35.0	23.9	29.4	2.0	39.4	11	18.9	30	26	0	21.7	66	49	- 41	20	8	8	0	0	0.8	20	20.1	NW	2	14	9	8	4.8	73
NASHVILLE	180	993.6	1014.7	34.4	22.2	28.2	1.4	37.8	11	17.2	31	26	0	21.1	72	135	41	44	10	13	0	0	0.8	23	18.8	W	27	9	17	5	5.0	71
OAK RIDGE	276			32.2	20.0	26.2	1.1	35.0	6+	15.0	30	18	0			134	- 17	46	9		0	0			10.7Y		27+	10	10	11	5.5	
TEXAS																																
ABILENE	537	952.6	1012.[illegible]	37.2	24.4	30.8	2.3	38.9	15+	20.0	29	31	0	17.2	46	55	- 3	54	2	1	0	0	3.7	17	15.6	N	22	15	8	8	4.0	88
AMARILLO	1098	[illegible]	1011.4	33.6	21.1	28.1	1.1	40.0	30	16.1	28	28	0	15.0	49	65	5	45	7	8	0	0	3.0	18	18.8	SE	5	15	11	5	4.2	84
AUSTIN	182	[illegible]	1014.8	36.7	23.9	30.2	1.0	38.9	29	21.7	16	31	0	20.0	60	3	- 52	3	2	3	0	0	5.0	18	19.2	SE	15	12	16	3	4.5	77
BROWNSVILLE	6	[illegible]	1013.6	35.6	25.6	30.7	1.8	37.2	29	23.9	31+	31	0	22.8	68	6	- 37	5	2	0	0	0	5.3	15	15.4	SE	24	16	13	2	[illegible]	76
CORPUS CHRISTI	12	1012.5	[illegible]	35.6	25.0	30.3	1.4	37.2	22	22.2	20	31	0	22.8	67	1	- 58	1	2	2	0	0	5.6	15	13.0	[illegible]	27+	12	15	4	4.8	77
DALLAS	147	[illegible]	1013.3	37.8	27.2	[illegible]	2.9	40.0	24+	22.8	30+	31	0	19.4	49	T	- 49	T	0	0	0	0	3.0	16	11.2	SE	15	18	7	6	3.7	80
DEL RIO	313	976.6	1011.7	[illegible]	24.4	[illegible]	1.2	40.0	24	21.7	27	31	0	18.9	[illegible]	37	4	37	2	4	0	0	[illegible]	12	[illegible]	32	27	13	13	5	4.5	
EL PASO	1194	[illegible]	[illegible]	36.1	22.8	29.4	1.7	[illegible]	5	18.9	10	28	0	13.9	[illegible]	29	- 4	16	7	12	0	0	[illegible]	16	17.0	[illegible]	11	6	20	5	5.2	77
FORT WORTH	[illegible]	[illegible]	1013.6	37.2	25.0	31.1	1.4	40.0	15	20.6	30+	31	0	20.6	57	20	- 25	18	3	1	0	0	2.7	18	9.8	16	15+	18	6	7	3.7	
GALVESTON	2			31.1	26.7	29.1	0.7	34.4	15	20.6	20	7	0			121	- 1	51	9		0	0			20.1	E	15					79
HOUSTON INTERCON	3	1011.5	1014.7	35.6	22.8	29.1	1.1	38.3	15	20.0	15	29	0	23.3	77	99	4	26	7	10	0	0	1.3	18	20.6	17	15	5	15	11	5.9	77
LUBBOCK	992	[illegible]	1011.6	36.1	21.1	28.5	2.1	38.9	4	18.3	29+	30	0	15.0	47	76	25	70	5	6	0	0	2.6	17	19.2	[illegible]	21	18	9	6	4.1	
MIDLAND	869	916.2	1011.5	36.7	21.7	28.9	0.7	40.0	26	19.4	11+	31	0	13.3	42	19	- 29	8	4	6	0	0	[illegible]	15	11.6	[illegible]	26	14	11	5	[illegible]	
PORT ARTHUR	[illegible]	1014.2	[illegible]	[illegible]	[illegible]	29.4	1.7	37.8	15+	21.1	20	26	0	24.4	81	258	165	73	13	12	0	0	1.7	21	[illegible]	[illegible]	11	4	17	10	6.0	65
SAN ANGELO	[illegible]	947.2	1011.7	[illegible]	23.3	30.8	1.5	40.6	25+	19.4	20	31	0	16.7	46	16	- 20	12	2	2	0	0	3.2	16	11.6	[illegible]	27	14	10	7	4.0	
SAN ANTONIO	240	986.5	1013.9	36.7	24.4	30.4	1.6	38.9	29	21.1	18	31	0	21.1	61	9	- 44	8	[illegible]	2	0	0	[illegible]	16	16.5	[illegible]	21	7	20	4	5.0	[illegible]
VICTORIA	32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.1	37.8	29+	22.8	16	31	0	22.8	69	44	- 47	15	[illegible]	4	0	0	[illegible]	18	[illegible]	[illegible]	11+	[illegible]	18	11	[illegible]	
WACO	[illegible]	[illegible]	[illegible]	38.9	26.1	32.5	2.9	41.7	15	21.7	29	31	0	20.6	53	1	- 49	1	1	1	0	0	3.7	16	[illegible]	[illegible]	15	[illegible]	8	[illegible]	[illegible]	
WICHITA FALLS	[illegible]	977.0	1012.5	[illegible]	23.3	31.6	1.8	42.8	24+	17.2	29	31	0	18.3	50	9	- 41	6	1	4	0	0	3.7	16	17.0	[illegible]	[illegible]	16	10	5	4.1	
UTAH																																
MILFORD	1533	[illegible]		33.9	13.9	23.8	0.6	37.8	27	6.7	9	27	0			35	17	11	7		0	0						17	8	6	[illegible]	
SALT LAKE CITY	1288	[illegible]	1011.9	33.3	16.1	24.8	- 0.2	37.2	27	10.0	8+	24	0	7.8	37	38	24	35	3	4	0	0	[illegible]	15	19.2	W	5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WENDOVER	[illegible]	[illegible]	1012.8	32.8	20.0	26.2	- 0.1	36.7	2	9.4	7	23	0			7	- 1	5	4		0	0										
VERMONT																																
BURLINGTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 0.7	34.4	16	4.4	8	2	0	13.9	75	61	- 37	19	10	6	0	0	[illegible]	18	14.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VIRGINIA																																
LYNCHBURG	279			30.6	[illegible]	24.6	- 0.1	36.1	5	15.0	15+	10	0			103	- 4	29	16		0	0			11.6	W	[illegible]	12	7	12	[illegible]	56
NORFOLK	8	[illegible]	[illegible]	[illegible]	22.2	[illegible]	0.2	36.1	20+	20.0	26+	7	0	20.6	73	323	172	[illegible]	[illegible]	12	0	0	1.2	17	[illegible]	[illegible]	[illegible]	8	10	13	6.2	57
RICHMOND	50	[illegible]	[illegible]	30.6	[illegible]	25.7	[illegible]	36.1	1	17.8	15	10	0	[illegible]	81	353	211	146	[illegible]	11	0	0	[illegible]	19	[illegible]	NW	[illegible]	5	11	15	[illegible]	[illegible]
ROANOKE	[illegible]	[illegible]	[illegible]	[illegible]	18.9	24.4	- 0.3	34.4	5	14.4	14	9	0	18.9	75	136	28	26	[illegible]	12	0	0	0.2	[illegible]	9.4	[illegible]	[illegible]	[illegible]	11	11	[illegible]	
WALLOPS ISLAND	4			[illegible]	21.7	[illegible]		35.0	1	16.7	9	4	0			[illegible]		[illegible]	14		0	0			16.7Y	W	[illegible]					
WASHINGTON																																
OLYMPIA	[illegible]	[illegible]	1019.1	24.4	8.9	16.7	- 1.[illegible]	31.7	23	5.6	30+	0	0			13	- 7	6	4	0	0	0			9.4	21	14	12	11	8	[illegible]	
QUILLAYUTE	55	1011.5	[illegible]	[illegible]	9.4	14.4	- 0.9	25.0	16+	6.1	30+	0	0	10.6	82	40	- 18	16	7	[illegible]	0	0	[illegible]	17	[illegible]	NW	[illegible]	10	8	13	6.8	[illegible]
SEATTLE TACOMA	[illegible]	[illegible]	[illegible]	[illegible]	12.8	[illegible]	[illegible]	29.4	25+	10.0	15+	0	0	10.6	64	7	- 14	[illegible]	4	1	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	10	7	4.2	67
SPOKANE	718	[illegible]	1014.2	[illegible]	11.1	[illegible]	- 1.7	33.9	20	5.6	26+	7	0	4.4	40	1	- [illegible]	1	1	1	0	0	1.8	[illegible]	[illegible]	SW	[illegible]	17	[illegible]	5	3.1	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant direction	Resultant direction	Fastest mile 1.6 kilometers: Speed	Direction	Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	M	Mb	Mb	C	C	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
WASHINGTON																																
STAMPEDE PASS	1206	882.5		16.7	7.8	12.3	- [illegible]	24.4	[illegible]	3.9	25+	0	0			4[illegible]	[illegible]	14	8		0	0						15	[illegible]	[illegible]	4.[illegible]	
WALLA WALLA	289			[illegible]	16.1	[illegible]	- 1.2	36.1	[illegible]	11.7	[illegible]	14	0			T	- [illegible]	T	1		0				9.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8[illegible]
YAKIMA	321	977.0	1014.9	[illegible]	11.1	[illegible]	- 1.4	35.0	[illegible]	6.[illegible]	13	8	0	5.6	[illegible]	T	- 3	T	[illegible]	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]+	[illegible]	4	[illegible]	[illegible]	
WEST INDIES																																
SAN JUAN P.R.	4	1014.7	1017.2	[illegible]	[illegible]	[illegible]	0.2	[illegible]	15	[illegible]	[illegible]+	0	0	[illegible]	77	190	31	58	[illegible]	[illegible]1	0	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	4	17	[illegible]	[illegible]	74
SWAN ISLAND	9			30.6	[illegible]	27.9	- 0.1	[illegible]	[illegible]+	[illegible]	[illegible]	0	0			267	[illegible]	96	1[illegible]		0	0						2	16	13	[illegible]	
WEST VIRGINIA																																
BECKLEY	[illegible]	[illegible]	1015.[illegible]	[illegible]	[illegible]	[illegible]	0.3	31.1	5	12.2	14	[illegible]	0	[illegible]	[illegible]	1[illegible]	14	51	11	12	0	0	[illegible]	24	[illegible]	[illegible]	5	6	14	[illegible]	[illegible]	
CHARLESTON	296	[illegible].7	1015.[illegible]	30.6	[illegible]	[illegible]	0.9	36.1	5	15.6	29+	9	0	[illegible]	51	156	[illegible]	[illegible]	13	1	0	0	[illegible]	[illegible]	[illegible]	[illegible]	10+	[illegible]	14	[illegible]	[illegible]	
ELKINS	6[illegible]	940.8		27.8	15.0	21.5	0.3	31.1	27+	12.2	31+	0	0			173	34	51	14		0	0						[illegible]	14	15	7.4	
HUNTINGTON	252	[illegible]	1015.5	30.6	20.6	[illegible]	1.5	35.0	5	15.6	[illegible]	9	0	[illegible]	75	85	- [illegible]	16	12	[illegible]1	0	0	[illegible].8	21	13.[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	6.8	
PARKERSBURG	187			29.4	19.4	[illegible]	0.3	34.4	[illegible]	15.0	2	7	0			97	- 7	31	[illegible]		0	0			13.[illegible]	SW	2[illegible]+					49
WISCONSIN																																
GREEN BAY	208	987.[illegible]	1014.5	26.[illegible]	[illegible]	20.0	- 1.4	32.2	[illegible]	7.2	6+	1	0	[illegible]	73	64	- 5	[illegible]	8	4	0	0	[illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	58
LA CROSSE	198	[illegible]	1014.3	[illegible]	17.[illegible]	[illegible]	- 0.7	33.9	[illegible]	9.4	1	3	0	[illegible]	77	76	- 19		[illegible]	[illegible]	0		[illegible]	16								
MADISON	262	983.4	1014.5	[illegible]	[illegible]	20.9	- 0.8	31.7	[illegible]	8.9	[illegible]	0	0	[illegible]	79	1[illegible]	18	[illegible]	[illegible]	7	0	0	0.[illegible]	25	14.3	[illegible]	[illegible]	7	8	[illegible]	6.[illegible]	57
MILWAUKEE	205	987.8	1014.7	[illegible]	15.[illegible]	19.[illegible]	- 0.5	31.7	16+	10.6	2	0	0	15.6	78	168	[illegible]	58	1[illegible]	10	0	0	0.4	36	2[illegible]	SW	16	7	9	[illegible]	[illegible]	[illegible]
WYOMING																																
CASPER	1627	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 0.1	36.1	[illegible]	6.[illegible]	4+	[illegible]	0	6.7	44	18	- 8	7	[illegible]	[illegible]	0	0	1.[illegible]	27	[illegible]	[illegible]	14+	[illegible]	[illegible]	[illegible]	[illegible]	
CHEYENNE	1867	81[illegible]	1014.1	30.6	13.3	21.9	0.8	34.4	1[illegible]	8.9	27	11	0	7.8	47	15	- 31	5	[illegible]	11	0	0	1.4	[illegible]	17.9	[illegible]	26	12	[illegible]	6	4.6	67
LANDER	1676	[illegible]	1012.7	[illegible]	[illegible]	[illegible]	0.4	34.4	[illegible]	6.7	4	12	0	5.6	[illegible]	[illegible]	- 18	2	[illegible]	[illegible]	0	0	1.4	[illegible]	[illegible]	[illegible]	25	19	9	3	[illegible].6	88
SHERIDAN	[illegible]	[illegible]	1014.[illegible]	[illegible]	11.1	[illegible]	- 1.9	[illegible]	[illegible]	6.1	4	4	0	10.0	[illegible]	[illegible]	- 18	9	7	[illegible]	0	0	[illegible]	31	27.[illegible]	[illegible]	[illegible]	[illegible]7	[illegible]	4	[illegible]	[illegible]

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

See footnotes at end of table

HEATING DEGREE DAYS

(Base 65°F.)

JULY 1969

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	0	0	0
HUNTSVILLE	0	0	0
MOBILE	0	0	0
MONTGOMERY	0	0	0
ALASKA			
ANCHORAGE	168	168	211
ANNETTE	181	181	242
BARROW	935	935	803
BARTER ISLAND	807	807	735
BETHEL	343	343	319
BETTLES	263	263	
BIG DELTA	234	234	
COLD BAY	361	361	474
FAIRBANKS	170	170	171
GULKANA	269	269	
HOMER	355	355	
ILIAMNA	290	290	
JUNEAU	343	343	301
KING SALMON	323	323	313
KOTZEBUE	402	402	381
MC GRATH	270	270	208
NOME	451	451	481
ST. PAUL ISLAND	512	512	605
SHEMYA	527	527	577
SUMMIT	428	428	
TALKEETNA	227	227	220
UNALAKLEET	370	370	
YAKUTAT	396	396	338
ARIZONA			
FLAGSTAFF	21	21	46
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	0	0	0
YUMA	0	0	0
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	0	0
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	0	0	0
BLUE CANYON	5	5	34
EUREKA U	284	284	270
FRESNO	0	0	0
LONG BEACH	0	0	0
LOS ANGELES	0	0	19
LOS ANGELES U	0	0	0
MT SHASTA R	14	14	25
OAKLAND	85	85	53
RED BLUFF	0	0	0
SACRAMENTO	0	0	0
SANDBERG R	10	10	0
SAN DIEGO	0	0	6
SAN FRANCISCO	86	86	91
SAN FRANCISCO U	221	221	192
SANTA MARIA	66	66	99
STOCKTON	0	0	0
COLORADO			
ALAMOSA	9	9	65
COLORADO SPRINGS	1	1	9
DENVER	2	2	6
GRAND JUNCTION	0	0	0
PUEBLO	0	0	0
CONNECTICUT			
BRIDGEPORT	1	1	0
HARTFORD	8	8	0
DELAWARE			
WILMINGTON	0	0	0
DIST.OF COLUMBIA			
WASH NATL AP	0	0	0
FLORIDA			
APALACHICOLA U	0	0	0
DAYTONA BEACH	0	0	0
FORT MYERS	0	0	0
JACKSONVILLE	0	0	0
KEY WEST	0	0	0
LAKELAND U	0	0	0
MIAMI	0	0	0
ORLANDO	0	0	0
TALLAHASSEE	0	0	0
TAMPA	0	0	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	0	0	0
ATLANTA	0	0	0
AUGUSTA	0	0	0
COLUMBUS	0	0	
MACON	0	0	0
SAVANNAH	0	0	0
IDAHO			
BOISE	3	3	0
LEWISTON	0	0	0
POCATELLO	24	24	0
ILLINOIS			
CAIRO U	0	0	0
CHICAGO O HARE	4	4	0
CHICAGO MIDWAY	2	2	0
MOLINE	0	0	0
PEORIA	0	0	0
ROCKFORD	4	4	6
SPRINGFIELD	0	0	0
INDIANA			
EVANSVILLE	0	0	0
FORT WAYNE	0	0	0
INDIANAPOLIS	0	0	0
SOUTH BEND	0	0	0
IOWA			
BURLINGTON	0	0	0
DES MOINES	0	0	0
DUBUQUE	7	7	12
SIOUX CITY	0	0	0
WATERLOO	9	9	12
KANSAS			
CONCORDIA	0	0	0
DODGE CITY	0	0	0
GOODLAND	0	0	0
TOPEKA	0	0	0
WICHITA	0	0	0
KENTUCKY			
COVINGTON	0	0	0
LEXINGTON	0	0	0
LOUISVILLE	0	0	0
LOUISIANA			
BATON ROUGE	0	0	0
LAKE CHARLES	0	0	0
NEW ORLEANS	0	0	0
SHREVEPORT	0	0	0
MAINE			
CARIBOU	109	109	78
PORTLAND	30	30	12
MARYLAND			
BALTIMORE	0	0	0
MASSACHUSETTS			
BLUE HILL OBS R	23	23	0
BOSTON	2	2	0
NANTUCKET	14	14	12
WORCESTER	19	19	6
MICHIGAN			
ALPENA	63	63	68
DETROIT	0	0	0
DETROIT M WAYNE CO	0	0	0
FLINT	16	16	9
GRAND RAPIDS	3	3	8
HOUGHTON LAKE	38	38	54
LANSING	9	9	6
MARQUETTE U	93	93	59
MUSKEGON	5	5	12
SAULT STE MARIE	92	92	96
MINNESOTA			
DULUTH	99	99	71
INTERNATIONAL FALLS	76	76	71
MINNEAPOLIS	5	5	22
ROCHESTER	10	10	25
ST CLOUD	22	22	28
MISSISSIPPI			
JACKSON	0	0	0
MERIDIAN	0	0	0
MISSOURI			
COLUMBIA	0	0	0
KANSAS CITY	0	0	0
ST JOSEPH	0	0	0
ST LOUIS	0	0	0
SPRINGFIELD	0	0	0
MONTANA			
BILLINGS	17	17	6
GLASGOW	39	39	31
GREAT FALLS	27	27	28
HAVRE	26	26	28
HELENA	35	35	31
KALISPELL	109	109	50
MILES CITY	0	0	6
MISSOULA	69	69	34
NEBRASKA			
GRAND ISLAND	0	0	0
LINCOLN U	0	0	0
NORFOLK	0	0	9
NORTH PLATTE	1	1	0
OMAHA	0	0	0
SCOTTSBLUFF	0	0	0
VALENTINE	0	0	9
NEVADA			
ELY	26	26	28
LAS VEGAS	0	0	0
RENO	5	5	43
WINNEMUCCA	16	16	0
NEW HAMPSHIRE			
CONCORD	64	64	6
MT WASHINGTON OBS	540	540	493
NEW JERSEY			
ATLANTIC CITY	4	4	0
ATLANTIC CITY U	0	0	0
NEWARK	0	0	0
TRENTON U	0	0	0
NEW MEXICO			
ALBUQUERQUE	0	0	0
CLAYTON	0	0	0
ROSWELL	0	0	0
NEW YORK			
ALBANY	13	13	0
BINGHAMTON	30	30	22
BUFFALO	13	13	19
J.F. KENNEDY	0	0	0
NEW YORK U	0	0	0
NEW YORK LA GUARDIA	0	0	0
ROCHESTER	18	18	9
SYRACUSE	22	22	6
NORTH CAROLINA			
ASHEVILLE	0	0	0
CAPE HATTERAS R	0	0	0
CHARLOTTE	0	0	0
GREENSBORO	0	0	0
RALEIGH	0	0	0
WILMINGTON	0	0	0
NORTH DAKOTA			
BISMARCK	6	6	34
FARGO	20	20	28
WILLISTON	25	25	31
OHIO			
AKRON	1	1	0
CINCINNATI OBS	[illegible]	1	0
CLEVELAND	1	1	0
COLUMBUS	0	0	0
DAYTON	0	0	0
MANSFIELD	0	0	9
TOLEDO	3	3	0
YOUNGSTOWN	13	13	6
OKLAHOMA			
OKLAHOMA CITY	0	0	0
TULSA	0	0	0
OREGON			
ASTORIA	193	193	146
BURNS U	29	29	12
EUGENE	17	17	34
MEACHAM	126	126	84
MEDFORD	0	0	0
PENDLETON	0	0	0
PORTLAND	17	17	25
SALEM	45	45	37
SEXTON SUMMIT R	130	130	81
PENNSYLVANIA			
ALLENTOWN	3	3	0
ERIE	20	20	0
HARRISBURG	0	0	0
PHILADELPHIA	0	0	0
PITTSBURGH	0	0	0
PITTSBURGH U	0	0	0
SCRANTON	6	6	0
WILLIAMSPORT	2	2	0
RHODE ISLAND			
BLOCK ISLAND	5	5	0
PROVIDENCE	2	2	0
SOUTH CAROLINA			
CHARLESTON	0	0	0
CHARLESTON U	0	0	0
COLUMBIA	0	0	0
GNVLE-SPARTANBURG	0	0	0
SOUTH DAKOTA			
ABERDEEN	7	7	25
HURON	0	0	9
RAPID CITY	0	[illegible]	22
SIOUX FALLS	2	2	19
TENNESSEE			
BRISTOL			0
CHATTANOOGA			
KNOXVILLE	0	0	
MEMPHIS			
NASHVILLE			
OAK RIDGE R	0	0	
TEXAS			
ABILENE	0	0	0
AMARILLO	0	0	0
AUSTIN	0	0	0
BROWNSVILLE	0	0	0
CORPUS CHRISTI	0	0	0
DALLAS	0	0	0
DEL RIO	0	0	0
EL PASO	0	0	0
FORT WORTH	0	0	0
HOUSTON	0	0	0
GALVESTON U	0	0	0
LUBBOCK	0		
MIDLAND	0	0	0
PORT ARTHUR	0	0	0
SAN ANGELO	0		
SAN ANTONIO	0	0	0
VICTORIA	0	0	0
WACO	0	0	0
WICHITA FALLS	0	0	0
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	1	1	
WENDOVER	3	3	0
VERMONT			
BURLINGTON	41	41	28
VIRGINIA			
LYNCHBURG	[illegible]	[illegible]	
NORFOLK	0	0	0
RICHMOND	0	0	0
ROANOKE	0	0	0
WALLOPS ISLAND	0	0	
WASHINGTON			
OLYMPIA	95	95	68
QUILLAYUTE	208	208	170
SEATTLE TACOMA	49	49	56
SPOKANE	40	40	9
STAMPEDE PASS R	328	328	273
WALLA WALLA U	0	0	0
YAKIMA	20	20	0
WEST VIRGINIA			
BECKLEY	0	0	11
CHARLESTON	[illegible]	[illegible]	0
ELKINS	0	0	9
HUNTINGTON	0	0	0
PARKERSBURG U	0	0	0
WISCONSIN			
GREEN BAY	38	38	28
LA CROSSE	5	5	12
MADISON	13	13	25
MILWAUKEE	34	34	43
WYOMING			
CASPER	3	3	6
CHEYENNE	3	3	19
LANDER	8	8	6
SHERIDAN	20	20	25

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

JULY 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	523	1058	
HUNTSVILLE	572	1250	
MOBILE	582	1565	
MONTGOMERY	568	1303	
ALASKA			
ANCHORAGE	1	6	
ANNETTE	0	56	
BARROW	0	[illegible]	
BARTER ISLAND	0	0	
BETHEL	0	2	
BETTLES	2	49	
BIG DELTA	1	58	
COLD BAY	0	0	
FAIRBANKS	2	85	
GULKANA	0	11	
HOMER	0	0	
ILIAMNA	3	3	
JUNEAU	0	7	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	9	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	1	
TALKEETNA	1	12	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	64	65	
PHOENIX	878	2018	
TUCSON	658	1585	
WINSLOW	453	784	
YUMA	884	2207	
ARKANSAS			
FORT SMITH	613	1190	
LITTLE ROCK	622	1209	
CALIFORNIA			
BAKERSFIELD	668	1410	
BISHOP	363	580	
BLUE CANYON	160	188	
EUREKA U	0	0	
FRESNO	500	966	
LONG BEACH	252	372	
LOS ANGELES	137	196	
LOS ANGELES U	276	518	
MT SHASTA R	128	164	
OAKLAND	5	10	
RED BLUFF	581	1104	
SACRAMENTO	361	606	
SANDBERG R	263	328	
SAN DIEGO	144	193	
SAN FRANCISCO	8	14	
SAN FRANCISCO U	0	7	
SANTA MARIA	8	12	
STOCKTON	421	726	
COLORADO			
ALAMOSA	58	59	
COLORADO SPRINGS	216	254	
DENVER	312	391	
GRAND JUNCTION	481	712	
PUEBLO	480	689	
CONNECTICUT			
BRIDGEPORT	212	349	
HARTFORD	189	359	
DELAWARE			
WILMINGTON	336	675	
DIST.OF COLUMBIA			
WASH NATL AP	458	1000	
FLORIDA			
APALACHICOLA U	546	145	
DAYTONA BEACH	559	1533	
FORT MYERS	564	1884	
JACKSONVILLE	604	1600	
KEY WEST	635	2463	
LAKELAND U	558	1718	
MIAMI	597	2272	
ORLANDO	608	1814	
TALLAHASSEE	540	1477	
TAMPA	568	1690	
WEST PALM BEACH	561	1886	
GEORGIA			
ATHENS	553	1150	
ATLANTA	494	1067	
AUGUSTA	524	1197	
COLUMBUS	547	1276	
MACON	538	1257	
SAVANNAH	539	1281	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
HAWAII			
HILO	344	1878	
HONOLULU	500	2249	
KAHULUI	474	2036	
LIHUE	455	1791	
IDAHO			
BOISE	256	409	
LEWISTON	247	464	
POCATELLO	177	215	
ILLINOIS			
CAIRO U	546	1111	
CHICAGO O HARE	259	437	
CHICAGO MIDWAY	316	530	
MOLINE	320	528	
PEORIA	334	523	
ROCKFORD	244	371	
SPRINGFIELD	407	729	
INDIANA			
EVANSVILLE	448	841	
FORT WAYNE	312	481	
INDIANAPOLIS	344	617	
SOUTH BEND	257	425	
IOWA			
BURLINGTON	343	540	
DES MOINES	349	577	
DUBUQUE	236	340	
SIOUX CITY	349	506	
WATERLOO	250	338	
KANSAS			
CONCORDIA	438	669	
DODGE CITY	551	870	
GOODLAND	384	529	
TOPEKA	456	725	
WICHITA	563	862	
KENTUCKY			
COVINGTON	389	730	
LEXINGTON	404	768	
LOUISVILLE	431	823	
LOUISIANA			
BATON ROUGE	579	1558	
LAKE CHARLES	559	1418	
NEW ORLEANS	537	1444	
SHREVEPORT	675	1458	
MAINE			
CARIBOU	48	93	
PORTLAND	118	177	
MARYLAND			
BALTIMORE	392	805	
MASSACHUSETTS			
BLUE HILL OBS R	148	267	
BOSTON	196	374	
NANTUCKET	106	143	
WORCESTER	131	251	
MICHIGAN			
ALPENA	93	134	
DETROIT	231	366	
DETROIT M WAYNE CO	260	387	
FLINT	150	211	
GRAND RAPIDS	202	284	
HOUGHTON LAKE	120	148	
LANSING	203	301	
MARQUETTE U	109	158	
MUSKEGON	195	272	
SAULT STE MARIE	46	56	
MINNESOTA			
DULUTH	76	91	
INTERNATIONAL FALLS	82	103	
MINNEAPOLIS	276	401	
ROCHESTER	165	228	
ST CLOUD	186	254	
MISSISSIPPI			
JACKSON	577	1355	
MERIDIAN	546	1227	
MISSOURI			
COLUMBIA	489	795	
KANSAS CITY	513	831	
ST JOSEPH	538	958	
ST LOUIS	486	854	
SPRINGFIELD	490	814	
MONTANA			
BILLINGS	156	219	
GLASGOW	79	125	
GREAT FALLS	136	185	
HAVRE	118	180	
HELENA	128	147	
KALISPELL	27	33	
MILES CITY	219	324	
MISSOULA	56	81	
NEBRASKA			
GRAND ISLAND	381	565	
LINCOLN U	445	726	
NORFOLK	329	503	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
NEBRASKA			
NORTH PLATTE	257	378	
OMAHA	416	662	
SCOTTSBLUFF	315	409	
VALENTINE	301	442	
NEVADA			
ELY	144	151	
LAS VEGAS	772	1737	
RENO	193	214	
WINNEMUCCA	222	261	
NEW HAMPSHIRE			
CONCORD	82	151	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	264	516	
ATLANTIC CITY U	322	541	
NEWARK	293	631	
TRENTON U	284	603	
NEW MEXICO			
ALBUQUERQUE	478	874	
CLAYTON	344	473	
ROSWELL	560	1127	
NEW YORK			
ALBANY	165	285	
BINGHAMTON	101	202	
BUFFALO	192	281	
J.F. KENNEDY	313	554	
NEW YORK U	310	668	
NEW YORK LA GUARDIA	258	507	
ROCHESTER	202	314	
SYRACUSE	183	299	
NORTH CAROLINA			
ASHEVILLE	343	694	
CAPE HATTERAS R	439	862	
CHARLOTTE	498	1036	
GREENSBORO	486	974	
RALEIGH	413	825	
WILMINGTON	496	1082	
NORTH DAKOTA			
BISMARCK	179	229	
FARGO	131	175	
WILLISTON	119	156	
OHIO			
AKRON	225	379	
CINCINNATI OBS	392	745	
CLEVELAND	237	408	
COLUMBUS	290	503	
DAYTON	327	551	
MANSFIELD	303	524	
TOLEDO	220	371	
YOUNGSTOWN	170	298	
OKLAHOMA			
OKLAHOMA CITY	593	1060	
TULSA	656	1182	
OREGON			
ASTORIA	0	5	
BURNS U	147	187	
EUGENE	72	144	
MEACHAM	46	70	
MEDFORD	235	424	
PENDLETON	238	466	
PORTLAND	74	189	
SALEM	50	128	
SEXTON SUMMIT R	37	104	
PACIFIC AREA			
JOHNSTON	522	2905	
KOROR R	496	3587	
KWAJALEIN	528	3648	
MAJURO	486	3413	
PAGO PAGO	421	3329	
PONAPE R	462	3283	
TAGUAC GUAM R	476	2980	
TRUK MOEN ISLAND	492	3445	
WAKE	572	3209	
YAP R	491	3405	
PENNSYLVANIA			
ALLENTOWN	232	467	
ERIE	150	245	
HARRISBURG	327	636	
PHILADELPHIA	319	664	
PITTSBURGH	245	459	
PITTSBURGH U	303	588	
SCRANTON	193	375	
WILLIAMSPORT	216	433	
RHODE ISLAND			
BLOCK ISLAND	136	196	
PROVIDENCE	211	359	
SOUTH CAROLINA			
CHARLESTON	555	1232	
CHARLESTON U	583	1343	
COLUMBIA	570	1253	
GNVLE-SPARTANBURG	493	989	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
SOUTH DAKOTA			
ABERDEEN	170	235	
HURON	214	281	
RAPID CITY	193	257	
SIOUX FALLS	270	371	
TENNESSEE			
BRISTOL	363	684	
CHATTANOOGA	429	892	
KNOXVILLE	438	872	
MEMPHIS	627	1337	
NASHVILLE	554	1130	
OAK RIDGE R	443	895	
TEXAS			
ABILENE	699	1389	
AMARILLO	550	991	
AUSTIN	668	1590	
BROWNSVILLE	695	2303	
CORPUS CHRISTI	677	1799	
DALLAS	787	1680	
DEL RIO	735	1899	
EL PASO	627	1450	
FORT WORTH	715	1472	
GALVESTON U	602	1591	
HOUSTON	608	1618	
LUBBOCK	575	1141	
MIDLAND	597	1235	
PORT ARTHUR	621	1586	
SAN ANGELO	707	1545	
SAN ANTONIO	683	1607	
VICTORIA	687	1759	
WACO	796	1784	
WICHITA FALLS	742	1443	
UTAH			
MILFORD	314	363	
SALT LAKE CITY	366	488	
WENDOVER	453	688	
VERMONT			
BURLINGTON	134	222	
VIRGINIA			
LYNCHBURG	355	697	
NORFOLK	446	982	
RICHMOND	417	856	
ROANOKE	347	691	
WALLOPS ISLAND	387	662	
WASHINGTON			
OLYMPIA	13	71	
QUILLAYUTE	0	20	
SEATTLE TACOMA	44	118	
SPOKANE	121	227	
STAMPEDE PASS R	1	26	
WALLA WALLA U	281	570	
YAKIMA	132	306	
WEST INDIES			
SAN JUAN P.R.	501	2977	
SWAN ISLAND	543	3509	
WEST VIRGINIA			
BECKLEY	208	383	
CHARLESTON	368	731	
ELKINS	184	324	
HUNTINGTON	405	741	
PARKERSBURG U	353	673	
WISCONSIN			
GREEN BAY	138	176	
LA CROSSE	245	346	
MADISON	161	225	
MILWAUKEE	126	188	
WYOMING			
CASPER	213	243	
CHEYENNE	211	237	
LANDER	212	244	
SHERIDAN	114	139	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama	2	2	0	0	4					0	3	5	0	1	4	4	0												
Alaska *																													
Arizona	1	1	0	2	4									0	2	0	0												
Arkansas						0	0	0	5	0	8	6	0	4	1	4	0												
California *																													
Colorado	4	3	0	0	3	0	0	4	4	0	0	3	3	2	3	0	0									0	0	5	4
Connecticut										0	?	3	4	1	0	4	0									0	0	5	5
Delaware										0	10	4	0	0	0	5	0									2	0	4	0
Florida	7	6	0	2	4					0	2	5	0	0	0	2	0												
Georgia	3	3	0	2	4	0	0	3	0	0	2	5	0	1	1	5	0									0	0	5	0
Hawaii N																													
Idaho						0	0	0	4																				
Illinois	2	2	0	0	5					1	3	°6	C	1	0	4	0									0	0	°6	C
Indiana						0	0	3	4	2	0	5	4	0	1	4	0									0	0	5	5
Iowa	5	2	0	0	5	0	0	5	6	0	9	6	6	2	3	5	0									4	0	6	6
Kansas	4	2	0	2	5	0	0	5	5	0	0	5	5	0	0	5	4									0	0	4	4
Kentucky	1	1	0	0	3	0	0	0	4	0	0	4	0	0	4	5	0												
Louisiana	4	2	0	1	5	0	0	0	?	0	0	4	?	2	2	5	0									1	0	5	6
Maine																										0	0	4	3
Maryland	2	2	0	1	5	0	0	0	5	3	6	5	4	2	2	5	0									2	0	5	4
Massachusetts										3	0	3	0	0	0	4	0									0	0	5	4
Michigan	4	3	0	61	6	0	0	4	0	1	2	5	0	0	1	?	0									2	0	0	0
Minnesota	7	3	0	3	5	0	0	4	6		5	6	?	1	0	5	0												
Mississippi	2	2	0	0	?	0	0	0	3	0	1	?	0	0	0	4	0									0	0	?	0
Missouri	2	2	0	0	5	0	0	5	5	0	2	5	5																
Montana	1	1	0	0	4	0	0	5	6	1	0	?	?																
Nebraska	7	5	0	0	4	0	0	5	6	0	0	5	4																
Nevada *																													
New Hampshire														0	0	3	0									0	0	5	4
New Jersey																										1		6	?
New Mexico										0	0	3	0																
New York	3	3	0	0	4							4				4										0	0	6	C
North Carolina						0	0	4	6	0	0	5	5	5	0	5	0									0	0	5	5
North Dakota						0	?	5	5	0	4	4	0													0	0	5	0
Ohio	4	2	0	41	5					15	300	6		4	3	5										29	259	7	7
Oklahoma	1	1	0	0	4	0	0	0	?	0	2	5	0	0	0	4	0												
Oregon *																													
Pacific Area *																													
Pennsylvania	1	1			5			3	4	1	6	5	4	2	12	5	5									2	2	6	5
Puerto Rico										0	0	4	C																
Rhode Island *																													
South Carolina														1	0	5	0									0	0	4	0
South Dakota	18	9	0	0	4	0	0	6	7	0	2	5	5	0	1	4	0												
Tennessee						0	0	°4	C	0	0	°5	C	0	3	5	0									0	0	6	C
Texas	6	4	0	0	4	0	0	4	0	0	21	6	0	1	0	4	0												
Utah										0	0	4	0	0	0	3	0									0	0	4	0
Vermont						0	0	0	3	0	0	3	0	0	0	4	0									0	0	6	4
U. S. Virgin Is. *																													
Virginia	1	1	0	0	4	0	0	0	?	0	2	5	0	0	1	4	0									0	7	6	0
Washington *																													
West Virginia	1	1	0	0	3					0	0	4	?	0	0	4	0									0	0	5	?
Wisconsin	5	3	0	4	5	0	0	4	5	0	0	5	0	0	0	5	0									0	0	5	0
Wyoming	1	1	0	0	4	0	0	4	C																				

° Includes crop damage
C Crop damage
N No report received by printing deadline

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JULY 1969

Elmer R. Nelson, Office of Hydrology

One of the most damaging floods during July occurred in northern Ohio. The hardest hit communities were Wooster, Ashland, Millersburg, Loudonville, and Killbuck, Ohio, in the Ohio Basin and Norwalk and Vermillion in the Great Lakes Drainage. The total flood damages were estimated between $70 million and $140 million. Of the 46 fatalities reported, 30 were due to floods.

Severe flooding occurred in Iowa. Record flooding occurred on the Iowa and Wapsipinicon Rivers and on Black Hawk Creek. Record high stages were also reported on the Pecatonica River in Wisconsin and Illinois.

ST. LAWRENCE DRAINAGE

Lake Erie.--Severe flooding occurred along the Vermillion River in Huron and Lorain Counties, Ohio, from the severe thunderstorm during the evening of July 4 and morning of July 5. The hardest hit community was Vermillion, Ohio. Norwalk, Ohio, on the West Fork of the Huron River also suffered heavy damage. The storm came on shore about the time great crowds of people were gathering in parks for special 4th of July entertainment and fireworks displays. Over 10 inches of rain fell in some inland places from the lake and near the headwaters of the major streams. A Civil Defense official in Lorain County advised that they received information on the impending severe weather in time to completely evacuate Cascade Park in the City of Elyria, Ohio, where approximately 2,000 persons had gathered for entertainment. This same storm caused severe floods in adjoining area in the Ohio Basin.

ATLANTIC SLOPE DRAINAGE

Some towns in the lower Merrimack Basin (Lawrence, Methuen, and North Andover, Mass.) experienced flooding of streets and basements on the 12th, with substantial damage to some downtown businesses. It was due primarily to culvert and storm sewer overflows. Major flash flooding occurred on small streams in eastern and central Vermont on the 29th. Major damage resulted from the overflows and landslides along the rain-drenched hillsides. Minor flooding occurred in Connecticut, Massachusetts, New Hampshire, and Rhode Island. A good portion of this flooding was due to the inability of culverts and sewers to carry the heavy surface flow that occurred. Rainfall amounts near 6 inches occurred in less than 24 hours on the 28-29th in the Springfield, Vt., area. The total damage in Vermont was estimated at $700,000. Six families were evacuated from a small valley. Heavy road damage occurred in Windsor, Springfield, Weatherfield, and Brattleboro, Vt., areas. The last three of these communities were declared disaster areas by the Governor of Vermont.

Flash flooding developed in Atlantic City, N. J., on the 23d due to excessive rainfall. Streets, basements, and roads were flooded in a large area from Atlantic City to Northfield and Pleasantville, N. J. Heavy rains on the 27-29th caused extensive flash flooding in the Philadelphia-Camden area, Wilmington, Del., area, and along many streams and creeks throughout eastern Pennsylvania, northern and central New Jersey, and in Sullivan County, N. Y. The heaviest damage occurred in Monroe County in northeastern Pennsylvania and in Sullivan County, N. Y. In northeastern Pennsylvania, heavy damages occurred to property along the Swiftwater, Pocono, and Brodhead Creeks and their small tributaries. Over 200 people were evacuated from along the Brodhead Creek and from Canadenis to Analomik. Three drownings were reported, one in the Poconos, one in Philadelphia, and one in the Wilmington, Del, area. In Sullivan County, N. Y., the total damages ran as high as $3 to $4 million. Damage to underground sewer systems is still undetermined. More than 250 people were evacuated from the town of Rockland and about 200 to 250 people were evacuated by boat from Livingston Manor. The heavy rainfall (4 to 8 inches) that fell in a few hours caused the Willowemoc, Little Beaverkill, the Big Beaver Kill Creek, and many small tributary Creeks to rise to abnormally high stages, resulting in extensive damages.

Heavy thunderstorms during the evening of the 22d caused flash flooding in the Washington, D. C., metropolitan area. About 300 square miles of the 1,200 square mile metropolitan area received 4 to 7 inches of rain. The heaviest precipitation recorded for the 12-hour storm was 7.52 inches at Vienna, Va. At the Washington National Airport, 4.38 inches of rain was measured during the period. The heaviest flooding occurred on Four Mile Run in the Arlandria section of Alexandria, Va. The damage to the residential apartments and commercial section was heavy. The Corps of Engineers estimated the damage at $4.3 million.

Heavy rains during the night of the 22-23d caused flash flooding in Henrico, Chesterfield, East Goochland, and Hanover Counties in Virginia and in the City of Richmond. The rainfall over a 12-hour period ranged from 3.25 to over 6 inches. The hardest hit section was along Gillies Creek in Fulton Bottom, City of Richmond, where 40 families were evacuated.

Flash flooding occurred in the Pee Dee River Basin at Cheraw, S. C., on the 29th. The rainfall totaled 4.97 inches in a little more than a 24-hour period. Damage was due to water rising and entering first floor of 8 to 10 homes. Damage was estimated at $3,000. The Lumber River at Lumberton, N. C., continued in flood from June 9 to July 17.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Little or no damage resulted from the minor flooding in the upper Iowa near Dorchester, Iowa, and on the Wisconsin River at Portage, Wis., during the latter part of June and the first part of July.

The flooding on the Turkey River at Garber, Iowa, on June 28 to July 1 was due to heavy showers on June 25-29.

Major flooding occurred on the Maquoketa and Wapsipinocon Rivers in Iowa and the Pecatonica River in Wisconsin and Illinois during July. Record high stages occurred on the Wapsipinicon River at DeWitt, Iowa, and on the Pecatonica River at Martintown, Wis., and Freeport, Ill. Flooding was due to heavy showers during the last week in June and 1- to 2-inch rains during the first half of July. At Moline, Ill., an alltime monthly record of 12.39 inches was recorded.

Record flooding occurred on Black Hawk Creek at Hudson, Iowa, and on the Iowa River at Steamboat Rock, Marshalltown, and Wapello, Iowa, during July. The U. S. Geological Survey reported that the runoff was the highest for any July in 70 years on the Des Moines, Skunk, and Iowa-Cedar Rivers. The runoff at Cedar Rapids on the Cedar River was the highest for any month of record. This severe flooding in central Iowa was due to heavy rainfall superimposed on the high flow from earlier rains.

The Mississippi River at St. Louis, Mo., reached a

crest of 35.9 ft. on the 14th. This was 5.9 ft. above flood stage and the highest stage reached at St. Louis in the past 18 years. A stage of 41.3 ft. was reached in 1951. Most of the flooding in the St. Louis area was restricted to low-lying farmland. Considerable flooding occurred along the Mississippi River above and below St. Louis but none below the mouth of the Ohio River.

Missouri Basin.--Severe thunderstorms in southeastern Montana on the afternoon of the 18th caused Blue Creek, West Buckeye, Beauvis, and Soap Creek to exceed bankfull stage for a brief period. A diversion dam was washed out on Soap Creek with an estimated loss of $15,000. Along West Buckeye Creek, some cattle were drowned and some damage occurred to buildings. Two inches of rain fell in 20 minutes and 4 inches in 45 minutes at Lodge Grass, Mont. Some bridges and irrigation ditches were washed out.

Heavy rainfall on the 18th caused local flooding in the Hazen-Beulah, N. Dak., area. Nearly 200 homes in the Hazen area were flooded, 25 of them seriously. Most of the flooding was caused by high waters in Antelope Creek. Estimated damage was $60,000. In the Beulah area considerable damage resulted from a flash flood that flooded basements, causing damage estimated at $50,000. This flooding was due to 5 to 6 inches of rain.

The James River which had been out of its banks since April in the Columbia and Stratford, S. Dak., reach, fell below flood stage at Columbia, S. Dak., on the 27th. It was still about a foot over bankfull stage.

The Rock River receded below flood stage at Rock Rapids, Iowa, on July 1 and at Rock Valley, Iowa, on July 2. Heavy rains on the 7-9th caused the Rock River to rise to about a foot below bankfull at Rock Rapids on the 8th and 1.2 ft. above flood stage at Rock Valley, Iowa, on the 10th. The Big Sioux River rose about 4 ft. above flood stage at Hawarden, Iowa, on July 1 and 2.3 ft. above flood stage at Akron, Iowa, on July 2. The total flood damages were estimated near $600,000.

Frequent thunderstorms during the latter part of June through the middle of July over northwestern Iowa caused flooding over the upper and middle reaches of the Little Sioux River during the first half of July. The Platte River near Grand Island, Nebr., crested 0.4 foot above flood stage on July 3.

Flooding in Kansas and Missouri was due to several periods of heavy rain which began on June 22 and continued through the entire month of July. Areas with excessive rainfall were located in northeast and central Missouri. Flooding along the main stem of the Missouri was confined mostly to the reach at and below Lexington, Mo. Extensive flood damage occurred to farm crops in the area adjoining the Missouri River. To the south of the Missouri River from southwest Missouri into south-central Missouri, July rainfall of 1 to 2 inches was well below normal with near drought conditions in some areas.

Ohio Basin.--A flash flood occurred on Mountain Creek and Georges Creek in Fayette County, Pa., from excessive rain on July 11. The area of heaviest rain was in the Ruble Mill, Pa., area near Smithfield. The U. S. Corps of Engineers at Pittsburgh, who conducted a bucket survey in the area on July 14, found several reliable samples of rainfall of at least 6 inches. They believe 8 to 9 inches may have occurred over a small area. Most of the rain fell in a 35-minute period between 3:30 p.m. and 4:05 p.m. on the 11th. The small normally dry valley that flows northward toward Ruble Mill was a raging torrent. Water rose about 4 ft. in the building that housed the General Store, causing $25,000 to $30,000 damage. This building had been there 60 to 75 years and had never experienced any flooding of the magnitude before. Homes were surrounded and slightly damaged along Georges Creek. The total damages from the flash flood will probably range from $50,000 to $100,000.

One of the most severe floods in northern Ohio resulted from excessive rainfall during the night of July 4 and the morning and early afternoon of July 5. It occurred in an area about 20 miles on either side of a line running between Toledo, Ohio, and Wheeling, W. Va., with rainfall greater than 10 inches around Wooster, Ohio, and Norwalk, Ohio. Preliminary bucket surveys and reports from other official rain gages indicated that up to 14 inches of rain occurred in certain localities. This precipitation caused flooding which resulted in heavy loss of life and considerable crop and property damage in a dozen Ohio counties. The hardest hit communities were Wooster, Ashland, Millersburg, Loudonville, and Killbuck, Ohio, in the Ohio Basin and Norwalk and Vermillion in Great Lakes Drainage. Of the 46 fatalities reported in this storm, 30 were due to the floods. The total flood damages were estimated between $70 million and $140 million. Preliminary figures indicate that 7,000 trucks and automobiles, with an insured value of $24 million were damaged or destroyed. In Wayne County alone, 26 bridges were completely destroyed while 110 were put out of commission.

Intense rain during the evening of July 22 caused flash flooding on Elkhorn Creek, a tributary of Tug Fork of Big Sandy River. Considerable damage occurred in the towns of Elkhorn and Powhatan, W. Va. The total damages were estimated at over $100,000. Some 20 homes in Oak Hill, W. Va., on Arbuckle Creek were flooded during the evening of the 22d. The Fayette County Agricultural Agent estimated the damage at $30,000.

Thunderstorms late on the 19th and early on the 20th caused local flooding on the Scioto River at La-Rue, Ohio, on the 20th. No damage resulted.

Flash flooding occurred in the White River Basin at Greenwood, Ind., on July 20. The flooding developed rapidly as 9.04 inches of rain fell in less than 9 hours. Although the center of heavy rainfall was quite small, an area receiving in excess of 3 inches was quite extensive and covered a considerable portion of the White River from Martinsville to north of Indianapolis, Ind. The headwater tributaries of the East Fork above Columbus, Ind., received much more than 3 inches. As a result of the rains, normally dry streams spread over large areas and streets in both Greenwood and Franklin. The water ran several feet deep in many places. Fifteen or 20 boats were utilized in evacuating some 35 families in Greenwood. Riverside Drive, south of Greenwood, was under 20 ft. of water in some areas. Several bridges were washed out. More than 50 mobile homes were overturned and damaged by raging waters. At least 35 dwellings were damaged in Greenwood and numerous homes were flooded in Franklin. About 400 to 500 people were forced to leave their homes. Local residents of Greenwood said the rainfall was the heaviest within memory. Rains of 4 inches or more on the morning of the 22d caused flash flooding in an area from just south of Martinsville to Columbus, Ind. A bridge on State Road 37, south of Martinsville, was washed out. These heavy rains caused flooding on the East Fork at Columbus and Seymour, Ind., and

along the lower portion of the White. Roads were closed in numerous areas by flash flooding and overflow of larger rivers. Many farmers suffered heavy losses to corn and soybean crops.

White Basin.--Minor flooding occurred on Cache River at Patterson, Ark., on the 1st-4th. This overflow was due to 1- to 2-inch rains during the last week of June.

Arkansas Basin.--Rainfall averaging 2.5 to 4.5 inches in the Neosho Basin above Chanute, Kans., on the morning of the 1st caused local moderate flooding along the Neosho River, mainly below John Redmond Reservoir. Some minor flooding occurred along the Neosho River later in the month. Red Rock Creek, west of Red Rock, Okla., was reported out of banks for a short time.

Light to moderate flooding occurred in north-central Oklahoma on the 7th due to an 8-inch rain late on the 6th.

Torrential rains over a small area of west-central Arkansas on the 25th and 26th caused flash flooding of the smaller streams and a sharp rise on the Petit Jean and upper Poteau Rivers.

The precipitation totaled as much as 11.75 inches in 12 hours at Parks, Ark. The Petit Jean River at Danville, Ark., rose 16.6 ft. in 24 hours and crested 2.7 ft. above flood stage on the 27th. Numerous creeks in the Waldron area, some of which empty into the Poteau River, and some into the Petit Jean and Fourche La Fave Rivers, were out of banks for a few hours on the 26th. Water reached a depth of 4 feet on Waldron's main street, flooding most of the town's businesses. Oldtimers said water had not been so deep in 60 years. The editor of the "Waldron News", after a preliminary survey, has estimated damages in excess of $200,000 in Scott County, of which about $100,000 was damage to county roads and bridges.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Heavy precipitation caused some flooding near Emery and Ferron, Utah, on the 19th. The precipitation ranged from 1.43 inches at Emery to 1.79 inches at Panguitch, Utah, (followed by 2.33 inches on the 20th). Only minor damage resulted.

Heavy precipitation during the early morning hours of the 24th over the Head of Cedar Ridge Canyon (about 10 miles northwest of Richfield, Utah,) caused the Sevier Valley Irrigation Canal to overflow its banks for several miles. Over 300 acres were flooded with major damage to open pit Salt Mine. Minor flooding of roads was reported on the same date in southwest Colorado near Cortez and Mancos.

Heavy rain on the 31st caused flooding and mud slides through the residential area of Telluride, Colo. Six homes were destroyed and 15 to 20 more damaged by mud and flood waters. There were no injuries or deaths.

Great Basin.--Heavy precipitation during the evening of the 29th caused street flooding in Salt Lake City, Utah. Over 1 inch of rain was recorded in less than 1 hour (6:30 p.m.-7:30 p.m.). The total storm precipitation was 1.45 inches. The usual nuisance damages were noted in the areas of heaviest rain. At Bountiful, Utah, where 1.75 inches of rain was recorded, the greatest damage was to a new 4-unit apartment building, where about 3 feet of water accumulated on the lower floor. Thunderstorm activity was prominent in the Great Basin during the closing days of July.

FLOOD STAGE DATA

(All dates in July unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–		Above flood stages -dates To–		Crest* Stage	Crest* Date	
ATLANTIC SLOPE DRAINAGE	Ft.					Ft		
Passaic: Chatham (nr), N. J.	6		28		28	6.5		28
Millstone: Blackwells Mills, N. J.	7		28		30	10.4		29
Raritan: Manville, N. J.	12		28		29	14.2		29
Bound Brook, N. J.	8		28		29	9.8		29
Assunpink Creek: Trenton, N. J.	5		28		29	7.0		28
Rancocas Creek: Pemberton, N. J.	2.7		29		31	3.5		30
Lumber: Lumberton, N. C.	8	Jun.	9		17	#13.0	Jun.	18
MISSISSIPPI SYSTEM								
Upper Mississippi Basin								
Upper Iowa: Dorchester (nr), Iowa	14	Jun.	26		2	16.0	Jun.	27
						18.1		1
Wisconsin: Portage, Wis.	17	Jun.	29		2	18.3		1
Turkey: Garber, Iowa	17	Jun.	28		1	E23.0	Jun.	29
Maquoketa: Maquoketa, Iowa	13		19		21	18.0		20
Wapsipinicon: Independence, Iowa	12	Jun.	30		3	15.8		2
DeWitt, Iowa	10	Jun.	29		29	12.3		9
Pecatonica: Martintown, Wis.	11	Jun.	27		9	21.5		1
Freeport, Ill.	13		1		9	17.2		3
Shirland, Ill.	10		1		15	15.9		6
Rock: Rockton, Ill.	10		8		10	10.6		9
Rockford, Ill.	13.5		7		10	13.85		8
Shell Rock: Marble Rock, Iowa	4		8		10	7.6		9
Shell Rock, Iowa	12	Jun.	27		2	15.5	Jun.	30
Winnebago: Mason City, Iowa	7		8		9	11.3		8
West Fork Cedar: Finchford, Iowa	15		1		1	15.7		1
			10		11	16.5		10
Black Hawk Creek: Hudson, Iowa	12		8		11	18.2		9
Cedar: Charles City, Iowa	12	Jun.	30		2	17.9	Jun.	30
Janesville, Iowa	11	Jun.	28		3	13.6		1
Waterloo, Iowa	15	Jun.	28		3	20.15	Jun.	29
						20.1		2
			9		12	19.7		10
Cedar Rapids, Iowa	13		1		15	15.9		4
			12		14	16.6		12
Iowa: Steamboat Rock, Iowa	10		1		3	11.3		3
			8		10	16.3		9
Marshalltown, Iowa	13	Jun.	27		20	19.4		9
			27		28	15.35		27
Wapello, Iowa	10		2		31	17.4		15
North Skunk: Sigourney, Iowa	16		4		4	16.8		4
			9		13	19.6		11
			18		21	20.1		19
Brighton, Iowa	14		3		24	17.6		19
Augusta, Iowa	15		11		24	19.3		21
Skunk: Ames, Iowa	10		8		10	11.85		10
Oskaloosa, Iowa	15	Jun.	29		5	16.8	Jun.	30
						16.7		2
			8		15	19.05		13
			17		20	19.8		18
West Fork Des Moines: Jackson Minn.	12		4		9	14.1		5
Estherville, Iowa	7	Jun.	29		15	14.3	Jun.	29
						11.3		6
Humbolt, Iowa	8	Jun.	29		16	8.5	Jun.	28
						10.0		12
			27		31	9.4		30
East Fork Des Moines: Burt, Iowa	10	Jun.	26		15	12.9		2
North Raccoon: Jefferson, Iowa	10	Jun.	27		4	12.9	Jun.	30
			8		12	13.7		10
			29		31	12.1		30
Raccoon: Van Meter, Iowa	13		10		10	14.2		10
North: Norwalk, Iowa	18		18		20	20.5		20
Middle: Indianola, Iowa	19		17		18	27.35		18
South: Ackworth, Iowa	19		17		18	28.1		18
White Breast Creek: Dallas, Iowa	22		17		18	23.5		18
Salt: New London, Mo.	19		3		4	21.7		4
			7		15	26.7		10
						26.0		13

River and station	Flood stage	Above flood stages -dates From–		Above flood stages -dates To–		Crest* Stage	Crest* Date	
MISSISSIPPI SYSTEM	Ft					Ft		
Sangamon: Riverton, Ill.	13		8		[illegible]	18.0		11
La Moine: Ripley, Ill.	22		[illegible]		[illegible]	27.1		[illegible]
Illinois: Havana, Ill.	14		[illegible]		[illegible]	14.2		[illegible]
Beardstown, Ill.	14		8		22	17.3		[illegible]
Kaskaskia: New Athens, Ill.	25		[illegible]		18	27.5		[illegible]
Big Muddy: Plumfield, Ill.	20		[illegible]		18	21.1		[illegible]
Murphysboro, Ill.	16	Jun.	21	Aug.	4	27.25		[illegible]
Mississippi: Keithsburg, Ill.	12		[illegible]		24	14.8		[illegible]
Burlington, Iowa	15		7		[illegible]	16.7		11
Keokuk, Iowa	16		9		[illegible]	16.8		[illegible]
Quincy, Ill.	17		7		18	22.0		10
			20		21	17.2		20
Hannibal, Mo.	16		3		27	22.55		11
Dam 24, Clarksville, Mo.	25		2		28	32.5		11
Dam 25, Winfield, Mo.	26		3		27	33.25		12
Grafton, Ill.	18		3		27	27.4		13
Dam 26, Alton, Ill.	21		1		24	30.2		13
St. Louis, Mo.	30		4		19	35.9		14
Chester, Ill.	27		1		25	35.7		15
Cape Girardeau, Mo.	32		3		25	39.4		16
Louisiana, Mo.	15		2		23	22.15		11
Thebes, Ill.	33		4		22	38.5		17
Missouri Basin								
James: Columbia, S. Dak.	11	Apr.	9		27	16.4	Apr.	11
						14.1	Apr.	23
Stratford, S. Dak.	14	Apr.	11	Aug.	29	18.2	Apr.	19
Rock: Rock Rapids, Iowa	9	Jun.	29		1	15.6	Jun.	29
Rock Valley, Iowa	11	Jun.	30		2	16.0	Jun.	30
			9		10	12.2		[illegible]
Big Sioux: Hawarden, Iowa	15		1		3	18.9		1
Akron, Iowa	16		1		4	18.3		2
Little Sioux: Spencer, Iowa	10	Jun.	30		14	14.4		2
Linn Grove, Iowa	12	Jun.	25		18	16.1	Jun.	27
						17.2		4
Peterson, Iowa	15		4		7	17.1		[illegible]
			12		14	16.8		13
Cherokee, Iowa	17		6		7	17.5		7
			9		9	17.6		9
Platte: Grand Island (nr), Nebr.	3.5		1		8	3.9		3
Nishnabotna: Hamburg, Iowa	18		10		10	22.15		10
			18		18	24.[illegible]		18
Tarkio: Fairfax, Mo.	17		18		18	E20.0		18
Little Platte: Smithville, Mo.	24		2		3	29.45		2
			10		10	26.3		10
Clarks Creek: Junction City (nr), Kans.	16		24		24	16.0		24
Little Blue: DeWeese, Nebr.	8		7		7	9.25		6-7
Fancy Creek: Winkler, Kans.	11		24		24	11.85		24
Wakarusa: Lawrence (nr), Kans.	23		8		9	#25.8		8
Grand: Chillicothe, Mo.	24		1		2	28.1		1
			7		7	26.2		7
			9		12	31.25		11
			18		19	25.8		19
Sumner, Mo.	26	Jun.	30		16	31.9		12
			19		21	29.7		19
Brunswick, Mo.	12	Jun.	27		17	21.[illegible]		12
Chariton: Chariton, Iowa	15		10		10	15.85		10
			13		16	16.35		13
Novinger, Mo.	20		7		7	21.5		7
			9		9	21.9		9
Prairie Hill (nr), Mo.	15	Jun.	30		1	17.5	Jun.	30
Lamine: Clifton City, Mo.	19		2		4	30.25		3
Blackwater: Valley City, Mo.	[illegible]	Jun.	27		[illegible]	30.5		3
			10		10	25.8		10
Blue Lick, Mo.	[illegible]	Jun.	23		14	34.4		[illegible]

FLOOD STAGE DATA

(All dates in July unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Pottawatomie Creek: Garnett (nr), Kans.	26	1	2	29.6	1
Lane, Kans.	23	2	3	27.0	2
Marmaton: Ft. Scott, Kans.	38	1	2	40.65	2
Big Creek: Blairstown, Mo.	20	Jun. 26	D	23.1	Jun. 28
South Grand: Brownington, Mo.	19	Jun. 21	6	28.8	Jun. 26
Marais des Cygnes: Reading, Kans.	18	1 21	1 25	19.95 24.0	1 24
Melvern, Kans.	23	1	2	26.2	1
Quenemo, Kans.	28	2	3	32.0	3
Osawatomie, Kans.	28	Jun. 24	4	38.9	Jun. 28
La Cygne, Kans.	25	Jun. 24	6	32.3	Jun. 29
Trading Post, Kans.	24	Jun. 25	6	29.95	Jun. 30
Kansas-Missouri State Line, Kans.	25	Jun. 25	D	#32.2	Jun. 30
Little Osage: Horton, Mo.	23	2	6	27.2	4
Osage: Schell City, Mo.	25	Jun. 24	13	32.1	6
Warsaw, Mo.	31	2	10	E33.8	8
Missouri: St. Joseph, Mo.	17	Jun. 30 10 18	1 11 19	17.2 17.7 18.9	Jun. 30 10 19
Lexington, Mo.	22	2 8 10	3 8 12	22.0 22.5 22.8	2,3 8 11
Waverly, Mo.	18	Jun. 27 8 10 20	4 8 12 20	22.2 19.2 20.0 19.5	Jun. 28 8 11 20
Glasgow, Mo.	25	Jun. 27 7	4 15	27.2 29.2	Jun. 29 12
Boonville, Mo.	21	Jun. 28 7	6 15	24.0 25.9	4 12
Jefferson City, Mo.	23	Jun. 29	15	26.7	12
Hermann, Mo.	21	Jun. 23	17	27.65	12
St. Charles, Mo.	25	Jun. 29	18	31.3	14
Ohio Basin					
Tuscarawas: Massillon, Ohio	6	D	D	16.6	6
Killbuck: Killbuck, Ohio	12	D	D	26.8	6
Scioto: LaRue, Ohio	11	20	20	#11.8	20
Embarrass: Lawrenceville, Ill.	T11	11	12	#11.5	12
Muscatatuck: Austin, Ind.	16	G	24	#18.0	24
East Fork White: Columbus, Ind.	10	22	23	12.2	22
Seymour, Ind.	14	23	25	17.9	23
White: Centerton, Ind.	T603	21	21	604.5	21
Spencer, Ind.	14	21	24	17.35	23
Elliston, Ind.	18	23	25	19.6	24
Edwardsport, Ind.	15	24	27	16.4	25
Petersburg, Ind.	16	28	29	#16.3	29
Wabash: Lafayette, Ind.	11	7	7	#11.9	7
Skillet Fork: Wayne City, Ill.	15	5 8	5 13	15.5 17.5	5 12
Little Wabash: Wilcox, Ill.	16	9	15	#19.8	12
White Basin					
Cache: Patterson, Ark.	7	1	4	7.1	1
Arkansas Basin					
Neosho: LeRoy, Kans.	23	1	2	#25.9	1
Iola (nr), Kans.	20	1	3	#27.2	1
Chanute (nr), Kans.	24	1	4	#29.0	2
Oswego, Kans.	17	2	5	19.7	5
Commerce, Okla.	15	3	6	16.5	6
Petit Jean: Danville, Ark.	20	27	28	22.7	27

* Provisional
\# Highest stage observed
1/ Continued at end of month
__ Exceeded previous highest stage of record
D Data not available
G Gage inoperative
T Tentative
E Estimated

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. — 1006 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	86	17.7	15.8	16	.9
1000	31	138	17.4	14.5	17	.6
950	31	578	16.5	11.6	24	1.7
900	31	1,036	14.5	8.5	29	3.0
850	31	1,517	12.1	6.4	29	4.3
800	31	2,024	10.1	1.3	29	6.0
750	31	2,555	7.4	-2.8	28	7.7
700	31	3,124	4.7	-7.5	28	9.4
650	31	3,722	1.7	-11.0	28	10.6
600	31	4,367	-1.6	-14.6	28	11.5
550	31	5,044	-5.4	-20.2	27	14.3
500	31	5,797	-9.7	-24.0	27	14.8
450	31	6,596	-14.8	-28.4	27	16.7
400	31	7,485	-20.8	-33.8	27	18.1
350	31	8,456	-27.7	-39.8	27	21.2
300	31	9,548	-35.7	-47.2	27	24.3
250	31	10,792	-44.2		27	28.7
200	31	12,260	-52.0		28	32.9
175	31	13,118	-55.5		28	31.5
150	31	14,094	-58.1		28	26.0
125	31	15,234	-60.4		28	20.0
100	31	16,622	-60.7		28	12.6
80	31	18,018	-58.6		30	6.7
70	31	18,861	-56.8		33	2.5
60	31	19,841	-55.3		05	1.8
50	31	21,010	-53.3		07	4.3
40	31	22,455	-51.1		09	7.1
30	27	24,337	-48.2		09	9.9
25	27	25,543	-46.4		09	11.2
20	27	27,032	-44.2		09	13.7
15	24	28,984	-40.4		09	15.7
10	20	31,788	-35.4		10	16.6
7	8	34,305	-30.0			

ALBUQUERQUE, N. MEX. — 841 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,619	20.7	12.2	10	1.3
1000	31	86				
950	31	541				
900	31	1,019				
850	31	1,523				
800	31	2,048	20.2	8.6	16	2.5
750	31	2,598	17.0	5.8	20	2.6
700	31	3,186	12.8	3.5	21	2.7
650	31	3,799	8.3	.6	22	2.7
600	31	4,460	3.5	-2.5	21	2.0
550	31	5,155	-1.4	-7.6	19	2.1
500	31	5,914	-6.1	-13.2	22	3.4
450	31	6,726	-11.0	-21.3	22	3.5
400	31	7,629	-16.5	-29.0	23	4.0
350	31	8,621	-23.1	-36.6	23	5.2
300	31	9,732	-31.4	-43.0	23	5.4
250	30	10,994	-41.2		23	5.4
200	30	12,473	-52.8		24	5.4
175	30	13,322	-59.1		24	4.6
150	30	14,275	-65.3		24	3.7
125	30	15,369	-70.9		25	3.0
100	30	16,686	-71.3		15	1.0
80	30	18,019	-67.0		10	3.7
70	30	18,834	-63.4		10	5.4
60	30	19,788	-60.4		09	7.4
50	30	20,932	-57.7		09	9.1
40	30	22,351	-54.4		09	10.9
30	30	24,210	-51.0		09	11.8
25	30	25,401	-49.4		08	13.6
20	29	26,868	-46.9		08	14.7
15	26	28,791	-43.5		09	17.0
10	18	31,559	-37.8		09	18.3
7	9	34,052	-34.9			

AMARILLO, TEXAS — 893 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,095	21.6	14.4	19	2.7
1000	30	95				
950	30	546				
900	30	1,029				
850	30	1,523	22.6	12.8	21	8.4
800	30	2,049	19.9	10.0	22	8.0
750	30	2,599	16.2	6.7	23	5.8
700	30	3,186	12.1	3.3	24	3.3
650	30	3,800	7.8	-1.4	20	1.0
600	30	4,458	3.1	-5.8	12	1.4
550	30	5,152	-1.1	-11.3	17	1.0
500	30	5,914	-5.3	-17.7	19	1.0
450	30	6,729	-10.2	-23.1	27	2.4
400	30	7,633	-15.8	-28.1	28	3.7
350	30	8,626	-22.6	-35.4	28	3.7
300	30	9,738	-31.1	-42.7	29	4.4
250	30	11,004	-41.1	-48.6	31	4.4
200	30	12,484	-52.5		32	5.0
175	30	13,334	-58.7		33	5.4
150	30	14,288	-64.9		34	4.2
125	30	15,386	-70.0		34	2.6
100	30	16,707	-70.7		05	1.3
80	30	18,041	-66.9		0[illegible]	5.0
70	30	18,855	-63.2		09	6.6
60	30	19,810	-60.3		09	7.8
50	30	20,954	-57.7		09	10.1
40	30	22,372	-54.7		09	12.2
30	29	24,231	-50.8		09	13.5
25	28	25,423	-49.1		09	14.4
20	27	26,899	-46.1		09	16.5
15	23	28,827	-42.6		09	17.5
10	15	31,598	-37.9		09	21.4
7	5	34,059	-34.2			

* ANCHORAGE, ALASKA — 1008 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	45	13.0	9.1	[illegible]	2.3
1000	31	111			[illegible]	2.9
950	31	539	10.8	5.8	18	3.0
900	31	989	8.1	3.7	18	1.8
850	31	1,459	5.1	1.9	16	1.3
800	31	1,951	2.0	-1.1	16	1.1
750	31	2,471	-.8	-3.5	15	.6
700	31	3,018	-3.8	-7.2	16	.7
650	31	3,597	-7.1	-11.5	22	.3
600	31	4,220	-10.9	-17.1	25	.6
550	31	4,881	-15.1	-21.8	25	.8
500	31	5,598	-19.5	-28.0	24	.7
450	31	6,368	-24.9	-34.0	27	2.1
400	30	7,219	-31.2	-39.6	28	2.5
350	30	8,151	-38.5	-44.8	28	3.7
300	30	9,192	-46.2		29	4.5
250	30	10,385	-52.4		28	7.3
200	30	11,833	-49.3		29	7.3
175	30	12,714	-47.6		28	6.1
150	30	13,732	-47.6		28	5.1
125	30	14,936	-47.8		28	3.9
100	30	16,408	-48.1		29	2.6
80	30	17,880	-47.6		28	1.0
70	30	18,763	-47.3		32	.3
60	30	19,783	-46.9		08	.9
50	30	20,993	-46.4		07	1.8
40	30	22,478	-45.4		08	3.5
30	30	24,402	-43.9		08	5.1
25	30	25,630	-42.5		08	6.5
20	30	27,143	-40.8		09	7.5
15	27	29,106	-38.2		09	8.6
10	23	31,924	-33.2		09	11.0
7	9	34,425	-28.4			

* ANNETTE, ALASKA — 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	37	12.6	[illegible]	[illegible]	1.3
1000	31	153	11.6	[illegible]	[illegible]	1.4
950	31	574	9.2	7.0	20	2.5
900	31	1,028	6.0	[illegible]	[illegible]	3.5
850	31	1,496	4.4	.9	21	4.3
800	31	1,968	1.9	-2.1	23	4.6
750	31	[illegible]	[illegible]	-6.9	24	5.4
700	31	3,056	-3.3	-10.2	23	6.1
650	31	3,634	-6.5	-14.7	25	6.4
600	31	4,261	-10.0	-20.7	26	6.6
550	31	4,922	-13.8	-26.0	26	7.2
500	31	5,647	-18.5	-30.2	25	8.0
450	31	6,419	-23.8	-34.5	27	8.6
400	31	7,277	-30.1	-40.5	27	9.7
350	31	8,214	-37.2	-44.6	27	10.3
300	31	9,263	-44.5		28	[illegible]
250	31	10,465	-50.8		28	11.9
200	31	11,916	-50.9		27	12.2
175	31	12,788	-49.1		27	10.8
150	31	13,801	-48.9		26	9.8
125	31	14,997	-49.6		26	7.1
100	31	16,457	-49.9		26	5.8
80	31	17,916	-49.8		24	3.5
70	30	18,767	-49.6		23	2.1
60	29	19,799	-49.3		[illegible]	.7
50	29	20,996	-48.7		12	1.8
40	29	22,465	-48.0		10	3.6
30	29	24,369	-46.4		09	5.5
25	29	25,585	-45.0		09	6.3
20	28	27,083	-43.1		09	7.9
15	25	29,038	-40.0		09	9.8
10	21	31,839	-35.3		09	12.5
7	16	34,366	-30.8		09	12.9

ATHENS, GEORGIA — 988 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	22.2	20.3	27	.9
1000	31	136				
950	31	588	23.5	18.9	28	3.8
900	31	1,057	21.4	15.2	29	3.4
850	31	1,551	18.1	12.1	28	2.6
800	31	2,068	14.8	7.6	26	3.3
750	31	2,613	11.4	3.8	27	2.9
700	31	3,186	8.1	-1.0	27	2.2
650	31	3,796	4.7	-6.0	28	2.4
600	31	4,444	1.6	-12.7	26	2.3
550	31	5,135	-1.9	-17.3	27	2.7
500	31	5,893	-6.1	-22.4	28	2.7
450	31	6,707	-11.2	-27.6	28	3.1
400	31	7,606	-16.9	-33.2	28	3.6
350	31	8,594	-24.0	-39.0	28	3.8
300	31	9,701	-32.1	-46.6	30	4.0
250	31	10,961	-41.9		30	4.4
200	31	12,436	-52.9		33	5.7
175	31	13,286	-58.6		34	5.1
150	30	14,240	-64.1		34	5.5
125	30	15,344	-68.5		36	4.1
100	30	16,676	-69.2		03	4.8
80	30	18,017	-66.5		06	5.5
70	30	18,829	-64.0		07	8.5
60	30	19,781	-60.5		08	10.4
50	30	20,927	-57.0		09	11.8
40	30	22,349	-54.0		09	13.4
30	30	24,207	-51.0		09	15.3
25	28	25,398	-48.9		09	15.6
20	27	26,871	-46.5		09	17.6
15	24	28,791	-43.4		09	19.0
10	17	31,554	-38.7		09	22.3
7	6	34,011	-33.6			
5						

* BARROW, ALASKA — 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	.2	-1.0	27	1.3
1000	31	87	.1	-1.5	27	2.4
950	31	502	.4	-3.0	27	5.0
900	31	933	-.2	-4.6	26	6.5
850	31	1,389	-1.4	-8.0	27	8.6
800	31	1,872	-2.5	-11.3	27	9.6
750	31	2,383	-4.7	-12.5	27	10.2
700	31	2,923	-7.2	-15.8	27	10.5
650	31	3,495	-10.3	-19.7	27	11.9
600	31	4,110	-13.7	-23.3	27	12.9
550	31	4,762	-17.7	-27.2	27	13.2
500	31	5,474	-22.3	-31.2	27	14.4
450	31	6,236	-27.7	-36.4	27	14.3
400	31	7,076	-33.9	-42.1	28	14.7
350	31	7,998	-40.8	-45.8	28	14.9
300	31	9,031	-47.8		28	15.3
250	30	10,223	-49.6		28	14.7
200	30	11,701	-44.6		28	10.7
175	30	12,597	-44.0		23	9.0
150	30	13,631	-44.3		29	7.2
125	29	14,849	-44.3		29	5.4
100	29	16,345	-44.0		30	3.7
80	29	17,843	-43.6		31	2.2
70	29	18,741	-43.4		33	2.0
60	29	19,779	-43.1		02	2.0
50	29	21,008	-42.8		05	2.3
40	28	22,516	-42.4		06	3.7
30	22	24,465	-41.3		07	5.0
25	19	25,709	-40.3		08	6.2
20	14	27,240	-38.6		08	6.0

BARTER IS., ALASKA — 1009 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	2.6	1.4	12	.8
1000	31	84	3.7	2.0	15	.6
950	31	501	5.0	1.4	27	2.9
900	31	944	4.3	-.7	26	5.2
850	31	1,407	2.2	-2.0	26	7.7
800	31	1,895	-.3	-4.4	25	9.5
750	31	2,412	-2.9	-7.6	25	10.9
700	31	2,954	-6.1	-12.4	26	10.9
650	31	3,528	-9.4	-16.9	26	11.6
600	31	4,145	-13.0	-21.7	26	11.7
550	31	4,798	-16.9	-26.1	25	12.0
500	31	5,513	-21.6	-31.8	26	12.5
450	31	6,276	-27.1	-37.6	26	13.3
400	31	7,121	-33.2	-43.7	26	13.5
350	31	8,046	-40.3	-48.8	25	14.3
300	31	9,081	-47.5		25	14.2
250	31	10,270	-52.1		25	13.0
200	31	11,733	-45.7		26	9.8
175	31	12,626	-44.5		26	8.0
150	31	13,658	-44.5		26	7.4
125	31	14,878	-44.6		26	5.6
100	31	16,372	-44.4		27	3.8
80	31	17,869	-44.0		27	2.3
70	31	18,765	-43.7		28	1.3
60	30	19,802	-43.3		36	.3
50	30	21,032	-42.8		05	1.5
40	30	22,540	-42.2		07	3.0
30	28	24,490	-41.2		08	4.3
25	27	25,730	-40.3		08	4.4
20	27	27,258	-38.4		09	5.3
15	27	29,252	-34.9		08	6.2
10	25	32,117	-29.1		09	7.9
7	21	34,678	-24.8		08	7.2
5	5	37,121	-21.8			

BETHEL, ALASKA — 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	39	10.3	8.7	28	2.1
1000	28	121	10.1	8.1	26	2.4
950	28	543	7.9	5.6	27	3.1
900	28	991	5.6	2.2	25	2.6
850	28	1,457	3.1	.1	23	2.0
800	28	1,947	.7	-2.8	21	2.2
750	28	2,463	-1.8	-6.6	20	1.9
700	28	3,010	-4.4	-9.5	21	2.5
650	28	3,587	-7.6	-12.8	23	3.0
600	28	4,211	-11.2	-17.9	24	3.2
550	28	4,869	-15.5	-23.0	24	3.3
500	28	5,588	-20.2	-28.5	23	2.9
450	28	6,355	-25.4	-34.4	22	3.5
400	28	7,207	-31.4	-40.1	23	3.5
350	28	8,139	-38.6	-46.3	23	5.1
300	28	9,181	-46.1		24	5.9
250	28	10,375	-52.3		27	6.6
200	28	11,824	-49.6		29	6.0
175	28	12,703	-47.8		28	5.0
150	28	13,720	-47.9		29	5.2
125	28	14,922	-48.1		29	3.2
100	28	16,391	-48.6		29	1.8
80	28	17,860	-48.4		34	.8
70	28	18,739	-48.1		34	.5
60	28	19,757	-47.6		08	1.0
50	25	20,963	-47.0		08	2.1
40	26	22,440	-46.5		08	3.8
30	24	24,355	-44.9		08	6.3
25	24	25,577	-43.8		08	5.8
20	23	27,083	-42.0		08	8.3
15	20	29,049	-39.0		09	9.1
10	14	31,863	-33.6		08	10.7

* BISMARCK, N. DAK. — 956 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	503	16.1	13.3	02	.6
1000	31	113				
950	31	554			07	.6
900	31	1,014	16.7	8.9	31	1.3
850	31	1,500	14.6	7.4	28	3.5
800	31	2,011	12.2	3.8	27	5.9
750	31	2,546	9.2	-.1	27	6.9
700	31	3,118	5.6	-3.7	27	8.6
650	31	3,715	1.9	-8.1	27	10.7
600	31	4,362	-2.0	-14.0	27	12.5
550	31	5,043	-6.2	-20.8	28	15.0
500	30	5,789	-11.2	-26.2	27	17.5
450	30	6,583	-16.7	-31.1	27	18.7
400	30	7,466	-22.5	-35.9	27	21.9
350	30	8,433	-29.1	-41.7	27	23.3
300	30	9,517	-37.1	-48.1	27	26.5
250	30	10,754	-45.6		27	30.2
200	30	12,218	-51.9		27	34.8
175	30	13,079	-53.9		27	33.0
150	30	14,063	-56.7		27	29.1
125	30	15,214	-58.2		27	20.2
100	30	16,612	-59.6		27	12.3
80	30	18,013	-57.3		28	4.8
70	30	18,860	-56.0		24	1.6
60	30	19,843	-54.7		02	.5
50	30	21,014	-52.8		07	3.3
40	30	22,461	-50.6		07	5.1
30	30	24,349	-47.6		09	7.7
25	30	25,557	-46.1		09	8.7
20	28	27,046	-43.5		09	10.1
15	25	28,993	-40.3		08	11.9
10	15	31,809	-36.2		09	17.2
7	12	34,325	-29.9			
5	5	36,774	-24.8			

BOISE, IDAHO — 915 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	867	15.3	5.3	17	1.8
1000	30	105				
950	30	547				
900	30	1,011	18.6	5.3	23	1.2
850	30	1,504	20.2	2.3	32	3.5
800	30	2,024	16.9	-.3	31	3.4
750	30	2,566	13.0	-2.7	28	4.4
700	30	3,146	8.5	-4.7	27	7.2
650	30	3,749	4.0	-8.4	26	9.4
600	30	4,399	-.9	-12.4	25	11.3
550	30	5,080	-5.3	-19.8	25	12.9
500	30	5,830	-10.3	-26.2	25	13.4
450	30	6,625	-15.9	-30.9	25	15.5
400	30	7,510	-22.4	-36.5	25	18.1
350	30	8,477	-29.6	-42.4	25	20.4
300	30	9,559	-37.6	-48.8	25	23.5
250	30	10,795	-45.7		25	27.7
200	30	12,257	-52.4		25	31.2
175	30	13,115	-55.3		25	30.4
150	30	14,090	-58.7		25	26.9
125	30	15,229	-61.0		25	18.7
100	30	16,611	-62.2		24	10.3
80	30	17,994	-60.7		23	2.8
70	29	18,821	-58.8		14	1.2
60	29	19,795	-56.4		10	2.7
50	29	20,957	-54.7		09	5.9
40	29	22,392	-52.6		09	8.0
30	27	24,263	-49.7		09	10.8
25	27	25,462	-47.8		09	11.5
20	25	26,940	-45.4		09	13.1
15	22	28,870	-41.5		09	16.5
10	6	31,665	-35.8			
7						
5						
4						

BOOTHVILLE, LA. — 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1	26.6	24.6	23	1.2
1000	31	135	26.3	23.8	24	2.5
950	31	588	23.7	20.4	24	3.7
900	31	1,060	20.9	16.7	23	3.5
850	31	1,553	18.0	13.5	23	3.1
800	31	2,071	15.1	9.9	23	2.1
750	31	2,614	12.1	5.4	24	1.7
700	31	3,192	8.9	1.6	26	1.7
650	31	3,801	5.6	-3.2	28	1.4
600	31	4,454	1.8	-7.2	31	1.0
550	31	5,146	-1.9	-12.5	36	1.1
500	31	5,904	-5.9	-16.9	01	1.6
450	31	6,721	-10.5	-22.6	03	2.9
400	31	7,619	-16.2	-28.8	02	3.1
350	31	8,611	-22.8	-35.6	02	3.4
300	31	9,724	-30.8	-42.3	04	4.5
250	31	10,993	-40.5	-50.8	03	3.8
200	31	12,476	-52.1		03	4.2
175	31	13,327	-58.5		04	5.1
150	31	14,282	-64.6		04	7.0
125	31	15,383	-69.3		05	8.0
100	31	16,706	-70.3		06	8.6
80	31	18,041	-67.7		08	10.6
70	31	18,849	-64.9		09	11.8
60	30	19,797	-61.3		09	13.1
50	30	20,937	-58.2		09	14.7
40	30	22,351	-55.2		09	16.0
30	30	24,203	-51.5		09	17.6
25	29	25,391	-49.5		09	17.3
20	29	26,86[illegible]	-47.[illegible]		08	19.3
15	24	28,773	-44.1		09	22.1
10	14	31,523	-37.9		09	25.0
7	5	34,025	-31.6			

* BROWNSVILLE, TEXAS — 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	7	26.0	23.4	16	3.0
1000	31	118	25.8	23.9	16	6.4
950	31	569	23.4	20.9	17	12.6
900	31	1,042	21.6	15.2	17	12.0
850	31	1,537	19.3	10.2	17	10.0
800	31	2,056	16.7	5.5	16	6.9
750	31	2,598	13.7	1.0	14	5.4
700	31	3,182	10.3	-4.1	13	4.3
650	31	3,788	6.4	-7.1	12	4.3
600	31	4,446	2.4	-10.8	11	3.4
550	31	5,138	-1.9	-15.5	08	3.4
500	31	5,896	-6.3	-20.4	08	3.5
450	31	6,708	-11.3	-25.5	08	3.8
400	31	7,608	-16.9	-32.[illegible]	07	4.2
350	31	8,597	-23.7	-38.4	08	5.7
300	31	9,705	-31.8	-46.7	08	6.2
250	31	10,968	-41.4		08	7.1
200	31	12,446	-52.6		08	8.9
175	31	13,296	-58.8		09	9.4
150	31	14,248	-65.4		08	8.3
125	31	15,339	-71.6		07	9.3
100	31	16,649	-72.7		07	12.5
80	31	17,969	-69.1		08	14.1
70	31	18,772	-66.3		09	14.7
60	31	19,715	-62.4		09	15.3
50	31	20,850	-59.1		08	17.0
40	31	22,256	-57.0		09	19.3
30	31	24,096	-52.7		09	21.6
25	31	25,282	-49.7		09	21.7
20	30	26,753	-46.9		09	21.9
15	27	28,675	-43.9		09	23.8
10	25	31,423	-39.6		09	28.5
7	22	33,892	-34.9		09	31.0
5	15	36,257	-29.8		09	33.5
4	5	37,827	-30.1			

BUFFALO, N. Y. — 990 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	218	17.8	15.7	20	1.4
1000	31	132				
950	31	575	17.9	11.6	22	2.3
900	31	1,033	15.4	8.8	26	2.3
850	31	1,516	12.7	6.1	27	3.7
800	31	2,023	10.5	.5	27	5.6
750	31	2,558	7.6	-2.3	27	7.5
700	31	3,124	4.5	-7.[illegible]	27	8.7
650	31	3,724	1.3	-11.3	28	10.4
600	31	4,364	-2.1	-15.5	27	12.1
550	31	5,045	-5.9	-20.2	27	13.1
500	31	5,791	-10.4	-25.5	27	14.8
450	31	6,591	-15.5	-29.8	28	16.6
400	31	7,475	-21.4	-35.4	27	18.7
350	31	8,446	-28.2	-4[illegible].2	27	21.2
300	31	9,533	-36.0	-48.0	28	25.3
250	31	10,776	-44.3		28	27.4
200	30	12,246	-51.8		28	30.7
175	30	13,105	-55.1		28	28.6
150	30	14,081	-58.6		29	24.1
125	30	15,218	-61.5		28	18.4
100	30	16,600	-61.2		28	11.7
80	29	17,994	-59.9		30	6.6
70	28	18,833	-58.0		32	3.4
60	27	19,813	-55.9		04	2.7
50	27	20,978	-53.7		07	4.4
40	27	22,420	-51.4		08	6.3
30	26	24,300	-48.8		09	8.6
25	25	25,499	-47.0		09	11.5
20	23	26,962	-44.7		09	11.7
15	[illegible]	28,911	-41.6		09	14.3
10	10	31,682	-36.3			

CAPE HATTERAS, N. C. — 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	24.3	22.6	27	1.1
1000	31	138	24.8	21.5	25	2.[illegible]
950	31	585	22.2	18.1	25	4.[illegible]
900	31	1,057	19.7	14.2	26	4.8
850	31	1,540	16.8	10.9	25	5.3
800	31	2,063	14.3	6.3	26	5.5
750	31	2,603	11.6	2.1	26	5.4
700	31	3,181	8.8	-3.[illegible]	26	5.6
650	31	3,790	5.6	-6.5	26	5.9
600	31	4,442	2.0	-10.6	26	6.7
550	31	5,137	-1.6	-13.8	26	6.8
500	31	5,894	-6.0	-19.2	25	7.[illegible]
450	31	6,[illegible]	-10.8	-25.1	26	6.8
400	31	7,609	-16.8	-30.4	26	6.9
350	31	8,599	-23.5	-36.8	27	6.3
300	31	9,707	-31.8	-44.5	27	6.8
250	31	10,969	-41.6	-52.3	27	6.5
200	31	12,446	-52.6		3[illegible]	5.7
175	31	13,298	-57.8		30	6.0
150	31	14,259	-62.8		3[illegible]	5.6
125	31	15,370	-66.5		33	4.7
100	31	16,713	-67.8		35	3.3
80	31	18,066	-64.3		06	3.7
70	31	18,887	-62.1		07	5.7
60	31	19,846	-59.2		08	8.1
50	29	20,994	-56.5		08	10.7
40	28	22,422	-53.3		09	12.6
30	27	24,287	-49.8		[illegible]	[illegible]
25	[illegible]	25,464	-47.9		09	[illegible]
20	25	26,963	-45.9		09	[illegible]
15	[illegible]	28,828	-43.3		09	[illegible]
10	[illegible]	31,675	-36.9		09	[illegible]
7	5	34,152	-32.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

* CARIBOU, MAINE — 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	191	15.2	12.8	28	.9
1000	29	130				
950	29	570	14.6	7.7	25	2.8
900	29	1,021	12.3	5.0	26	3.5
850	29	1,498	9.1	2.2	26	3.8
800	29	1,998	5.9	-.4	27	4.4
750	29	2,528	3.3	-5.4	27	6.0
700	29	3,062	.7	-10.6	28	7.2
650	29	3,679	-2.4	-14.9	28	9.8
600	29	4,306	-5.5	-19.7	28	11.7
550	29	4,985	-9.4	-23.1	28	13.0
500	29	5,716	-13.8	-28.7	28	15.2
450	29	6,508	-19.2	-33.4	28	16.0
400	29	7,376	-25.1	-38.9	28	17.2
350	29	8,333	-31.9	-45.8	28	20.0
300	29	9,404	-39.7	-50.1	28	23.0
250	29	10,631	-46.8		28	28.0
200	29	12,096	-50.7		28	29.3
175	27	12,958	-51.1		28	25.3
150	27	13,957	-52.6		28	23.2
125	27	15,130	-54.3		28	18.5
100	27	16,558	-54.3		28	12.3
80	26	17,995	-53.7		28	7.8
70	26	18,856	-53.0		28	4.9
60	26	19,852	-51.9		33	1.6
50	26	21,037	-50.6		08	2.3
40	25	22,496	-48.9		08	4.2
30	25	24,395	-46.8		09	6.5
25	22	25,613	-45.4		09	8.8
20	20	27,102	-43.2		09	10.5
15	18	29,047	-40.0		09	12.6
10	14	31,852	-34.4		09	15.5
7	10	34,377	-30.3			

CHARLESTON, S. C. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	13	24.3	22.6	25	1.2
1000	31	141	24.8	22.1	25	2.3
950	31	593	23.4	19.0	25	4.2
900	31	1,064	20.9	15.1	25	3.7
850	31	1,557	17.8	11.9	25	3.4
800	31	2,074	14.7	6.3	25	3.3
750	31	2,616	11.5	4.3	25	3.6
700	31	3,192	8.6	-.1	25	3.3
650	31	3,801	5.3	-5.3	25	3.1
600	31	4,452	1.9	-10.1	25	3.3
550	31	5,145	-1.6	-14.5	24	2.7
500	31	5,904	-5.6	-20.1	24	1.9
450	31	6,718	-10.7	-25.8	24	2.
400	31	7,620	-16.4	-32.0	25	2.5
350	31	8,611	-23.3	-36.7	26	2.5
300	31	9,720	-31.7	-46.4	26	2.5
250	31	10,983	-41.6	-53.7	29	1.9
200	31	12,459	-52.6		35	3.3
175	30	13,312	-58.1		35	3.1
150	30	14,269	-63.6		36	4.2
125	30	15,374	-68.3		03	4.5
100	30	16,708	-68.5		05	4.4
80	30	18,053	-65.9		07	6.1
70	30	18,867	-63.8		08	8.0
60	30	19,820	-60.7		08	10.8
50	30	20,965	-57.1		09	13.1
40	30	22,388	-53.8		09	14.0
30	30	24,251	-50.3		09	15.2
25	30	25,448	-48.2		09	16.0
20	27	26,930	-45.7		09	16.7
15	22	28,857	-43.5		09	20.1
10	11	31,619	-37.3			
7	5	34,093	-32.6			

CHIHUAHUA, MEXICO — 858 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,428	20.4	15.8	23	.5
1000	31	83				
950	31	530				
900	31	1,005				
850	31	1,512	20.3	15.0	23	.6
800	31	2,036	18.9	11.0	18	.4
750	31	2,582	15.6	8.3	16	2.0
700	31	3,171	11.6	5.5	13	2.8
650	31	3,779	7.2	2.4	12	3.7
600	31	4,442	2.5	-2.7	11	3.5
550	31	5,129	-1.4	-8.7	11	4.3
500	31	5,895	-5.7	-15.5	11	4.9
450	31	6,703	-10.7	-20.9	11	5.3
400	31	7,612	-16.3	-27.7	11	5.0
350	31	8,603	-23.1	-33.2	11	5.6
300	31	9,714	-31.3	-42.0	09	5.0
250	31	10,979	-41.4		08	5.7
200	31	12,455	-53.2		07	7.0
175	30	13,304	-59.3		07	7.9
150	30	14,255	-65.7		08	8.4
125	27	15,344	-71.2		09	8.3
100	24	16,657	-71.8		08	7.0
80	21	17,981	-69.3		08	8.1
70	19	18,785	-66.5		09	10.4
60	16	19,724	-63.3		09	13.4
50	18	20,854	-59.7		09	15.8
40	14	22,261	-56.8		09	16.4
30	13	24,103	-52.6		09	16.5
25	12	25,288	-50.6			

* COLD BAY, ALASKA — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	10.0	7.2	22	1.0
1000	31	144	9.2	6.9	24	1.7
950	31	565	7.0	5.9	25	2.8
900	31	1,012	5.2	3.5	27	3.5
850	31	1,479	3.6	-.7	27	4.8
800	31	1,970	1.5	-3.4	27	5.5
750	31	2,486	-.5	-7.8	26	5.7
700	31	3,038	-2.6	-11.5	26	6.1
650	31	3,619	-5.7	-14.9	26	6.6
600	31	4,247	-9.3	-19.7	26	6.8
550	31	4,907	-13.4	-23.7	26	7.7
500	31	5,634	-18.2	-28.0	27	8.9
450	31	6,403	-23.3	-33.0	27	9.8
400	31	7,265	-29.4	-39.2	27	9.9
350	31	8,204	-36.4	-43.9	27	12.2
300	31	9,256	-44.0		27	14.2
250	31	10,461	-50.4		27	14.7
200	31	11,910	-51.3		27	11.9
175	31	12,781	-49.8		28	11.2
150	30	13,792	-49.8		28	9.1
125	30	14,982	-50.4		28	6.3
100	30	16,437	-50.5		28	4.9
80	30	17,892	-50.4		31	2.1
70	30	18,764	-50.0		34	.9
60	30	19,773	-49.3		04	1.2
50	29	20,970	-48.7		07	2.2
40	29	22,440	-47.6		08	3.8
30	29	24,348	-45.9		09	4.9
25	29	25,565	-44.7		09	6.3
20	29	27,064	-42.9		09	7.4
15	29	29,016	-40.4		09	9.7
10	25	31,803	-35.5		09	10.6
7	22	34,295	-33.0		08	11.2
5	17	36,679	-30.8		08	11.9
4	12	38,253	-29.7		08	12.3
3	10	40,322	-27.9			
2	6	43,199	-25.7			

COLUMBIA, MO. — 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	236	22.0	20.0	14	1.1
1000	31	120				
950	31	569	23.5	18.5	23	2.4
900	31	1,040	21.5	15.5	26	4.9
850	31	1,534	18.5	12.4	27	6.1
800	31	2,053	15.4	8.1	27	6.9
750	31	2,592	11.9	4.1	28	5.9
700	31	3,173	8.6	-1.9	29	5.9
650	31	3,777	5.0	-7.7	30	6.4
600	31	4,432	1.0	-11.3	29	7.6
550	30	5,122	-3.0	-16.0	29	8.1
500	30	5,877	-7.2	-22.3	29	9.0
450	30	6,687	-11.8	-27.5	30	9.8
400	30	7,587	-17.5	-32.2	30	11.1
350	30	8,574	-24.2	-38.1	30	13.8
300	30	9,679	-32.4	-44.9	31	16.4
250	30	10,940	-41.7		31	15.5
200	30	12,416	-52.7		31	14.5
175	30	13,267	-58.4		30	13.8
150	30	14,224	-63.4		30	12.3
125	30	15,332	-67.2		30	10.6
100	30	16,673	-68.3		31	6.4
80	30	18,023	-64.8		01	2.6
70	30	18,843	-62.0		06	3.6
60	30	19,802	-59.3		08	5.2
50	29	20,951	-56.9		08	6.6
40	29	22,374	-53.9		08	8.3
30	27	24,232	-50.6		09	9.9
25	26	25,424	-48.9		09	11.4
20	22	26,897	-46.5		09	13.3
15	16	28,812	-42.4		09	16.7
10	8	31,593	-37.1			

DAYTON, OHIO — 981 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	297	19.6	18.5	17	.7
1000	30	130				
950	30	573	21.0	16.5	25	3.0
900	30	1,042	18.7	12.9	27	4.3
850	30	1,531	15.9	8.9	27	5.7
800	30	2,044	13.1	4.6	28	6.9
750	30	2,581	10.2	.1	28	7.3
700	30	3,156	7.3	-4.9	28	7.6
650	30	3,758	3.8	-9.4	28	8.9
600	30	4,408	.3	-15.0	28	9.8
550	30	5,096	-3.4	-19.6	28	10.7
500	30	5,849	-7.7	-24.6	27	11.5
450	30	6,656	-12.8	-28.7	28	12.5
400	30	7,550	-18.7	-33.2	28	13.0
350	30	8,532	-25.6	-38.8	28	15.0
300	30	9,631	-33.5	-46.7	28	16.3
250	30	10,886	-42.4		28	18.5
200	30	12,362	-51.8		28	21.3
175	30	13,217	-56.7		29	17.2
150	30	14,183	-61.5		29	15.6
125	29	15,299	-65.7		29	14.0
100	29	16,655	-65.0		30	9.9
80	29	18,024	-62.4		33	3.3
70	29	18,855	-59.9		04	3.0
60	29	19,823	-57.8		07	4.7
50	29	20,979	-55.6		08	7.7
40	29	22,413	-52.5		09	9.6
30	29	24,288	-49.3		09	11.1
25	28	25,491	-47.3		09	11.7
20	25	26,984	-44.9		09	14.9
15	16	28,907	-41.1		09	16.6

DEL RIO, TEXAS — 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	314	26.1	20.5	11	4.2
1000	31	108				
950	31	560	24.6	19.6	14	7.8
900	31	1,036	22.3	17.1	16	9.6
850	31	1,533	20.6	13.8	16	8.8
800	31	2,055	17.3	10.8	16	6.7
750	31	2,602	14.2	5.4	15	5.1
700	31	3,185	11.1	-1.0	13	4.2
650	31	3,796	7.4	-6.0	11	3.4
600	31	4,454	3.2	-10.9	10	3.4
550	31	5,144	-1.3	-15.3	08	3.7
500	31	5,908	-5.8	-19.9	09	4.3
450	31	6,718	-10.9	-24.9	10	5.4
400	31	7,623	-16.6	-30.7	09	6.4
350	31	8,614	-23.2	-38.1	09	7.2
300	31	9,724	-31.6	-44.6	08	8.0
250	31	10,987	-41.5	-52.6	07	7.9
200	31	12,463	-53.1		06	8.9
175	31	13,311	-59.3		07	8.3
150	31	14,262	-65.5		07	8.3
125	31	15,355	-71.1		08	7.4
100	31	16,666	-72.8		08	8.2
80	31	17,987	-68.6		09	10.7
70	31	18,793	-64.9		09	10.9
60	31	19,740	-62.4		09	11.8
50	30	20,875	-59.5		09	14.0
40	29	22,282	-56.2		09	17.2
30	25	24,127	-52.3		09	18.5
25	23	25,313	-49.3		09	19.3
20	21	26,784	-46.7		09	18.4
15	18	28,697	-44.1		09	20.0
10	16	31,442	-39.0		09	25.5
7	11	33,909	-34.4			

DENVER, COLO. — 840 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,611	16.6	11.7	20	1.1
1000	31	94				
950	31	542				
900	31	1,015				
850	31	1,509				
800	31	2,029	18.4	6.8	27	2.4
750	31	2,578	16.6	2.9	28	2.7
700	31	3,166	12.9	-.5	29	3.0
650	31	3,777	8.4	-5.0	28	3.7
600	31	4,439	3.0	-8.4	28	4.1
550	31	5,131	-2.5	-11.3	28	5.3
500	31	5,886	-7.7	-17.7	27	7.2
450	31	6,696	-12.6	-25.0	27	8.5
400	31	7,589	-18.3	-31.7	26	11.7
350	31	8,574	-24.6	-38.3	26	14.9
300	31	9,678	-32.6	-45.2	26	18.9
250	31	10,939	-41.8		26	21.6
200	31	12,416	-52.4		26	23.0
175	31	13,268	-58.2		26	19.9
150	31	14,225	-64.0		26	18.0
125	31	15,329	-68.4		27	13.3
100	31	16,664	-68.2		25	5.5
80	31	18,015	-63.9		19	1.6
70	31	18,839	-61.0		10	2.3
60	31	19,801	-58.9		09	5.0
50	31	20,954	-55.9		09	7.6
40	31	22,383	-53.1		09	8.9
30	30	24,250	-50.1		09	10.5
25	30	25,445	-48.4		09	11.9
20	29	26,919	-46.2		09	14.1
15	26	28,845	-42.4		09	15.7
10	18	31,615	-36.3		09	18.4
7	8	34,123	-31.7			

DODGE CITY, KANS. — 925 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	791	21.4	17.2	17	2.3
1000	31	102				
950	31	553				
900	31	1,024	22.9	15.8	20	6.5
850	31	1,523	21.9	12.8	22	10.7
800	31	2,047	19.3	9.3	23	9.6
750	31	2,594	15.8	5.9	24	7.1
700	31	3,183	11.7	3.0	25	5.6
650	31	3,794	7.5	-1.1	25	3.9
600	31	4,453	2.8	-6.3	25	2.9
550	31	5,147	-1.4	-12.6	27	3.5
500	31	5,906	-6.2	-17.5	28	4.3
450	31	6,718	-11.3	-22.2	28	6.3
400	31	7,619	-16.7	-27.6	28	8.3
350	31	8,609	-23.3	-33.7	28	10.0
300	31	9,720	-31.4	-42.1	28	9.9
250	31	10,986	-41.5		28	11.0
200	31	12,464	-52.8		29	11.7
175	31	13,315	-58.7		30	11.4
150	31	14,269	-64.6		30	10.3
125	31	15,369	-69.1		29	7.6
100	31	16,697	-69.9		30	3.4
80	31	18,037	-66.1		10	2.1
70	31	18,852	-62.6		09	4.0
60	31	19,808	-60.0		09	6.2
50	31	20,953	-57.5		09	8.2
40	30	22,372	-54.3		09	10.0
30	29	24,229	-51.0		09	11.6
25	27	25,422	-48.5		09	12.3
20	26	26,896	-46.3		09	14.2
15	23	28,813	-43.3		09	15.8
10	19	31,581	-37.7		09	18.4
7	8	34,027	-33.4			

EL PASO, TEXAS — 882 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,193	23.0	14.9	16	.4
1000	31	85				
950	31	537				
900	31	1,016				
850	31	1,521	23.0	13.0	16	1.4
800	31	2,047	20.3	10.1	18	2.9
750	31	2,597	16.6	7.3	19	3.3
700	31	3,186	12.2	4.8	17	2.0
650	31	3,798	7.6	.8	12	2.9
600	31	4,458	3.0	-3.8	11	3.8
550	31	5,152	-1.4	-8.8	12	4.3
500	31	5,911	-5.9	-15.3	12	3.9
450	31	6,723	-10.9	-21.2	13	3.9
400	31	7,626	-16.4	-29.9	15	3.9
350	31	8,617	-23.1	-35.8	14	2.8
300	31	9,729	-31.3	-42.7	12	2.1
250	31	10,995	-41.3		10	3.1
200	31	12,474	-53.1		09	3.6
175	31	13,322	-59.5		09	4.3
150	31	14,272	-65.8		09	3.6
125	31	15,364	-71.2		10	3.7
100	31	16,677	-71.8		08	4.1
80	31	18,005	-68.0		09	7.4
70	31	18,813	-65.3		09	8.4
60	31	19,759	-62.2		09	10.6
50	31	20,895	-59.0		09	13.0
40	30	22,305	-55.7		09	14.5
30	30	24,154	-51.8		09	15.3
25	29	25,343	-49.7		09	16.3
20	28	26,808	-48.0		09	18.0
15	27	28,725	-44.4		09	19.8
10	26	31,475	-38.7		09	23.2
7	12	33,918	-35.7			

ELY, NEV. — 811 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,908	12.3	4.5	19	3.0
1000	31	112				
950	31	553				
900	31	1,020				
850	31	1,514				
800	31	2,028	15.8	5.3	18	3.4
750	31	2,574	15.9	1.6	19	3.6
700	31	3,161	12.0	-1.9	22	4.7
650	31	3,768	7.2	-5.2	21	5.2
600	31	4,429	1.9	-8.0	21	6.3
550	31	5,116	-3.5	-13.5	21	6.9
500	31	5,871	-8.5	-19.2	22	8.1
450	31	6,673	-13.5	-28.5	23	10.1
400	31	7,567	-20.0	-33.5	24	12.6
350	30	8,545	-27.1	-39.9	24	14.7
300	30	9,638	-35.0	-46.3	24	18.1
250	30	10,887	-43.4		24	23.7
200	30	12,360	-52.2		23	26.6
175	30	13,215	-57.3		24	26.2
150	30	14,178	-62.4		24	23.0
125	30	15,292	-66.2		24	16.0
100	30	16,641	-67.2		23	5.9
80	30	17,997	-63.6		20	1.9
70	30	18,822	-60.7		12	1.9
60	30	19,786	-58.5		09	4.4
50	30	20,937	-56.5		09	6.2
40	29	22,364	-53.5		09	8.8
30	26	24,222	-50.5		09	10.8
25	26	25,416	-48.5		09	11.5
20	26	26,894	-45.9		09	14.1
15	23	28,824	-42.2		09	16.1
10	21	31,594	-37.7		09	18.4
7	16	34,081	-32.8		09	19.9
5	7	36,434	-29.6			

EMPALME, MEXICO — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	12	27.4	23.7	11	1.3
1000	31	107	27.6	23.2	12	1.6
950	31	558	26.4	19.3	14	3.2
900	31	1,039	24.5	15.9	14	2.9
850	31	1,538	21.8	13.5	13	2.2
800	31	2,062	18.6	10.5	10	1.7
750	31	2,608	15.0	7.3	10	1.7
700	31	3,194	11.4	3.6	10	1.7
650	31	3,804	7.5	.0	12	2.1
600	31	4,464	2.8	-3.1	14	2.7
550	31	5,162	-1.4	-8.0	12	2.2
500	31	5,917	-5.7	-15.6	11	2.7
450	31	6,734	-10.6	-19.8	12	3.2
400	31	7,634	-15.8	-26.8	12	3.5
350	31	8,626	-22.7	-32.8	12	4.3
300	31	9,738	-30.9	-41.8	12	5.2
250	31	11,005	-41.0	-53.1	11	6.4
200	31	12,481	-53.2		11	7.8
175	30	13,328	-59.9		11	8.1
150	30	14,275	-66.0		11	8.3
125	30	15,365	-71.5		12	7.1
100	29	16,671	-72.4		09	5.9
80	29	17,994	-68.6		09	8.8
70	29	18,801	-65.4		09	11.3
60	27	19,744	-63.1		09	13.5
50	27	20,877	-59.0		09	15.5
40	27	22,285	-56.9		09	15.4
30	25	24,123	-53.1		09	17.4
25	25	25,305	-50.6		09	19.3
20	24	26,770	-47.4		09	20.6
15	23	28,692	-44.4		09	19.1
10	15	31,446	-39.3			
7	5	33,904	-34.9			

* FAIRBANKS, ALASKA — 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	135	11.3	8.9	20	1.0
1000	31	91				
950	31	522	11.2	6.9	26	3.7
900	31	971	8.9	3.8	27	5.3
850	31	1,442	5.5	1.6	27	5.3
800	31	1,935	1.8	-.6	27	4.9
750	31	2,455	-1.5	-4.1	27	5.1
700	31	2,999	-4.9	-7.4	26	5.3
650	31	3,579	-8.4	-12.2	27	5.7
600	31	4,196	-12.0	-18.5	26	4.8
550	31	4,855	-16.1	-23.2	26	4.6
500	31	5,569	-20.8	-29.9	26	4.6
450	31	6,337	-26.5	-35.9	26	4.8
400	31	7,181	-32.9	-42.5	26	5.3
350	31	8,106	-40.1	-47.3	27	5.8
300	31	9,141	-47.5		27	7.5
250	31	10,329	-52.6		28	8.1
200	31	11,779	-47.8		27	6.5
175	31	12,663	-46.6		27	5.5
150	31	13,687	-46.5		27	4.4
125	31	14,805	-46.9		27	4.4
100	31	16,374	-46.8		27	2.7
80	31	17,855	-46.2		29	1.1
70	31	18,743	-45.9		35	.5
60	31	19,769	-45.5		08	.9
50	30	20,987	-45.0		07	1.9
40	30	22,481	-44.2		07	4.3
30	30	24,415	-42.8		08	5.4
25	29	25,647	-41.7		08	6.4
20	28	27,170	-39.9		09	8.1
15	23	29,144	-37.0		09	8.3
10	21	31,978	-31.9		08	9.9
7	5	34,466	-28.1			

FLINT, MICH. — 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	236	16.6	14.1	16	.6
1000	31	127				
950	31	567	18.1	12.0	24	1.0
900	31	1,029	16.0	9.2	29	3.4
850	31	1,514	13.4	5.3	29	5.1
800	31	2,022	11.0	1.4	29	6.0
750	31	2,557	8.3	-3.1	29	7.5
700	31	3,125	5.2	-7.8	29	8.2
650	31	3,725	1.8	-11.8	29	9.9
600	31	4,370	-1.8	-15.6	29	12.3
550	31	5,052	-5.6	-21.7	29	13.2
500	31	5,800	-10.0	-25.8	28	14.9
450	31	6,599	-15.2	-31.2	28	16.8
400	30	7,481	-21.4	-37.6	28	18.5
350	30	8,453	-27.9	-43.0	28	21.7
300	30	9,542	-35.7	-49.0	28	25.1
250	30	10,788	-43.7		28	29.3
200	30	12,263	-51.1		29	29.5
175	30	13,124	-54.7		29	26.7
150	30	14,101	-58.7		29	25.8
125	30	15,237	-61.8		29	18.6
100	30	16,616	-61.5		29	11.6
80	30	18,003	-60.1		30	6.6
70	30	18,840	-58.5		34	3.5
60	30	19,813	-56.7		04	3.1
50	30	20,975	-54.4		07	4.9
40	30	22,414	-51.9		08	7.7
30	29	24,292	-49.0		09	10.4
25	29	25,493	-47.4		09	11.8
20	27	26,980	-45.1		09	14.0
15	26	28,920	-41.7		09	15.1
10	23	31,707	-36.6		09	16.3
7	8	34,166	-33.2			

FORT WORTH, TEXAS — 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	180	25.6	20.2	20	1.7
1000	31	120				
950	31	577	25.9	18.3	21	8.2
900	31	1,049	23.9	14.7	20	7.0
850	31	1,548	20.7	11.7	19	4.9
800	31	2,070	17.3	6.2	18	3.3
750	31	2,614	13.8	3.6	16	2.2
700	31	3,197	10.2	-1.4	12	1.6
650	31	3,810	6.5	-6.9	10	1.9
600	31	4,462	2.3	-11.2	10	2.4
550	31	5,159	-1.4	-16.8	08	2.8
500	31	5,915	-5.4	-22.5	08	2.7
450	31	6,731	-10.7	-28.3	08	3.0
400	31	7,631	-16.4	-32.7	06	3.1
350	31	8,623	-23.2	-38.2	03	3.7
300	31	9,733	-31.4	-45.9	02	4.8
250	31	10,999	-41.2	-53.4	02	6.3
200	31	12,475	-53.2		01	6.3
175	31	13,323	-59.5		02	6.1
150	31	14,274	-65.4		03	4.6
125	31	15,370	-70.3		04	3.3
100	31	16,667	-71.6		07	6.2
80	31	18,013	-67.7		09	7.6
70	31	18,824	-64.2		08	8.5
60	30	19,773	-61.2		09	9.7
50	29	20,911	-58.4		09	11.1
40	29	22,323	-55.5		09	13.6
30	28	24,169	-51.7		09	15.0
25	28	25,356	-49.0		09	16.4
20	28	26,832	-46.4		09	17.4
15	26	28,760	-43.2		09	19.0
10	23	31,525	-38.0		09	20.8
7	6	34,012	-33.8			

*See reference note at end of table

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT. 934 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	696	13.0	[illegible]	06	1.5
1000	31	114				
950	31	550				
900	31	1,010	16.9	8.6	24	.7
850	31	1,496	14.8	5.3	27	3.8
800	31	2,006	11.7	2.7	28	6.0
750	31	2,543	8.4	-.9	28	7.9
700	31	3,111	4.8	-5.2	28	10.1
650	31	3,705	.9	-9.4	28	12.8
600	31	4,350	-3.0	-15.4	28	15.2
550	31	5,023	-7.6	-20.7	27	16.7
500	31	5,769	-12.4	-26.0	27	17.4
450	31	6,558	-17.9	-32.3	27	19.5
400	31	7,436	-24.1	-37.3	27	22.0
350	31	8,395	-31.4	-43.9	27	24.4
300	31	9,468	-39.3	-50.6	27	27.1
250	31	10,696	-46.9		27	29.6
200	31	12,155	-51.3		27	32.6
175	31	13,021	-52.4		27	31.6
150	31	14,013	-54.2		27	26.6
125	31	15,177	-56.2		27	19.6
100	31	16,590	-57.0		27	11.7
80	31	18,004	-56.3		27	6.1
70	31	18,855	-55.0		27	2.5
60	31	19,843	-53.7		07	.6
50	31	21,018	-52.2		09	2.5
40	31	22,467	-50.3		09	5.2
30	30	24,355	-47.4		09	7.7
25	30	25,565	-45.6		09	8.8
20	29	27,081	-43.1		09	10.3
15	26	29,015	-39.6		09	12.5
10	11	31,824	-34.4			
7						

GRAND JUNCTION, COLO. 853 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,472	20.4	7.2	12	3.9
1000	31	71				
950	31	523				
900	31	1,001				
850	31	1,502			13	3.9
800	31	2,027	20.7	5.0	15	4.3
750	31	2,580	17.6	2.3	20	2.6
700	31	3,167	13.4	-.6	24	4.1
650	31	3,782	9.4	-3.0	24	4.8
600	31	4,441	3.2	-6.6	24	5.4
550	31	5,136	-2.5	-10.0	23	6.0
500	31	5,889	-7.8	-15.8	23	7.4
450	31	6,697	-12.3	-25.6	25	7.5
400	31	7,593	-18.3	-31.9	25	10.0
350	31	8,577	-24.8	-37.9	25	12.5
300	31	9,681	-32.7	-44.0	25	16.1
250	31	10,940	-41.8		25	18.8
200	31	12,417	-52.2		25	19.1
175	31	13,270	-58.0		25	17.5
150	31	14,228	-63.8		25	15.7
125	31	15,330	-68.8		25	10.7
100	31	16,660	-69.3		25	5.5
80	31	18,006	-64.6		21	2.1
70	31	18,829	-61.1		12	2.6
60	31	19,790	-59.2		10	4.1
50	31	20,940	-56.5		09	6.0
40	30	22,363	-53.4		09	7.6
30	30	24,228	-50.5		09	10.3
25	30	25,422	-48.0		09	11.9
20	27	26,895	-46.4		09	13.4
15	16	28,817	-42.5		09	14.8

*** GREAT FALLS, MONT. 889 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,118	14.0	6.9	24	3.3
1000	31	105				
950	31	548				
900	31	1,014				
850	31	1,495	15.9	3.3	25	3.7
800	31	2,008	13.0	.2	27	4.4
750	31	2,540	9.0	-1.8	27	5.6
700	31	3,115	4.7	-4.7	26	7.8
650	31	3,709	.5	-9.2	26	10.5
600	31	4,353	-3.5	-15.4	25	13.6
550	31	5,026	-8.0	-19.1	26	15.5
500	31	5,770	-12.8	-24.4	26	16.7
450	31	6,557	-18.2	-30.8	26	18.8
400	31	7,436	-24.0	-38.4	26	21.6
350	31	8,396	-31.1	-44.7	26	23.9
300	31	9,469	-39.3	-51.3	26	28.3
250	31	10,694	-47.7		26	31.4
200	30	12,145	-51.5		26	32.7
175	30	13,008	-53.1		26	30.5
150	29	13,997	-55.1		26	27.3
125	28	15,157	-56.6		26	19.9
100	28	16,568	-57.4		25	12.8
80	28	17,980	-56.8		25	4.9
70	27	18,830	-55.5		25	2.7
60	27	19,817	-54.0		11	.9
50	26	20,992	-52.4		09	3.2
40	26	22,441	-50.3		09	4.5
30	26	24,331	-47.9		09	7.1
25	25	25,539	-46.1		09	8.4
20	24	27,032	-43.5		09	9.3
15	22	28,977	-40.1		09	11.6
10	19	31,776	-34.7		09	15.7
7	14	34,292	-30.1		09	17.1

GREEN BAY, WIS. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	29	210	15.2	[illegible]	03	.5
1000	29	119				
950	29	556	17.6	[illegible]	35	1.1
900	29	1,018	15.8	8.6	32	1.7
850	29	1,502	13.4	4.5	31	3.1
800	29	2,011	11.1	.7	29	4.5
750	29	2,543	8.1	-2.6	29	5.9
700	29	3,114	5.2	[illegible]	29	8.5
650	27	3,711	1.9	-12.4	29	[illegible]
600	29	4,357	-2.1	-16.6	29	11.4
550	29	5,035	-6.4	-20.5	29	13.1
500	29	5,782	-11.0	-26.5	29	13.9
450	28	6,576	-16.2	-33.5	29	15.6
400	28	7,456	-22.2	-38.7	29	18.3
350	28	8,425	-28.7	[illegible]	29	22.2
300	28	9,512	-36.3	-48.5	29	26.2
250	28	10,756	-44.3		29	30.8
200	28	12,228	-50.7		28	34.2
175	28	13,092	-53.9		28	31.2
150	27	14,068	-57.6		29	27.5
125	27	15,211	-60.2		29	20.9
100	27	16,603	-59.9		29	13.3
80	27	17,999	-58.4		30	7.6
70	27	18,841	-57.3		32	4.7
60	27	19,818	-55.8		36	2.9
50	27	20,984	-54.0		06	3.5
40	25	22,422	-51.6		07	5.4
30	25	24,301	-48.6		08	8.3
25	24	25,507	-46.8		09	9.4
20	24	26,994	-44.3		09	11.4
15	20	28,946	-41.0		09	12.6
10	13	31,726	-35.6		09	15.3
7	7	34,217	-32.2			

GREENSBORO, N.C. [illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	273	22.3	20.7	25	.7
1000	31	139				
950	31	585	22.4	18.1	25	3.3
900	31	1,057	20.5	14.0	23	3.7
850	31	1,550	17.6	11.7	28	4.1
800	31	2,067	14.4	6.9	28	4.6
750	31	2,607	11.6	.6	28	4.6
700	31	3,184	8.1	-2.2	28	4.5
650	31	3,793	4.9	-6.5	28	5.8
600	31	4,441	1.4	[illegible]	[illegible]	5.8
550	31	5,132	[illegible]	[illegible]	29	5.6
500	31	[illegible]	-6.1	-23.4	28	6.8
450	31	6,703	[illegible]	[illegible]	[illegible]	6.8
400	31	[illegible]	-17.1	[illegible]	27	7.3
350	31	8,589	-24.2	[illegible]	27	8.0
300	31	[illegible]	-32.4	[illegible]	27	8.2
250	31	10,954	-42.1		28	8.0
200	31	[illegible]	-52.9		29	7.7
175	31	[illegible]	[illegible]		30	7.7
150	31	14,236	-63.4		32	6.5
125	31	15,345	-67.3		31	4.9
100	31	16,685	-68.1		35	3.5
80	31	18,037	-64.8		03	3.7
70	31	18,856	-62.3		06	5.6
60	31	19,814	-59.8		08	7.5
50	31	20,961	-56.9		09	9.8
40	31	22,386	-53.5		09	11.4
30	31	24,252	-50.0		09	12.9
25	31	25,45[illegible]	-47.6		09	13.7
20	31	26,930	-46.[illegible]		09	15.1
15	28	28,856	-43.1		09	17.1
10	17	31,611	-38.1			

*** GUAM, MARIANA IS. 998 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	111	25.5	23.8	10	3.0
1000	31	95				
950	31	547	23.9	21.7	10	7.7
900	31	1,020	21.3	18.0	11	7.5
850	31	1,514	18.6	14.5	11	6.8
800	31	2,033	15.8	11.3	11	6.6
750	31	2,580	12.9	7.2	10	6.4
700	31	3,157	9.9	2.7	10	6.2
650	31	3,771	6.4	-1.7	10	5.7
600	31	4,421	2.7	-7.0	10	5.7
550	31	5,117	-1.2	-10.6	09	5.3
500	31	5,875	-5.4	-16.2	09	5.2
450	30	6,692	-10.3	-21.6	10	4.1
400	30	7,592	-15.6	-28.6	08	3.9
350	30	8,586	-22.5	-35.3	08	3.2
300	30	9,698	-30.9	-42.5	09	.8
250	30	10,964	-40.9	-45.2	23	1.1
200	30	12,460	-53.3		26	3.1
175	30	13,285	-60.5		27	3.4
150	30	14,227	-68.2		31	4.3
125	29	15,299	-76.1		33	2.5
100	27	16,570	-77.7		07	5.3
80	26	17,872	-71.4		09	11.1
70	25	18,669	-68.5		09	12.6
60	25	19,601	-65.5		09	13.3
50	25	20,720	-61.7		09	13.7
40	25	22,115	-58.2		08	13.8
30	24	23,948	-53.9		09	14.7
25	24	25,128	-50.6		09	15.2
20	24	26,587	-49.6		09	15.7
15	24	28,479	-47.3		09	18.0
10	22	31,175	-44.8		09	22.3
7	13	33,576	-40.9		09	31.1
5	6	35,861	-38.6			

HILO, HAWAII 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	11	22.0	19.9	22	1.8
1000	31	149	22.5	19.4	24	1.1
950	31	595	19.4	17.2	08	2.1
900	31	1,058	16.3	14.1	08	3.6
850	31	1,544	13.3	11.6	09	4.9
800	31	2,053	11.0	6.6	09	5.6
750	31	2,593	9.2	-2.9	09	5.9
700	31	3,160	7.5	-9.0	09	6.1
650	31	3,768	5.8	-14.7	09	5.0
600	31	4,420	2.6	-19.6	09	3.5
550	31	5,113	-1.5	-23.0	11	2.1
500	31	5,871	-6.4	-27.2	15	1.0
450	31	6,681	-12.2	-31.1	24	2.1
400	31	7,576	-18.8	-35.9	26	4.5
350	31	8,557	-26.1	-41.7	26	8.1
300	31	9,654	-34.4	-48.2	26	12.5
250	31	10,904	-43.8		27	17.3
200	31	12,367	-55.0		27	20.1
175	31	13,209	-60.8		27	19.5
150	30	14,153	-65.9		26	16.4
125	30	15,246	-70.8		25	10.3
100	30	16,562	-71.9		17	2.4
80	30	17,885	-68.8		10	8.1
70	30	18,688	-66.5		09	10.8
60	30	19,627	-63.6		09	13.5
50	30	20,754	-60.8		09	15.0
40	30	22,148	-58.6		09	16.7
30	30	23,971	-54.4		09	18.4
25	28	25,146	-51.9		09	18.8
20	26	26,600	-49.0		09	20.3
15	25	28,499	-45.9		10	21.2
10	18	31,218	-42.1		09	25.6
7	10	33,648	-39.8			

HUNTINGTON W. VA. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	246	20.9	19.4	18	.8
1000	31	135				
950	31	582	22.0	17.8	26	2.4
900	31	1,050	19.7	14.8	27	4.3
850	31	1,541	16.8	11.5	27	5.3
800	31	2,056	13.8	6.5	27	7.1
750	31	2,596	10.6	1.6	27	7.9
700	31	3,171	7.6	-5.0	27	7.1
650	31	3,777	4.5	-9.7	28	7.4
600	31	4,427	1.2	-15.2	28	8.2
550	31	5,118	-2.4	-19.6	28	9.4
500	31	5,873	-6.8	-24.0	28	10.0
450	31	6,685	-12.0	-30.4	28	10.3
400	31	7,580	-17.8	-36.7	28	10.6
350	31	8,565	-24.9	-41.3	28	12.0
300	31	9,668	-32.9	-48.6	28	12.3
250	31	10,927	-42.1		28	12.9
200	31	12,404	-52.1		28	14.3
175	31	13,259	-56.8		29	13.8
150	31	14,224	-61.9		29	12.0
125	31	15,339	-66.4		30	10.0
100	31	16,691	-65.7		31	5.6
80	31	18,056	-62.8		01	2.8
70	31	18,906	-60.7		06	3.8
60	31	19,851	-58.2		08	6.0
50	31	21,005	-55.7		08	7.9
40	30	22,437	-52.8		09	9.2
30	28	24,307	-49.3		09	11.2
25	27	25,510	-47.0		09	12.7
20	27	26,993	-44.7		08	13.1
15	24	28,936	-41.6		09	17.2
10	17	31,715	-37.3		09	19.5

*** INTERNATIONAL FALLS, MINN. 972 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	360	12.7	9.6	18	.6
1000	31	116				
950	31	547	15.5	10.7	20	1.4
900	31	1,008	14.1	7.7	25	2.9
850	31	1,486	11.3	4.6	27	4.0
800	31	1,993	8.7	-.6	28	5.7
750	31	2,520	5.7	-5.3	29	7.2
700	31	3,086	2.8	-9.2	29	8.7
650	31	3,676	-.6	-14.7	29	11.1
600	31	4,318	-4.2	-19.7	29	12.0
550	31	4,989	-7.8	-25.4	29	12.8
500	31	5,734	-12.3	-30.6	29	14.7
450	31	6,521	-17.8	-35.6	29	15.9
400	31	7,403	-24.1	-40.2	29	19.1
350	31	8,363	-31.1	-46.0	29	21.8
300	31	9,439	-38.8	-50.0	29	26.6
250	31	10,669	-46.4		28	33.3
200	30	12,130	-51.4		28	36.1
175	30	12,997	-51.7		28	31.9
150	30	13,992	-53.7		28	27.1
125	29	15,161	-55.6		28	19.9
100	29	16,580	-56.5		29	14.2
80	29	17,999	-55.4		29	7.6
70	29	18,851	-54.5		30	5.5
60	29	19,841	-53.6		33	2.6
50	29	21,018	-51.9		03	2.3
40	29	22,470	-49.7		07	4.6
30	27	24,361	-47.3		08	6.0
25	26	25,573	-45.5		09	7.8
20	24	27,074	-43.2		09	9.1
15	22	29,023	-39.9		09	11.0
10	14	31,810	-35.0		09	13.8
7	5	34,357	-29.1			

JACKSON, MISS. 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	100	23.4	22.5	18	1.2
1000	31	132	23.6	[illegible]	20	1.2
950	31	584	23.8	19.2	24	3.8
900	31	1,056	21.4	16.4	23	2.8
850	31	1,550	18.3	13.5	23	1.8
800	31	2,068	15.1	9.4	23	1.2
750	31	2,608	11.9	5.8	25	.3
700	31	3,188	8.8	.0	02	1.3
650	31	3,796	5.5	-4.1	02	2.2
600	31	4,449	1.8	-8.0	02	2.4
550	31	5,141	-1.7	-13.3	02	2.8
500	31	5,900	-5.9	-19.2	02	3.5
450	31	6,714	-10.7	-25.8	01	3.9
400	31	7,616	-16.5	-32.1	01	4.8
350	31	8,606	-23.5	-38.8	36	5.4
300	31	9,715	-31.8	-44.5	35	6.3
250	31	10,977	-41.6		35	6.2
200	31	12,454	-52.7		33	6.0
175	31	13,304	-58.7		34	6.7
150	31	14,259	-64.5		36	5.8
125	31	15,360	-69.2		03	6.3
100	31	16,686	-70.1		05	7.1
80	31	18,020	-68.0		07	8.2
70	31	18,827	-65.1		08	9.3
60	31	19,776	-61.1		08	10.3
50	31	20,917	-58.1		09	12.2
40	31	22,333	-55.0		09	13.9
30	30	24,186	-51.2		09	15.0
25	30	25,376	-49.3		09	15.6
20	30	26,846	-47.3		09	16.8
15	27	28,762	-44.1		08	19.4
10	17	31,508	-39.2		09	23.2
7	8	33,97[illegible]	-35.5			

JOHN F. KENNEDY INT. AP NY 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	5	20.9	16.2	31	.7
1000	30	139	20.0	14.9	28	1.5
950	30	584	18.6	12.4	28	2.7
900	30	1,044	16.5	10.8	28	3.6
850	30	1,530	14.2	7.9	25	4.4
800	30	2,040	11.6	3.2	28	6.0
750	30	2,578	9.5	-1.1	28	7.5
700	30	3,148	6.3	-5.1	28	9.4
650	30	3,750	3.0	-9.7	28	10.1
600	30	4,396	-.4	-14.0	28	11.0
550	30	5,082	-4.1	-19.3	28	12.1
500	30	5,834	-8.5	-25.5	27	12.6
450	30	6,642	-13.2	-30.2	27	13.8
400	30	7,531	-19.0	-34.1	27	16.5
350	30	8,512	-25.8	-41.5	27	18.1
300	30	9,612	-33.4	-48.3	28	20.8
250	30	10,866	-42.6		28	23.3
200	30	12,344	-52.0		28	27.0
175	30	13,199	-56.4		29	25.3
150	30	14,169	-60.6		29	21.6
125	30	15,295	-63.6		28	16.6
100	30	16,665	-62.7		29	10.0
80	30	18,047	-60.6		31	3.1
70	30	18,883	-58.4		03	2.5
60	30	19,856	-56.4		08	4.2
50	29	21,022	-54.3		09	7.3
40	29	22,460	-51.7		09	9.6
30	27	24,342	-48.5		09	12.3
25	26	25,549	-46.4		09	13.6
20	22	27,038	-44.2		09	14.9
15	18	28,990	-40.2		09	16.7
10	12	31,808	-34.7			
7						

JOHNSTON IS., PACIFIC AREA 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	3	26.5	22.6	08	7.3
1000	31	126	25.0	21.7	08	8.3
950	31	577	21.3	19.1	09	10.1
900	31	1,043	18.6	15.2	09	11.0
850	31	1,533	15.8	11.0	09	10.4
800	31	2,047	13.3	6.0	09	9.1
750	31	2,567	11.2	.4	09	7.2
700	31	3,163	9.3	-7.2	09	5.5
650	31	3,773	6.1	-11.4	09	5.5
600	31	4,425	2.6	-16.7	08	4.5
550	31	5,117	-1.2	-20.1	09	3.3
500	31	5,878	-5.7	-25.0	11	2.2
450	31	6,688	-11.4	-29.4	16	1.6
400	31	7,589	-17.7	-34.0	23	3.0
350	31	8,574	-24.7	-39.5	25	5.9
300	31	9,675	-33.6	-44.1	26	10.0
250	31	10,929	-43.0		26	15.1
200	31	12,395	-54.6		27	18.5
175	31	13,237	-60.7		27	19.4
150	30	14,181	-66.8		26	17.9
125	30	15,266	-72.5		25	12.6
100	30	16,569	-73.9		19	3.2
80	27	17,884	-69.7		09	7.9
70	27	18,684	-67.3		09	11.4
60	27	19,620	-64.4		09	13.9
50	27	20,744	-60.7		09	15.5
40	26	22,144	-57.8		09	15.4
30	25	23,968	-54.6		09	16.1
25	25	25,140	-52.4		09	16.9
20	23	26,592	-49.2		09	17.5
15	22	28,500	-46.4		09	20.6
10	21	31,216	-43.6		09	25.1
7	11	33,644	-40.8			

KEY WEST, FLA. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	3	28.2	23.6	13	2.0
1000	31	140	27.2	23.1	13	3.1
950	31	586	23.6	20.5	14	4.1
900	31	1,065	21.1	14.4	14	4.1
850	31	1,559	18.3	9.4	13	3.5
800	31	2,077	15.5	4.9	11	3.1
750	31	2,615	12.6	.2	10	2.8
700	31	3,199	9.3	-3.5	10	2.3
650	31	3,803	5.8	-7.4	11	2.3
600	31	4,461	2.1	-10.6	11	1.7
550	31	5,150	-1.9	-15.2	08	1.3
500	31	5,911	-6.3	-20.5	08	1.7
450	31	6,722	-11.5	-25.1	09	2.0
400	31	7,622	-17.5	-31.1	07	1.9
350	31	8,608	-24.5	-39.0	08	2.9
300	31	9,712	-32.8	-45.7	08	3.6
250	31	10,969	-42.9		07	4.7
200	31	12,435	-54.6		07	7.8
175	31	13,277	-61.0		06	7.8
150	31	14,221	-66.8		05	8.6
125	31	15,313	-69.8		06	8.8
100	31	16,634	-70.9		07	10.8
80	30	17,960	-68.3		08	11.5
70	30	18,766	-65.8		08	13.7
60	30	19,706	-63.4		08	15.5
50	29	20,834	-60.1		09	18.2
40	27	22,238	-56.4		09	19.7
30	27	24,083	-51.8		09	19.3
25	24	25,272	-49.4		09	18.9
20	22	26,732	-47.1		08	20.6
15	21	28,647	-45.0		08	22.3
10	18	31,385	-40.4		09	25.8
7	9	33,846	-36.8			

KING SALMON, ALASKA 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	15	10.1	[illegible]	20	2.4
1000	31	111	10.0	7.4	21	2.6
950	31	532	8.6	[illegible]	25	2.8
900	31	984	6.4	4.3	26	2.1
850	31	1,451	4.0	1.7	25	1.9
800	31	1,943	1.8	[illegible]	26	2.4
750	31	2,462	-.7	-3.5	27	2.9
700	31	3,011	-3.5	[illegible]	27	2.8
650	31	3,591	-6.9	[illegible]	28	3.4
600	31	4,216	-10.4	-16.7	28	3.3
550	31	4,877	-14.3	[illegible]	28	3.9
500	31	5,598	-19.0	-26.4	28	4.9
450	31	6,370	-24.4	-32.7	28	5.3
400	31	7,225	-30.5	[illegible]	28	6.3
350	31	8,160	-37.6	-45.9	28	7.3
300	31	9,205	-45.5		28	7.9
250	31	10,402	-51.7		28	8.8
200	31	11,852	-49.4		27	9.2
175	31	12,729	-48.4		27	7.4
150	31	13,743	-48.4		28	6.3
125	30	14,943	-48.8		28	4.7
100	30	16,408	-48.9		28	3.1
80	30	17,875	-48.5		30	1.1
70	30	18,753	-48.3		05	.5
60	30	19,769	-46.0		08	1.3
50	30	20,973	-47.4		09	2.6
40	30	22,450	-46.6		08	3.6
30	30	24,366	-44.5		09	5.4
25	30	25,589	-43.5		08	7.0
20	24	27,095	-41.8		08	8.4
15	25	29,052	-38.7		09	9.3
10	17	31,869	-35.5		09	12.2

*** KOROR, CAROLINE IS. [illegible] MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	30	[illegible]	24.4	27	1.2
1000	31	90	26.9	23.4	27	1.4
950	31	539	23.2	19.5	26	2.6
900	31	1,014	20.6	16.0	26	2.9
850	31	1,507	18.0	12.8	27	2.8
800	31	2,025	15.3	9.6	26	2.2
750	31	2,566	12.6	6.0	26	1.7
700	31	3,148	9.5	2.6	25	1.2
650	31	3,758	6.1	[illegible]	[illegible]	.6
600	31	4,413	2.5	[illegible]	[illegible]	1.5
550	31	5,109	-1.0	[illegible]	[illegible]	2.5
500	31	5,868	-5.2	-13.7	11	3.9
450	31	6,688	-9.6	[illegible]	[illegible]	4.4
400	31	7,590	-15.3	[illegible]	[illegible]	[illegible]
350	31	8,585	-22.0	-33.3	10	3.7
300	31	9,700	-30.4	[illegible]	10	4.7
250	31	10,969	-40.6	[illegible]	08	[illegible]
200	31	12,447	-53.4		07	8.3
175	31	13,293	-60.5		07	9.1
150	31	14,235	-68.3		07	8.6
125	30	15,308	-75.9		06	9.2
100	30	16,581	-76.9		07	8.6
80	30	17,888	-70.5		08	8.7
70	30	18,688	-66.8		08	7.1
60	30	19,627	-63.7		09	5.9
50	29	20,751	-60.7		09	[illegible]
40	28	22,151	-57.7		08	5.7
30	28	23,981	-53.9		10	6.8
25	27	25,162	-51.6		10	5.6
20	25	26,621	-48.8		10	8.2
15	25	28,526	-46.9		10	8.5
10	16	31,242	-42.0		09	15.7
7	11	33,556	-40.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

KOTZEBUE, ALASKA — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	14	5	10.5	7.5	28	5.5
1000	14	94	10.2	5.4	28	5.4
950	14	519	9.4	2.2	27	3.6
900	14	968	7.3	-.9	27	4.0
850	14	1,436	4.5	-1.4	26	4.2
800	14	1,928	2.0	-4.4	26	3.9
750	14	2,444	-1.2	-8.8	25	4.3
700	14	2,994	-4.7	-11.5	25	4.2
650	14	3,567	-8.0	-17.1	26	4.7
600	14	4,192	-11.6	-22.5	26	4.9
550	14	4,849	-15.5	-27.0	27	4.8
500	14	5,569	-19.9	-31.2	26	6.4
450	14	6,339	-25.2	-34.1	27	7.1
400	14	7,188	-31.5	-41.0	27	6.6
350	14	8,119	-38.8	-47.0	27	7.1
300	14	9,159	-46.6		29	8.6
250	14	10,348	-53.2		30	7.6
200	14	11,789	-50.0		29	6.4
175	14	12,669	-47.2		28	6.6
150	13	13,679	-46.8		29	5.8
125	13	14,888	-46.5		28	4.1
100	13	16,370	-46.0		30	2.8
80	13	17,857	-45.5		34	1.4
70	13	18,748	-45.0		34	1.1
60	13	19,779	-44.5		36	1.5
50	12	20,999	-44.0		05	2.3
40	11	22,501	-43.4		08	4.0
30	10	24,437	-42.1		07	4.7
25	9	25,671	-41.0			
20	8	27,187	-39.3			
15	7	29,171	-36.4			
10	7	32,016	-31.2			
7						
5						
4						

KWAJALEIN, MARSHALL IS. — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	4	27.1	24.1	08	5.0
1000	31	96	26.5	23.4	08	5.9
950	31	548	23.3	20.8	08	7.1
900	31	1,019	20.0	16.9	08	7.8
850	31	1,513	18.0	13.6	09	7.7
800	31	2,031	15.5	10.6	09	7.7
750	31	2,577	13.0	6.3	09	7.6
700	31	3,155	10.1	1.8	09	7.8
650	31	3,769	6.6	-1.7	10	7.4
600	31	4,422	2.7	-4.3	09	7.5
550	31	5,123	-1.0	-7.7	09	7.4
500	31	5,878	-5.1	-12.5	09	7.0
450	31	6,699	-10.0	-18.9	09	6.6
400	31	7,598	-15.6	-26.4	09	5.5
350	31	8,593	-22.4	-33.5	10	4.9
300	31	9,707	-30.7	-41.5	11	3.9
250	31	10,974	-41.1	-51.3	12	2.0
200	31	12,448	-53.9	-63.0	19	1.4
175	31	13,291	-61.1	-70.2	23	2.2
150	31	14,230	-68.8		25	3.4
125	31	15,301	-76.5		23	4.2
100	28	16,572	-78.1		13	1.7
80	24	17,876	-70.8		08	5.8
70	24	18,673	-68.3		09	5.2
60	23	19,606	-55.1		10	6.4
50	23	20,727	-61.2		09	6.3
40	23	22,123	-58.2		09	8.0
30	22	23,947	-54.5		08	7.8
25	22	25,120	-53.0		09	8.2
20	22	26,569	-49.8		08	9.8
15	19	28,454	-47.9		09	11.9
10	17	31,147	-45.3		09	13.9
7	10	33,551	-42.3			
5						
4						

LAKE CHARLES, LA. — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	5	24.6	23.7	30	.3
1000	31	131	25.4	23.7	24	2.3
950	31	580	23.4	20.8	23	5.5
900	31	1,055	21.1	16.0	21	5.1
850	31	1,549	18.4	11.9	20	3.4
800	31	2,067	15.4	8.8	21	2.2
750	31	2,609	12.5	3.0	20	.8
700	31	3,188	9.2	-1.0	14	.4
650	31	3,799	5.6	-3.7	05	1.4
600	31	4,450	1.8	-8.3	04	2.4
550	31	5,144	-2.0	-13.8	04	3.5
500	31	5,901	-6.0	-18.1	04	3.9
450	31	6,715	-10.7	-24.0	04	5.4
400	31	7,616	-16.2	-30.1	05	6.1
350	31	8,607	-23.2	-36.2	05	6.2
300	31	9,717	-31.4	-43.8	05	5.6
250	31	10,982	-41.2	-52.3	04	4.6
200	31	12,460	-52.6		05	3.8
175	31	13,310	-58.9		05	3.6
150	30	14,261	-65.2		03	4.2
125	30	15,357	-70.2		05	6.7
100	30	16,677	-71.4		06	8.8
80	30	18,006	-68.2		08	10.5
70	30	18,814	-65.0		09	11.6
60	30	19,761	-61.8		09	12.6
50	30	20,900	-58.4		09	13.6
40	30	22,314	-55.3		09	14.8
30	30	24,164	-52.0		09	16.3
25	29	25,351	-50.0		09	17.9
20	27	26,823	-47.2		09	20.0
15	21	28,748	-43.7		09	20.7
10	10	31,512	-38.3			
7	5	34,038	-33.6			
5						
4						

LANDER, WYO. — 832 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	1,696	15.3	4.5	25	2.2
1000	31	96				
950	31	544				
900	31	1,014				
850	31	1,508				
800	31	2,025	17.2	2.2	28	2.3
750	31	2,572	14.7	-1.6	27	2.1
700	31	3,154	11.0	-5.4	26	4.8
650	31	3,765	6.5	-9.0	27	8.1
600	31	4,419	1.4	-12.8	26	11.0
550	31	5,103	-4.1	-16.7	26	12.0
500	31	5,856	-9.2	-25.0	25	13.4
450	31	6,656	-14.9	-30.9	26	15.1
400	31	7,548	-21.2	-37.6	26	18.1
350	31	8,519	-28.1	-42.6	26	21.6
300	31	9,608	-35.6	-48.4	26	27.3
250	31	10,854	-43.5		26	33.0
200	31	12,329	-51.4		25	36.6
175	31	13,186	-56.0		26	32.4
150	31	14,156	-60.7		25	28.0
125	31	15,280	-64.0		26	18.7
100	31	16,641	-64.9		25	8.6
80	31	18,013	-61.7		26	2.5
70	31	18,845	-58.9		12	1.5
60	31	19,816	-56.5		10	3.5
50	31	20,980	-54.7		09	6.5
40	31	22,416	-52.5		09	8.2
30	31	24,288	-49.2		09	9.6
25	29	25,490	-47.5		09	11.2
20	29	26,972	-45.2		09	13.1
15	27	28,907	-41.7		09	16.0
10	15	31,684	-36.1		09	18.2
7						
5						
4						

* LIHUE KAUAI, HAWAII — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	36	24.5	20.8	06	4.9
1000	31	157	23.6	20.2	07	6.4
950	31	600	20.1	18.3	07	8.6
900	31	1,070	17.1	14.8	07	8.4
850	31	1,557	14.3	11.5	08	8.5
800	31	2,066	12.3	4.1	08	8.6
750	31	2,600	10.3	-4.7	08	8.8
700	31	3,179	8.0	-10.5	09	6.9
650	31	3,783	5.4	-17.4	09	4.0
600	31	4,436	2.3	-22.4	09	2.6
550	31	5,128	-1.8	-25.6	10	1.0
500	31	5,887	-6.7	-28.9	23	1.4
450	31	6,694	-12.4	-33.1	25	3.4
400	31	7,589	-19.2	-38.1	26	6.5
350	31	8,567	-26.7	-42.0	26	9.6
300	31	9,660	-35.1	-48.6	26	13.0
250	31	10,905	-44.8		26	17.3
200	31	12,361	-55.3		26	22.3
175	30	13,204	-60.1		26	23.1
150	30	14,154	-65.0		26	20.2
125	29	15,254	-68.7		25	13.0
100	29	16,585	-69.8		22	3.2
80	29	17,919	-67.8		09	6.8
70	29	18,726	-65.7		09	10.4
60	29	19,667	-63.3		09	12.5
50	29	20,794	-60.7		09	15.3
40	29	22,191	-57.7		09	17.5
30	29	24,021	-54.0		09	20.0
25	29	25,197	-51.6		09	19.8
20	29	26,653	-49.0		09	20.3
15	28	28,554	-46.6		09	22.6
10	28	31,270	-42.3		09	26.5
7	26	33,697	-38.9		09	31.6
5	18	36,021	-35.5		09	37.8
4	5	37,560	-32.6			

LITTLE ROCK, ARK. — 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	79	23.8	21.9	22	1.4
1000	31	126	24.3	21.6	23	1.7
950	31	591	25.3	18.2	24	4.4
900	31	1,053	22.4	15.2	25	4.0
850	31	1,549	19.1	12.8	26	3.4
800	31	2,069	15.8	8.2	27	2.8
750	31	2,607	12.6	2.4	29	2.2
700	31	3,191	9.4	-2.9	32	2.1
650	31	3,796	5.9	-7.8	34	2.3
600	31	4,455	2.2	-12.7	34	2.6
550	31	5,144	-1.5	-19.1	35	3.2
500	31	5,907	-5.7	-24.3	34	4.1
450	31	6,717	-10.5	-29.6	33	5.4
400	31	7,624	-16.4	-35.5	33	6.5
350	31	8,614	-23.4	-40.9	33	8.0
300	31	9,724	-31.9	-47.0	34	9.2
250	31	10,987	-41.6		34	10.2
200	31	12,466	-52.1		33	9.1
175	31	13,319	-58.0		34	8.2
150	31	14,278	-63.5		34	7.3
125	31	15,386	-68.1		35	5.2
100	31	16,718	-69.8		03	4.9
80	31	18,034	-66.9		07	6.4
70	31	18,869	-62.8		09	7.4
60	31	19,825	-60.2		09	8.7
50	31	20,971	-57.2		09	10.3
40	30	22,389	-54.7		09	11.8
30	27	24,245	-50.8		09	14.2
25	23	25,435	-48.8		09	15.6
20	22	26,907	-47.0		09	16.8
15	18	28,835	-43.8		09	17.4
10	13	31,601	-38.3			
7						
5						

MCGRATH, ALASKA — 1000 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	103	10.6	7.1	25	.6
1000	31	103			26	.8
950	31	530	10.6	6.0	24	3.5
900	31	980	7.9	4.0	25	3.6
850	31	1,449	4.7	1.9	24	2.9
800	31	1,941	1.5	-.9	23	3.9
750	31	2,453	-1.7	-5.8	22	3.3
700	31	3,005	-4.5	-9.5	23	2.8
650	31	3,578	-7.4	-14.0	23	3.2
600	31	4,204	-11.3	-19.6	24	3.2
550	31	4,861	-15.2	-23.8	26	2.8
500	31	5,581	-19.7	-29.5	27	3.3
450	31	6,346	-25.2	-33.9	27	3.3
400	31	7,199	-31.5	-39.9	27	3.7
350	31	8,131	-38.7	-46.1	27	4.1
300	31	9,171	-46.4		27	4.9
250	31	10,361	-53.3		27	6.4
200	31	11,805	-48.5		28	6.1
175	31	12,686	-47.5		28	5.2
150	31	13,705	-47.4		28	4.7
125	31	14,910	-47.3		28	3.1
100	31	16,386	-47.4		28	2.2
80	31	17,864	-46.8		31	.7
70	31	18,749	-46.5		02	.4
60	30	19,772	-46.0		08	1.5
50	30	20,987	-45.5		08	1.8
40	29	22,477	-44.7		07	3.4
30	28	24,413	-43.0		08	5.8
25	28	25,646	-41.7		08	6.5
20	28	27,164	-39.9		09	7.8
15	28	29,143	-36.6		09	8.5
10	19	31,974	-31.8		08	8.4
7	5	34,492	-29.3			
5						

+ MAJURO, MARSHALL IS. — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	3	28.4	25.0	08	3.5
1000	31	97	27.0	22.5	08	4.0
950	31	543	23.2	18.9	09	5.9
900	31	1,021	20.5	15.4	10	7.1
850	31	1,514	18.0	12.5	10	7.5
800	31	2,032	15.5	9.0	10	7.5
750	31	2,579	12.9	4.5	10	8.3
700	31	3,156	10.0	1.9	10	9.0
650	31	3,773	6.5	-1.9	10	8.9
600	31	4,423	3.0	-5.4	09	8.6
550	31	5,120	-.6	-9.2	09	7.8
500	31	5,880	-4.5	-14.9	09	8.0
450	31	6,699	-9.3	-20.4	09	8.5
400	31	7,607	-14.7	-26.4	09	7.8
350	31	8,606	-21.3	-33.7	09	6.8
300	31	9,725	-29.4	-42.0	10	5.7
250	31	10,999	-39.4	-51.4	10	4.6
200	31	12,487	-52.0		10	3.3
175	30	13,338	-59.2		07	1.1
150	30	14,286	-66.8		34	.7
125	29	15,368	-74.4		17	.6
100	28	16,648	-77.4		11	4.0
80	27	17,953	-70.3		10	4.7
70	27	18,752	-67.5		10	4.0
60	27	19,689	-63.6		10	4.4
50	27	20,817	-60.1		10	6.1
40	26	22,219	-57.3		12	5.6
30	26	24,054	-53.5		10	5.0
25	25	25,232	-51.0		11	5.4
20	24	26,692	-48.1		10	5.9
15	23	28,605	-44.3		10	7.7
10	15	31,318	-43.1		08	12.6
7	6	33,730	-38.7			
5						

* MEDFORD, OREG. — 970 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	401	13.8	8.9	24	.3
1000	31	144				
950	31	584	15.8	8.9	28	.9
900	31	1,040	14.9	7.5	29	1.0
850	31	1,523	13.6	5.4	04	.9
800	31	2,033	12.8	-2.2	06	.3
750	31	2,572	10.3	-6.1	24	2.9
700	31	3,143	6.5	-9.5	23	5.7
650	31	3,744	3.1	-16.9	24	6.7
600	31	4,390	-.8	-20.9	24	8.0
550	31	5,071	-5.3	-24.9	24	9.1
500	31	5,820	-10.3	-29.4	24	10.2
450	31	6,616	-15.8	-34.5	25	12.2
400	31	7,500	-22.3	-39.5	25	14.0
350	31	8,467	-29.6	-44.6	25	16.5
300	31	9,548	-37.7	-50.4	25	18.5
250	31	10,783	-46.0		25	22.5
200	31	12,242	-52.6		24	23.9
175	31	13,099	-55.3		24	22.6
150	31	14,076	-58.0		24	20.6
125	31	15,218	-60.2		25	15.5
100	31	16,607	-61.0		24	9.9
80	31	17,996	-59.9		24	3.6
70	31	18,834	-58.2		17	.9
60	31	19,809	-56.4		10	2.4
50	31	20,971	-54.7		09	4.7
40	30	22,406	-52.4		09	6.8
30	30	24,276	-49.9		09	9.4
25	30	25,475	-47.7		09	10.1
20	30	26,957	-45.1		09	12.4
15	29	28,892	-41.9		09	13.9
10	25	31,660	-36.6		09	17.3
7	17	34,141	-32.0		09	19.1
5	9	36,540	-28.1			

MERIDA, MEXICO — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	11	23.0	22.6	09	4.0
1000	31	136	24.7	23.2	10	6.0
950	31	587	24.0	18.8	12	8.3
900	31	1,061	21.8	13.4	12	8.4
850	31	1,556	19.1	8.4	11	7.6
800	31	2,075	16.2	4.5	11	7.2
750	31	2,617	13.2	.3	11	6.6
700	31	3,199	9.8	-2.1	11	6.2
650	31	3,804	6.2	-5.4	10	5.8
600	31	4,463	2.3	-9.1	10	6.3
550	31	5,154	-1.9	-14.0	09	6.4
500	31	5,914	-6.3	-20.3	09	6.4
450	31	6,725	-11.4	-24.5	08	6.2
400	31	7,626	-17.1	-31.1	08	5.8
350	31	8,615	-23.8	-38.6	07	5.6
300	31	9,722	-32.0	-45.2	05	3.9
250	31	10,984	-41.8		04	3.2
200	31	12,458	-53.3		05	4.1
175	29	13,308	-59.3		04	5.9
150	27	14,259	-65.2		05	6.9
125	27	15,352	-70.2		06	10.2
100	27	16,673	-71.0		07	12.5
80	26	18,000	-68.9		08	14.4
70	26	18,805	-65.9		08	14.9
60	25	19,748	-62.7		08	16.7
50	22	20,880	-58.9		09	17.3
40	21	22,291	-55.8		09	18.8
30	17	24,133	-50.8		09	19.1
25	14	25,329	-47.6		08	16.6
20	14	26,808	-46.2		08	17.0
15	13	28,728	-43.6		09	20.0
10	8	31,460	-39.8			
7						
5						

MIAMI, FLA. — 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	4	26.1	23.2	13	.7
1000	31	145	26.6	23.6	14	2.2
950	31	597	23.6	20.9	15	4.2
900	31	1,069	21.1	16.4	15	4.3
850	31	1,563	18.3	12.6	15	3.2
800	31	2,082	15.5	8.4	15	2.2
750	31	2,617	12.4	5.0	15	2.0
700	31	3,203	9.2	1.4	14	2.1
650	31	3,806	5.7	-2.7	13	2.2
600	31	4,466	2.2	-6.8	13	2.0
550	31	5,157	-1.9	-10.7	13	1.2
500	31	5,916	-6.2	-15.7	14	1.0
450	31	6,727	-11.3	-20.9	12	1.3
400	31	7,628	-17.1	-27.3	09	1.6
350	31	8,616	-23.7	-34.2	08	1.4
300	31	9,725	-32.0	-41.9	07	2.9
250	31	10,987	-41.9		07	4.9
200	31	12,462	-53.6		06	6.6
175	31	13,309	-60.0		06	8.0
150	31	14,257	-65.9		05	8.1
125	31	15,355	-69.3		05	9.4
100	31	16,681	-70.3		07	10.3
80	31	18,011	-68.4		08	11.1
70	31	18,816	-65.5		08	13.3
60	31	19,759	-62.9		08	15.7
50	31	20,889	-59.5		09	18.6
40	31	22,295	-56.0		09	20.0
30	29	24,144	-51.1		10	19.7
25	28	25,336	-48.9		09	19.3
20	26	26,811	-46.2		09	19.3
15	22	28,735	-43.8		09	22.7
10	12	31,465	-38.2		09	26.4
7						

MIDLAND, TEXAS — 916 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	874	22.9	15.7	14	2.5
1000	31	102				
950	31	558				
900	31	1,031	24.5	15.9	16	6.0
850	31	1,531	22.5	13.2	19	9.7
800	31	2,057	19.5	9.8	19	5.9
750	31	2,605	15.9	5.9	16	2.6
700	31	3,193	11.9	1.9	11	3.4
650	31	3,805	7.6	-2.7	11	4.1
600	31	4,464	3.5	-8.8	12	4.2
550	31	5,165	-.9	-14.0	12	3.6
500	31	5,920	-5.1	-20.1	10	2.7
450	31	6,739	-10.1	-25.3	11	3.1
400	31	7,639	-16.0	-30.6	11	3.8
350	31	8,632	-22.8	-37.0	10	2.8
300	31	9,744	-31.1	-44.1	08	2.9
250	31	11,009	-41.2	-51.3	05	3.8
200	31	12,486	-52.8		06	5.2
175	31	13,336	-59.1		05	4.9
150	31	14,287	-65.4		06	5.1
125	31	15,380	-70.9		08	4.2
100	31	16,695	-71.6		08	5.5
80	31	18,023	-67.5		09	7.5
70	31	18,834	-64.7		10	9.0
60	31	19,782	-61.8		09	9.1
50	31	20,919	-58.8		09	11.4
40	31	22,332	-55.7		09	13.6
30	31	24,181	-51.5		09	15.5
25	30	25,372	-49.2		09	15.6
20	30	26,845	-46.7		09	17.0
15	26	28,766	-43.1		09	19.0
10	17	31,518	-39.1		09	23.1
7	6	33,990	-33.9			

MONTERREY, MEXICO — 968 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	29	423	24.1	20.9	12	1.5
1000	29	135				
950	29	589	23.3	19.7	12	3.4
900	29	1,057	20.7	18.0	14	5.6
850	29	1,553	20.6	12.2	14	7.5
800	29	2,076	18.2	7.0	14	7.5
750	29	2,622	14.8	2.1	15	5.6
700	29	3,207	11.3	-2.5	14	2.8
650	29	3,818	7.1	-5.6	11	1.7
600	29	4,475	2.6	-10.2	07	1.6
550	29	5,175	-2.2	-14.1	06	2.3
500	29	5,924	-6.7	-21.0	07	3.6
450	29	6,738	-11.4	-27.2	08	4.8
400	29	7,634	-17.1	-33.4	08	4.9
350	29	8,621	-24.0	-40.6	08	5.7
300	29	9,728	-32.2	-46.7	07	5.6
250	29	10,987	-42.2		08	6.2
200	29	12,458	-53.8		07	6.8
175	29	13,303	-59.8		08	7.4
150	28	14,250	-65.9		08	7.2
125	28	15,339	-71.7		07	7.7
100	28	16,649	-72.6		07	11.0
80	28	17,972	-68.7		08	12.7
70	28	18,778	-65.3		08	12.8
60	28	19,724	-62.1		09	12.7
50	28	20,859	-59.7		08	15.5
40	27	22,262	-56.9		09	18.5
30	27	24,105	-51.9		08	17.9
25	26	25,292	-49.6		08	18.5
20	26	26,763	-46.8		08	19.0
15	24	28,685	-43.0		08	20.3
10	13	31,455	-36.8			
7						

MONTGOMERY, ALA. — 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	31	57	23.3	21.1	21	.4
1000	31	137	23.5	21.1	20	.9
950	31	588	24.0	19.9	24	1.9
900	31	1,061	21.3	16.5	23	2.1
850	31	1,555	18.2	13.1	22	2.1
800	31	2,073	15.2	9.3	22	2.0
750	31	2,615	12.0	4.7	23	1.6
700	31	3,193	8.7	-.4	27	1.3
650	31	3,802	4.9	-3.4	27	.5
600	31	4,453	1.8	-9.6	35	.5
550	31	5,149	-1.8	-14.6	34	1.0
500	31	5,904	-5.9	-20.4	02	1.3
450	31	6,710	-10.8	-25.4	36	2.2
400	31	7,619	-16.7	-32.1	36	2.3
350	31	8,609	-23.6	-39.3	34	2.9
300	31	9,717	-31.8	-46.3	34	3.4
250	31	10,981	-41.5		34	4.3
200	31	12,459	-52.5		34	4.8
175	30	13,308	-58.6		36	4.5
150	30	14,264	-64.3		01	5.5
125	30	15,365	-69.1		03	5.4
100	30	16,694	-69.6		05	6.6
80	30	18,031	-67.1		07	7.6
70	30	18,841	-64.0		09	9.3
60	30	19,793	-60.4		09	11.2
50	30	20,937	-57.5		09	12.5
40	27	22,354	-54.1		09	13.5
30	26	24,211	-50.4		09	15.2
25	24	25,402	-48.5		09	15.0
20	20	26,874	-46.2		09	16.3
15	20	28,796	-43.2		09	19.8
10	20	31,563	-37.3		09	22.0
7	13	34,036	-33.7			

* NANTUCKET, MASS. — 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s
SURFACE	25	14	18.5	16.8	10	.6
1000	25	147	17.8	14.9	19	1.9
950	25	588	16.6	11.4	25	2.4
900	25	1,046	14.5	7.9	26	2.7
850	25	1,528	12.4	3.9	26	3.9
800	25	2,035	10.0	-.6	28	5.7
750	25	2,570	7.6	-5.8	28	6.5
700	25	3,136	5.0	-9.6	28	8.0
650	25	3,736	2.0	-12.9	28	9.1
600	25	4,379	-1.4	-18.9	27	10.5
550	25	5,060	-5.2	-23.5	27	11.4
500	25	5,810	-9.3	-27.9	27	13.1
450	25	6,612	-14.4	-33.8	28	14.7
400	25	7,500	-20.4	-38.3	28	15.8
350	25	8,475	-27.1	-41.4	27	18.6
300	25	9,569	-34.8	-49.3	27	21.3
250	25	10,818	-43.4		27	24.9
200	25	12,292	-52.0		28	28.0
175	24	13,156	-56.2		28	26.8
150	24	14,128	-59.4		28	22.4
125	24	15,261	-62.1		28	17.7
100	24	16,640	-61.7		28	11.0
80	24	18,027	-59.9		30	4.5
70	24	18,865	-58.3		31	2.0
60	24	19,839	-56.3		06	1.4
50	22	21,007	-53.9		08	4.0
40	22	22,447	-51.7		09	6.1
30	20	24,326	-48.8		08	9.2
25	20	25,529	-46.9		09	10.7
20	20	27,016	-44.2		09	13.1
15	15	28,953	-40.8		09	14.5
10	6	31,730	-36.3			
7						

* See reference note at end of table

RAWINSONDE DATA

Average monthly values

* NASHVILLE, TENN. 995 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	180	22.5	21.1	15	.6
1000	31	138				
950	31	587	23.3	16.2	23	2.6
900	31	1,059	20.7	15.0	26	3.9
850	31	1,551	17.8	11.3	26	4.7
800	31	2,068	14.5	7.4	27	4.6
750	31	2,608	11.0	2.5	28	4.5
700	31	3,184	8.0	-3.4	28	4.1
650	31	3,791	5.0	-8.0	28	4.3
600	31	4,442	1.4	-12.7	29	4.6
550	31	5,132	-2.2	-18.4	29	5.2
500	31	5,889	-6.5	-24.2	29	5.6
450	31	6,700	-11.7	-29.2	29	6.2
400	31	7,597	-17.5	-34.0	30	7.6
350	31	8,584	-24.3	-40.9	30	8.2
300	31	9,689	-32.3	-46.8	31	9.6
250	31	10,951	-41.5		31	10.7
200	31	12,431	-52.0		31	10.2
175	31	13,285	-57.4		31	10.5
150	31	14,248	-62.4		32	9.6
125	29	15,354	-67.1		32	7.1
100	29	16,695	-67.8		34	4.1
80	29	18,043	-65.6		06	4.5
70	29	18,860	-62.6		07	5.9
60	29	19,818	-59.3		08	7.6
50	29	20,968	-56.5		08	9.6
40	27	22,395	-53.0		09	11.4
30	26	24,262	-50.2		09	12.6
25	26	25,458	-48.2		09	13.8
20	25	26,934	-46.1		09	15.9
15	25	28,864	-42.3		09	18.6
10	20	31,637	-35.9		09	21.2
7	8	34,125	-32.5			

* NOME, ALASKA 1011 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	8.8	5.7	29	1.4
1000	31	98	9.5	6.0	28	1.5
950	31	524	9.1	4.0	25	1.2
900	31	971	7.0	1.9	26	1.1
850	31	1,440	4.7	-.6	28	1.4
800	31	1,933	2.2	-3.4	26	1.5
750	31	2,451	-.6	-6.7	28	1.4
700	31	3,001	-3.9	-9.1	26	1.6
650	31	3,578	-7.2	-12.7	28	1.8
600	31	4,204	-10.9	-17.7	30	2.2
550	31	4,864	-14.8	-23.3	29	2.8
500	31	5,584	-19.7	-28.6	29	2.0
450	31	6,354	-25.2	-34.2	32	2.0
400	31	7,203	-31.3	-40.5	31	2.2
350	31	8,135	-38.5	-47.0	32	1.5
300	31	9,177	-46.3		32	1.7
250	31	10,370	-52.3		33	2.9
200	31	11,818	-49.2		32	4.0
175	31	12,698	-47.4		31	4.5
150	31	13,718	-47.2		31	3.9
125	31	14,924	-47.3		30	3.6
100	31	16,400	-47.0		32	2.5
80	30	17,879	-46.6		35	1.9
70	30	18,766	-46.4		02	1.5
60	30	19,790	-46.1		05	1.9
50	30	21,004	-45.5		06	2.5
40	30	22,495	-44.7		06	3.7
30	29	24,424	-43.2		07	5.0
25	28	25,654	-42.3		08	5.8
20	26	27,171	-40.5		08	7.2
15	21	29,144	-37.3		09	7.5
10	19	31,975	-32.1		08	8.5
7	11	34,515	-27.3		08	10.2

NORTH PLATTE, NEBR. 918 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	847	16.9	15.1	11	.9
1000	31	106				
950	31	550				
900	31	1,014	19.4	15.0	19	1.3
850	31	1,508	20.2	11.9	20	2.8
800	31	2,031	18.5	6.9	24	3.0
750	31	2,578	15.1	2.1	26	3.5
700	31	3,162	11.4	-1.6	27	4.8
650	31	3,776	6.9	-4.7	28	5.9
600	31	4,429	2.1	-9.4	29	7.2
550	31	5,121	-3.0	-15.0	29	9.3
500	31	5,874	-8.0	-19.8	28	9.9
450	31	6,684	-12.7	-27.3	27	11.9
400	31	7,576	-18.5	-32.3	27	14.9
350	31	8,560	-25.1	-38.4	28	19.0
300	31	9,663	-32.7	-45.4	27	22.5
250	31	10,923	-41.6		27	24.7
200	31	12,403	-52.1		28	24.8
175	31	13,257	-57.6		28	23.3
150	31	14,218	-62.9		28	20.5
125	31	15,329	-66.7		28	15.7
100	31	16,675	-67.1		27	8.0
80	31	18,031	-63.5		25	1.4
70	31	18,857	-60.4		10	2.1
60	31	19,823	-57.9		08	4.2
50	31	20,979	-55.6		09	6.4
40	31	22,409	-52.9		09	8.1
30	31	24,280	-49.4		09	10.1
25	30	25,481	-47.6		09	11.1
20	29	26,964	-45.4		09	11.8
15	25	28,898	-42.3		09	14.6
10	16	31,670	-36.8		09	17.4
7	8	34,166	-30.6			

OAKLAND, CALIF. 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	6	[illegible]	[illegible]	29	.8
1000	31	115	12.6	[illegible]	27	[illegible]
950	31	558	17.1	5.9	25	2.9
900	31	1,016	22.9	-.6	29	3.3
850	31	1,511	20.9	-2.1	28	2.2
800	31	2,032	17.6	-3.7	25	[illegible]
750	31	2,576	14.0	-7.4	23	2.2
700	31	3,157	10.1	-10.9	23	[illegible]
650	31	3,764	6.0	-14.6	22	3.2
600	31	4,419	1.6	-18.7	22	4.2
550	31	5,104	-3.0	-23.1	22	4.8
500	31	5,862	-8.2	-28.6	24	6.0
450	31	6,662	-13.9	-32.7	25	7.8
400	31	7,557	-20.6	-36.6	24	9.1
350	31	8,531	-27.6	-43.1	24	11.5
300	31	9,622	-35.8	-49.8	24	14.3
250	31	10,867	-44.3		23	17.4
200	31	12,335	-52.6		23	19.1
175	31	13,190	-56.4		23	18.7
150	31	14,159	-60.5		23	18.3
125	31	15,284	-64.0		23	13.2
100	31	16,646	-65.1		23	5.4
80	31	18,010	-63.3		17	2.1
70	31	18,835	-61.0		10	3.1
60	30	19,800	-59.0		09	5.3
50	30	20,950	-56.6		09	7.1
40	30	22,373	-54.3		09	9.3
30	30	24,230	-51.2		08	11.8
25	29	25,419	-49.1		09	13.7
20	27	26,888	-46.8		09	15.3
15	26	28,810	-43.2		09	15.9
10	19	31,574	-37.7		09	18.6
7	13	34,065	-31.9		09	23.4

OMAHA, NE[illegible] 9[illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	[illegible]	20.5	[illegible]	[illegible]	[illegible]
1000	31	110				
950	31	555	21.2	[illegible]	[illegible]	[illegible]
900	31	1,025	20.6	13.7	22	[illegible]
850	31	1,518	18.7	9.3	[illegible]	4.4
800	31	2,037	16.0	[illegible]	26	5.3
750	31	2,577	12.9	[illegible]	27	6.2
700	31	3,158	[illegible]	[illegible]	27	6.6
650	[illegible]	3,761	[illegible]	-6.2	28	[illegible]
600	[illegible]	[illegible]	.9	[illegible]	29	[illegible]
550	30	[illegible]	-3.7	-16.6	28	[illegible]
500	30	[illegible]	[illegible]	[illegible]	28	11.5
450	30	6,662	[illegible]	[illegible]	28	13.3
400	[illegible]	7,561	[illegible]	[illegible]	28	16.8
350	[illegible]	8,543	-25.2	-37.7	29	20.0
300	[illegible]	[illegible]	-33.0	-45.7	29	23.7
250	[illegible]	[illegible]	-41.9		28	25.8
200	[illegible]	[illegible]	[illegible]		28	24.8
175	[illegible]	13,233	-57.6		28	22.9
150	30	14,195	-62.2		29	20.0
125	30	15,310	-66.3		28	15.0
100	30	16,658	-65.8		29	9.4
80	30	18,022	-62.8		30	2.5
70	30	18,848	-60.9		07	2.0
60	29	19,812	-58.4		08	4.6
50	29	20,967	-55.6		08	6.5
40	29	22,399	-52.8		09	8.5
30	28	24,267	-50.0		09	9.0
25	26	25,467	-48.0		08	11.4
20	24	26,943	-45.9		08	12.9
15	20	28,869	-42.1		09	15.1
10	9	31,645	-37.5			

+ PAGO PAGO, AMERICAN SAMOA 1012 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	27.0	23.4	12	5.4
1000	31	114	25.3	20.9	12	6.1
950	31	564	21.7	17.9	12	6.5
900	31	1,032	18.5	14.9	11	5.5
850	31	1,522	16.3	10.4	09	4.9
800	31	2,037	14.7	4.9	05	3.0
750	31	2,579	12.3	1.1	04	2.6
700	31	3,157	9.3	-3.4	02	2.1
650	31	3,767	6.0	-7.6	36	2.0
600	31	4,420	2.3	-11.7	33	2.1
550	31	5,112	-1.4	-16.2	32	2.9
500	31	5,872	-5.5	-21.0	30	4.0
450	31	6,687	-10.5	-25.8	31	4.6
400	31	7,591	-15.8	-32.2	30	6.5
350	31	8,585	-22.5	-39.1	29	8.3
300	31	9,698	-31.1	-46.4	29	9.6
250	31	10,963	-41.2		29	10.5
200	31	12,439	-53.5		27	12.2
175	31	13,284	-60.5		27	12.3
150	31	14,229	-67.2		26	12.0
125	31	15,312	-73.2		27	9.3
100	31	16,605	-76.4		29	7.8
80	30	17,903	-72.1		29	7.9
70	29	18,698	-68.2		28	9.0
60	29	19,632	-64.6		27	8.9
50	29	20,756	-61.2		28	8.1
40	29	22,154	-57.6		28	9.2
30	27	23,987	-54.0		28	11.1
25	27	25,164	-51.6		28	12.2
20	27	26,625	-47.4		28	12.3
15	25	28,539	-44.5		27	12.7
10	21	31,281	-40.6		27	9.9
7	7	33,688	-37.6			
5						

* PEORIA, ILL. 991 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	200	20.0	18.3	12	.8
1000	31	124				
950	31	573	21.6	17.6	25	2.1
900	31	1,038	19.6	13.8	26	4.5
850	31	1,530	17.2	9.7	27	5.8
800	31	2,046	14.2	5.3	27	6.3
750	31	2,588	10.9	1.3	28	6.7
700	31	3,161	7.7	-3.7	29	7.4
650	31	3,765	4.2	-8.7	29	8.2
600	31	4,416	.8	-13.8	29	9.1
550	31	5,102	-2.9	-19.2	29	9.8
500	31	5,859	-7.7	-21.8	29	10.5
450	31	6,665	-12.7	-26.6	29	12.1
400	31	7,561	-18.2	-32.3	29	14.1
350	31	8,546	-24.5	-38.6	29	16.5
300	31	9,651	-32.6	-46.2	30	19.0
250	31	10,911	-41.6	-51.4	30	22.0
200	30	12,387	-51.5		29	23.3
175	30	13,244	-56.7		29	22.0
150	30	14,211	-61.1		30	18.6
125	30	15,333	-64.3		30	14.8
100	30	16,693	-65.3		30	8.8
80	30	18,058	-62.7		32	3.7
70	30	18,887	-59.7		02	3.2
60	30	19,855	-57.6		07	4.3
50	29	21,012	-55.2		08	6.2
40	29	22,444	-52.4		09	8.2
30	29	24,317	-49.2		09	10.1
25	29	25,517	-47.2		09	11.3
20	27	27,003	-44.8		09	12.6
15	24	28,946	-41.6		09	15.6
10	23	31,721	-36.9		09	18.6
7	17	34,234	-31.3		09	21.3

* PITTSBURGH, PA. 974 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	359	18.6	17.2	20	.8
1000	31	130				
950	31	575	19.7	16.0	24	2.1
900	31	1,036	17.8	13.2	27	4.1
850	31	1,526	15.0	9.5	28	5.1
800	31	2,037	12.5	2.8	28	6.7
750	31	2,575	9.7	-1.1	27	7.4
700	31	3,146	6.4	-4.4	27	8.5
650	31	3,749	3.0	-7.5	28	9.5
600	31	4,396	-.3	-14.6	28	11.0
550	31	5,084	-3.7	-20.4	28	11.7
500	31	5,835	-8.1	-24.7	28	13.5
450	31	6,645	-13.1	-29.7	28	13.9
400	31	7,535	-18.9	-34.5	28	15.7
350	31	8,516	-25.6	-40.7	28	16.9
300	31	9,617	-33.4	-47.8	28	19.1
250	31	10,874	-42.2		28	20.4
200	31	12,352	-51.7		28	22.3
175	31	13,208	-56.2		28	22.8
150	31	14,178	-60.5		28	20.8
125	31	15,303	-63.9		29	15.7
100	31	16,668	-63.9		29	10.3
80	31	18,041	-61.4		32	4.9
70	31	18,874	-59.2		02	2.9
60	31	19,844	-57.0		07	4.1
50	31	21,005	-54.7		08	5.2
40	31	22,441	-51.9		08	6.8
30	31	24,316	-49.2		08	8.8
25	31	25,518	-47.2		09	10.0
20	31	27,002	-44.8		09	11.9
15	29	28,940	-41.1		09	13.4
10	25	31,724	-36.3		09	17.5
7	17	34,220	-31.3		09	16.6
5	7	36,615	-27.5			

+ PONAPE, CAROLINE IS. 1005 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	39	28.3	24.2	07	2.6
1000	31	84	27.6	23.1	07	3.1
950	31	529	23.7	18.5	09	5.1
900	31	1,008	20.7	15.4	10	6.2
850	31	1,502	18.2	12.2	10	6.6
800	31	2,020	15.7	8.8	10	5.1
750	31	2,565	12.8	5.1	10	5.2
700	31	3,143	9.8	1.7	10	6.0
650	31	3,753	6.5	-1.6	10	6.6
600	31	4,409	2.8	-6.0	10	6.5
550	31	5,106	-.8	-10.0	10	6.5
500	31	5,866	-4.8	-14.8	10	6.6
450	31	6,685	-9.3	-21.9	10	6.2
400	31	7,591	-14.8	-27.4	10	6.1
350	31	8,588	-21.4	-34.6	09	5.8
300	31	9,706	-29.8	-43.3	09	4.2
250	31	10,978	-40.1	-51.8	08	3.1
200	31	12,459	-52.7		04	1.9
175	31	13,307	-60.0		04	1.7
150	31	14,251	-67.7		01	.7
125	31	15,326	-75.4		06	.3
100	31	16,602	-78.0		12	2.0
80	31	17,903	-70.0		10	3.9
70	30	18,702	-67.6		10	4.2
60	30	19,638	-63.9		11	4.5
50	28	20,763	-60.3		10	4.1
40	28	22,163	-57.6		11	4.8
30	28	23,993	-54.1		10	3.3
25	28	25,169	-51.7		10	4.1
20	25	26,628	-49.5		09	4.6
15	24	28,528	-46.1		09	8.5
10	23	31,245	-42.2		09	14.6
7	13	33,653	-40.7		09	16.4

PORTLAND, MAINE 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	20	17.1	13.2	24	.5
1000	31	138	17.4	12.0	30	.9
950	31	575	16.2	9.1	30	1.7
900	31	1,035	13.8	6.8	30	2.4
850	31	1,516	11.4	3.6	29	3.7
800	31	2,020	8.6	-.3	29	5.0
750	31	2,548	6.3	-5.0	29	6.8
700	31	3,115	3.6	-8.1	29	9.2
650	31	3,708	.6	-11.3	28	10.7
600	31	4,352	-2.9	-15.7	27	11.8
550	31	5,029	-6.8	-21.3	27	13.5
500	31	5,775	-11.1	-26.3	27	15.8
450	31	6,569	-16.1	-31.5	27	17.1
400	31	7,454	-21.8	-37.0	28	19.4
350	31	8,424	-28.5	-42.4	28	22.0
300	31	9,511	-36.5	-48.7	28	25.[illegible]
250	31	10,750	-45.1		27	26.5
200	31	12,215	-52.1		28	29.0
175	31	13,073	-55.2		28	26.8
150	31	14,052	-57.2		28	23.1
125	30	15,202	-59.6		28	17.4
100	30	16,594	-59.6		28	11.6
80	29	17,995	-58.0		29	5.3
70	29	18,840	-56.3		31	1.8
60	29	19,821	-55.1		01	.6
50	28	20,991	-53.0		05	1.5
40	26	22,435	-51.4		08	4.5
30	26	24,315	-48.5		09	7.8
25	25	25,518	-46.8		09	9.6
20	20	27,009	-44.3		09	11.6
15	18	28,946	-40.7		09	14.9
10	11	31,759	-35.1			

* QUILLAYUTE, WASH. 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	56	10.8	10.1	29	.1
1000	31	161	10.8	10.0	31	.8
950	31	593	10.3	6.8	31	2.8
900	31	1,040	10.0	2.6	31	3.2
850	31	1,514	8.4	-1.9	30	3.3
800	31	2,014	6.3	-5.4	29	3.7
750	31	2,538	4.1	-9.3	28	5.0
700	31	3,099	.9	-12.5	27	6.0
650	31	3,687	-2.3	-16.5	27	7.0
600	31	4,323	-6.0	-21.5	27	8.5
550	31	4,993	-10.1	-26.1	27	9.8
500	31	5,726	-14.8	-30.4	27	11.2
450	31	6,512	-20.5	-34.5	27	13.1
400	31	7,379	-26.5	-40.0	27	15.8
350	31	8,330	-33.5	-45.6	26	17.6
300	31	9,394	-41.4	-51.0	26	19.8
250	31	10,611	-48.8		26	23.1
200	31	12,064	-51.7		26	23.4
175	31	12,930	-51.9		25	21.9
150	31	13,927	-52.6		26	19.4
125	31	15,100	-54.4		25	15.6
100	31	16,526	-55.3		25	10.9
80	31	17,951	-54.6		25	5.3
70	31	18,807	-54.2		24	2.9
60	31	19,796	-53.4		20	1.4
50	31	20,972	-52.6		11	2.0
40	31	22,417	-51.2		09	3.7
30	31	24,298	-48.5		09	5.4
25	31	25,502	-46.7		09	7.6
20	29	26,988	-44.7		09	9.9
15	29	28,926	-41.7		09	11.7
10	29	31,705	-36.5		09	14.7
7	21	34,206	-31.5		09	17.4
5	9	36,602	-27.5			

RAPID CITY, S. DAK. 905 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	966	15.3	12.2	29	.2
1000	31	106				
950	31	547				
900	31	1,010	16.0	12.2	20	.4
850	31	1,502	18.8	10.1	22	2.8
800	31	2,022	16.9	6.9	25	4.3
750	31	2,565	13.9	3.1	28	6.6
700	31	3,148	10.0	-.8	29	7.5
650	31	3,753	5.8	-5.2	28	9.0
600	31	4,409	1.0	-10.0	28	11.5
550	31	5,090	-4.6	-14.9	28	12.9
500	31	5,845	-9.6	-20.9	27	15.6
450	31	6,645	-14.8	-27.6	27	16.2
400	31	7,534	-20.6	-35.5	27	17.7
350	31	8,509	-27.4	-40.7	27	20.6
300	31	9,601	-35.2	-47.2	27	25.4
250	31	10,850	-43.1		27	29.9
200	31	12,325	-51.6		27	33.7
175	31	13,183	-55.7		27	31.7
150	31	14,155	-60.0		27	27.4
125	31	15,284	-62.8		27	19.1
100	31	16,655	-63.3		27	10.3
80	31	18,034	-60.1		27	3.9
70	31	18,870	-58.3		28	.2
60	31	19,844	-56.4		09	2.2
50	31	21,006	-54.0		08	3.7
40	30	22,444	-51.7		08	5.3
30	30	24,324	-48.6		09	9.4
25	30	25,527	-46.7		09	10.3
20	30	27,015	-43.9		09	11.4
15	29	28,959	-40.5		09	14.0
10	27	31,754	-34.7		09	16.4
7	15	34,260	-31.3			
5	5	36,624	-29.1			

ST CLOUD, MINN. 977 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	316	15.9	14.3	14	.9
1000	31	117				
950	31	557	18.6	13.6	06	.3
900	31	1,020	17.1	10.6	28	1.0
850	31	1,506	14.5	6.0	30	2.6
800	31	2,016	12.1	-.1	30	4.7
750	31	2,550	9.0	-3.8	29	6.7
700	31	3,122	5.7	-8.9	29	8.2
650	31	3,723	2.4	-12.7	29	10.4
600	31	4,368	-1.4	-17.5	29	11.1
550	31	5,045	-5.5	-21.8	29	12.6
500	31	5,798	-10.4	-24.9	29	14.5
450	31	6,592	-15.8	-30.5	29	15.8
400	31	7,480	-21.8	-36.0	29	17.4
350	31	8,450	-28.5	-41.3	29	20.9
300	31	9,538	-35.8	-46.6	28	26.2
250	31	10,783	-44.1		28	30.5
200	31	12,254	-51.6		28	32.7
175	31	13,114	-54.7		28	31.4
150	31	14,094	-57.3		28	27.3
125	31	15,238	-60.1		29	19.8
100	31	16,629	-60.4		29	12.3
80	31	18,024	-58.4		29	6.0
70	31	18,866	-57.3		32	3.4
60	31	19,844	-55.5		03	2.5
50	30	21,011	-53.8		07	4.1
40	29	22,456	-51.1		08	6.6
30	29	24,338	-48.2		09	8.1
25	27	25,542	-46.2		09	9.9
20	25	27,035	-43.9		09	10.7
15	15	28,979	-41.0		09	13.7
10	5	31,788	-36.0			

* ST PAUL IS., ALASKA 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	29	10	7.9	7.1	25	1.6
1000	29	128	8.0	7.1	26	1.1
950	29	552	6.2	5.2	25	1.7
900	29	994	4.8	2.8	24	1.6
850	29	1,460	3.3	-.6	24	1.8
800	29	1,951	1.7	-3.2	24	2.0
750	29	2,467	-.5	-7.1	25	1.9
700	29	3,019	-3.2	-11.7	25	1.9
650	29	3,596	-6.1	-16.0	25	2.1
600	29	4,225	-9.6	-21.8	26	2.4
550	29	4,887	-13.5	-25.3	28	3.1
500	29	5,612	-18.1	-30.4	27	3.8
450	29	6,383	-23.5	-35.9	28	4.0
400	29	7,241	-29.7	-42.6	27	4.5
350	29	8,179	-36.9	-46.0	28	5.7
300	29	9,229	-44.5		27	7.4
250	29	10,432	-49.9		28	8.7
200	29	11,892	-48.9		28	7.0
175	29	12,772	-48.0		28	6.2
150	29	13,788	-48.5		28	5.4
125	29	14,985	-49.1		28	4.4
100	29	16,447	-49.6		29	2.8
80	29	17,908	-49.5		32	1.2
70	29	18,783	-49.3		01	.7
60	29	19,794	-48.9		07	1.2
50	29	20,993	-48.2		09	2.7
40	29	22,467	-47.1		08	4.2
30	29	24,379	-45.4		09	6.0
25	29	25,598	-44.2		08	6.5
20	29	27,100	-42.5		09	8.5
15	29	29,055	-39.8		09	9.9
10	27	31,846	-35.3		08	11.7
7	26	34,355	-30.2		08	14.8
5	21	36,768	-26.2		08	17.9

SALEM, ILL. 994 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	174	21.3	20.4	20	.7
1000	30	125				
950	30	573	22.6	17.5	25	4.1
900	30	1,042	20.3	14.5	26	5.1
850	30	1,534	17.6	9.4	27	5.5
800	30	2,051	14.9	4.7	28	6.1
750	30	2,591	11.4	1.9	29	5.8
700	30	3,168	8.0	-2.6	28	6.0
650	30	3,774	4.5	-7.7	29	6.9
600	31	4,424	1.1	-14.3	29	7.5
550	30	5,112	-3.2	-18.7	29	7.9
500	30	5,868	-7.4	-23.7	29	8.8
450	30	6,676	-12.3	-27.8	29	9.9
400	30	7,573	-18.1	-32.7	30	10.1
350	30	8,558	-24.8	-39.2	31	10.9
300	30	9,661	-32.8	-46.3	31	13.8
250	30	10,920	-42.1	-53.2	31	15.7
200	30	12,396	-52.2		31	16.5
175	30	13,249	-57.6		31	15.1
150	30	14,210	-62.8		31	14.3
125	30	15,321	-66.9		31	9.4
100	30	16,665	-67.3		32	5.6
80	30	18,020	-64.3		02	2.5
70	30	18,842	-61.4		08	4.4
60	30	19,803	-59.0		08	6.3
50	30	20,953	-56.4		08	7.6
40	30	22,379	-53.5		09	10.2
30	30	24,240	-50.5		09	11.8
25	29	25,432	-48.4		09	12.6
20	24	26,914	-45.9		09	14.0
15	21	28,845	-42.0		09	16.2
10	11	31,618	-37.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1969

Column headings for each station: No. of observations, Dynamic height, Temperature, Dew Point, Resultant Wind: Direction, Speed M.p.s.

SALEM, OREG. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	61	11.5	8.5	28	.3
1000	31	157	13.2	9.5	35	1.2
950	31	590	12.3	8.2	01	3.8
900	31	1,041	11.8	4.8	36	3.8
850	31	1,519	10.7	-.6	33	2.3
800	31	2,023	9.2	-6.4	30	2.9
750	31	2,553	7.1	-9.3	27	4.0
700	31	3,120	4.3	-13.8	26	5.5
650	31	3,716	.8	-16.9	26	7.2
600	31	4,357	-3.0	-21.2	26	8.4
550	31	5,036	-7.4	-24.8	26	9.8
500	31	5,777	-12.3	-28.5	25	11.8
450	31	6,566	-17.8	-33.2	25	13.5
400	31	7,444	-24.4	-38.9	25	15.1
350	31	8,403	-31.5	-45.3	25	18.0
300	31	9,476	-39.6	-50.1	25	20.5
250	31	10,700	-47.7		25	24.3
200	31	12,153	-52.8		25	26.5
175	31	13,013	-54.1		25	24.5
150	31	13,997	-56.3		25	21.4
125	31	15,150	-58.1		25	17.2
100	31	16,554	-58.5		25	10.1
80	31	17,959	-57.5		24	4.7
70	31	18,805	-56.5		22	1.6
60	31	19,787	-55.2		12	1.8
50	31	20,954	-53.7		09	3.2
40	30	22,394	-51.4		09	6.2
30	29	24,276	-46.7		09	8.5
25	29	25,479	-47.1		09	10.0
20	26	26,966	-44.3		09	11.8
15	23	28,910	-41.1		09	13.3
10	19	31,695	-35.1		09	16.4
7	6	34,218	-31.6			
5						
4						

SALT LAKE CITY, UTAH 872 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	1,238	17.8	6.4	16	3.0
1000	31	89				
950	31	536				
900	31	1,009				
850	31	1,504	22.3	7.0	16	4.4
800	31	2,029	20.4	2.8	18	3.9
750	31	2,582	16.9	[illegible]	22	2.9
700	31	3,165	12.5	-3.1	24	3.8
650	31	3,780	7.7	-5.9	25	4.9
600	31	4,435	2.4	-8.9	24	7.3
550	31	5,128	-3.5	-12.7	24	8.3
500	31	5,877	-8.6	-20.4	24	9.8
450	31	6,684	-13.9	-28.8	24	11.7
400	31	7,571	-20.1	-34.8	25	14.2
350	31	8,547	-27.2	-40.5	25	17.7
300	31	9,641	-34.9	-46.3	24	21.9
250	31	10,891	-43.2		24	27.3
200	31	12,364	-52.1		24	30.0
175	31	13,219	-57.1		24	28.3
150	31	14,184	-61.7		24	23.8
125	31	15,303	-65.2		25	15.3
100	31	16,656	-66.7		24	6.5
80	31	18,017	-62.4		22	2.0
70	31	18,846	-59.9		13	1.4
60	31	19,814	-57.2		09	4.4
50	31	20,971	-55.4		09	6.0
40	31	22,402	-53.1		09	8.5
30	29	24,268	-49.8		09	10.8
25	29	25,465	-47.9		08	11.6
20	27	26,943	-45.5		09	14.1
15	26	28,881	-41.4		09	15.4
10	19	31,664	-35.7		09	17.4
7	5	34,169	-30.2			

SAN DIEGO, CALIF. 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	124	17.5	15.7	31	1.0
1000	31	104				
950	31	549	18.2	10.8	36	.7
900	31	1,010	22.3	3.5	32	1.2
850	31	1,506	21.7	.7	28	1.8
800	31	2,030	19.3	-.6	24	3.0
750	31	2,581	15.8	-2.0	21	3.1
700	31	3,163	11.8	-4.1	19	3.5
650	31	3,779	7.7	-6.4	19	3.6
600	31	4,434	3.3	-10.1	19	3.7
550	31	5,130	-1.2	-16.5	21	3.0
500	31	5,888	-6.2	-22.1	22	3.8
450	31	6,701	-11.2	-29.1	22	4.0
400	31	7,600	-17.6	-34.2	22	5.0
350	31	8,586	-24.4	-40.6	21	7.5
300	31	9,691	-32.3	-47.8	21	11.0
250	31	10,953	-41.2		21	14.7
200	31	12,433	-52.3		20	15.6
175	31	13,284	-58.6		20	15.9
150	31	14,238	-65.0		20	15.0
125	31	15,336	-69.6		20	9.2
100	31	16,663	-70.1		16	2.1
80	31	17,999	-66.4		09	5.5
70	31	18,812	-64.0		09	7.0
60	31	19,764	-61.1		09	8.9
50	31	20,905	-57.8		09	11.4
40	31	22,324	-54.9		09	12.3
30	31	24,174	-52.2		09	16.0
25	31	25,359	-50.1		09	17.1
20	30	26,828	-46.8		09	17.8
15	28	28,755	-43.0		09	18.4
10	22	31,515	-38.5		09	21.1
7	13	34,005	-32.6			
5	7	36,376	-29.2			

SAN JUAN, P. R. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	30	6	25.5	22.4	13	2.3
1000	30	151	25.1	21.2	11	5.5
950	30	600	22.7	18.1	10	8.9
900	30	1,071	19.8	14.5	10	9.3
850	30	1,562	17.1	10.5	10	8.9
800	30	2,077	14.5	5.4	10	8.3
750	30	2,618	11.8	.2	10	7.9
700	30	3,195	8.7	-5.1	10	6.8
650	30	3,796	4.8	-9.2	11	5.5
600	30	4,451	.9	-12.9	11	5.4
550	30	5,138	-2.8	-18.1	11	4.0
500	30	5,895	-7.2	-22.7	12	2.6
450	30	6,699	-12.2	-27.9	12	2.3
400	30	7,599	-18.2	-33.6	11	1.4
350	30	8,581	-25.4	-40.1	16	.5
300	30	9,680	-34.1	-48.0	19	1.1
250	30	10,929	-44.0		23	1.9
200	30	12,389	-54.9		25	1.5
175	29	13,231	-60.2		29	1.3
150	29	14,181	-65.1		12	.3
125	28	15,280	-69.3		11	2.1
100	28	16,602	-71.8		08	7.5
80	27	17,925	-69.1		08	13.8
70	27	18,728	-66.6		08	16.1
60	25	19,668	-63.0		09	17.4
50	25	20,800	-59.4		09	17.2
40	24	22,208	-55.9		09	17.5
30	24	24,049	-53.2		09	16.9
25	22	25,229	-50.9		09	16.6
20	20	26,689	-47.9		09	17.1
15	18	28,605	-43.4		09	22.8
10	11	31,334	-39.1			

SAN NICOLAS, CALIF. 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	174	13.9	12.2	30	2.6
1000	31	105				
950	31	564	19.8	4.3	32	2.1
900	31	1,012	23.2	.3	31	1.9
850	31	1,508	21.7	1.4	29	1.6
800	31	2,030	18.9	.0	25	1.2
750	31	2,580	15.5	-1.5	22	1.8
700	31	3,161	11.9	-1.1	20	2.5
650	31	3,776	7.9	-6.2	20	2.4
600	31	4,431	3.2	-12.5	21	2.9
550	31	5,129	-1.5	-16.8	22	3.2
500	31	5,881	-6.5	-22.3	23	4.1
450	31	6,696	-12.1	-28.3	22	5.5
400	31	7,586	-18.5	-35.6	22	7.1
350	31	8,567	-25.8	-42.3	22	8.5
300	31	9,665	-34.0	-49.9	21	12.4
250	31	10,919	-42.8	-57.9	21	16.1
200	31	12,392	-52.8	-66.2	21	18.1
175	31	13,242	-59.0	-71.3	20	17.0
150	31	14,195	-64.9		20	15.4
125	31	15,293	-69.1		21	9.4
100	31	16,625	-69.2		14	1.6
80	31	17,966	-66.4		10	5.0
70	31	18,780	-63.6		09	8.0
60	31	19,733	-60.9		09	8.5
50	31	20,874	-58.0		10	9.4
40	31	22,289	-55.8		09	12.4
30	31	24,135	-52.5		09	15.7
25	31	25,319	-50.4		09	17.2
20	31	26,783	-48.0		09	17.3
15	31	28,695	-44.3		09	18.7
10	30	31,440	-39.7		09	21.7
7	27	33,905	-34.3		09	25.9
5	14	36,255	-30.3		10	30.8
4	6	37,811	-29.1			

* SAULT STE MARIE, MICH. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	221	13.7	11.0	05	.5
1000	31	125				
950	31	560	16.4	9.5	30	.7
900	31	1,020	14.9	6.6	29	2.3
850	31	1,501	11.8	3.4	29	3.3
800	31	2,006	8.8	-.3	28	4.6
750	31	2,536	6.0	-4.9	29	6.7
700	31	3,101	3.2	-9.8	29	8.5
650	31	3,695	.2	-13.8	29	10.7
600	31	4,336	-3.4	-17.3	29	12.5
550	31	5,014	-7.5	-21.9	29	13.7
500	31	5,755	-12.2	-27.1	29	14.9
450	31	6,547	-17.4	-33.7	28	16.4
400	31	7,427	-23.5	-39.6	29	18.0
350	31	8,390	-30.4	-45.0	26	20.5
300	31	9,469	-37.9	-50.9	29	26.0
250	31	10,705	-45.0		29	30.2
200	31	12,179	-49.5		29	34.0
175	31	13,051	-51.5		28	31.9
150	31	14,045	-54.3		29	27.2
125	31	15,208	-56.3		29	21.1
100	31	16,624	-56.4		29	12.9
80	31	16,042	-55.8		30	7.1
70	30	18,892	-54.8		31	5.4
60	30	19,880	-53.7		36	2.8
50	30	21,057	-51.8		04	3.1
40	30	22,511	-49.6		07	4.6
30	29	24,406	-47.0		08	7.1
25	29	25,618	-45.3		08	8.7
20	29	27,116	-42.9		09	11.1
15	28	29,068	-39.5		09	12.6
10	27	31,874	-34.5		09	15.2
7	25	34,391	-29.8		09	17.6
5	14	36,804	-25.5		08	20.8

* SHEMYA, ALASKA 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	38	7.9	7.0	21	1.3
1000	31	129	7.4	6.9	20	1.6
950	31	546	7.3	6.2	22	1.7
900	31	997	7.4	3.4	24	1.3
850	31	1,460	6.7	-.9	26	1.7
800	31	1,964	5.2	-4.8	26	2.0
750	31	2,490	3.2	-6.9	27	2.8
700	31	3,047	.4	-8.7	28	3.8
650	31	3,631	-2.7	-12.9	28	4.2
600	31	4,269	-6.3	-16.8	28	4.9
550	31	4,935	-10.4	-22.3	29	5.7
500	31	5,673	-14.8	-26.8	29	6.7
450	31	6,459	-20.0	-32.9	29	8.2
400	31	7,328	-25.9	-38.6	29	9.7
350	31	8,280	-33.0	-43.4	29	10.6
300	31	9,348	-40.6	-46.4	29	11.1
250	31	10,570	-47.8		30	11.8
200	30	12,014	-53.0		30	12.0
175	30	12,875	-52.7		30	11.2
150	30	13,872	-52.2		30	9.3
125	30	15,048	-53.1		30	7.7
100	30	16,484	-53.7		30	5.2
80	30	17,921	-52.9		32	2.5
70	30	18,783	-52.5		36	1.6
60	30	19,781	-51.9		05	1.8
50	30	20,965	-50.9		07	2.4
40	29	22,421	-49.4		07	4.1
30	29	24,316	-47.3		09	6.8
25	28	25,529	-46.1		09	7.2
20	26	27,021	-44.2		09	8.5
15	25	28,960	-41.8		08	10.3
10	20	31,722	-38.1		09	12.5
7	13	34,231	-32.6		09	14.0
5	9	36,633	-27.9			

* SHREVEPORT, LA. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	79	24.3	21.7	22	1.4
1000	31	128	24.6	21.6	22	2.3
950	31	586	25.0	18.9	24	6.0
900	31	1,056	22.5	16.3	22	3.9
850	31	1,552	19.0	13.9	21	2.0
800	31	2,071	16.0	9.5	20	1.1
750	31	2,620	13.0	3.7	11	.3
700	31	3,196	9.7	-1.0	06	1.0
650	31	3,807	5.9	-4.5	05	1.9
600	31	4,459	2.1	-9.3	04	3.0
550	31	5,151	-1.4	-14.1	04	3.5
500	31	5,912	-5.5	-20.1	04	4.2
450	31	6,727	-10.5	-25.3	03	4.6
400	31	7,631	-16.1	-32.4	03	5.1
350	31	8,622	-23.1	-37.4	03	5.2
300	31	9,733	-31.5	-43.9	02	6.7
250	31	10,998	-41.3	-50.3	36	6.9
200	31	12,476	-52.6		36	7.1
175	31	13,327	-58.5		36	6.4
150	31	14,282	-64.5		01	5.1
125	31	15,382	-69.5		04	5.5
100	30	16,703	-71.1		06	6.4
80	30	18,034	-67.5		08	8.6
70	30	18,845	-63.9		09	9.0
60	30	19,797	-60.8		09	10.8
50	30	20,938	-58.1		09	11.7
40	30	22,355	-54.8		09	13.0
30	30	24,210	-51.5		09	15.4
25	30	25,400	-49.5		09	16.1
20	30	26,870	-46.9		09	18.0
15	29	28,790	-43.1		09	20.1
10	26	31,557	-38.2		09	22.3
7	22	34,043	-33.1		09	23.7
5	14	36,446	-28.5		09	28.0

SPOKANE, WASH. 932 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	720	13.0	4.6	18	1.5
1000	31	116				
950	31	552				
900	31	1,013	17.4	3.0	21	2.3
850	31	1,499	14.8	-.3	25	3.4
800	31	2,008	10.8	-1.9	25	5.2
750	31	2,540	6.6	-4.1	25	6.1
700	31	3,105	2.8	-8.8	26	6.9
650	31	3,695	-.7	-14.2	25	8.4
600	31	4,336	-4.5	-19.0	25	10.5
550	31	5,006	-8.7	-24.6	25	12.5
500	31	5,748	-13.4	-30.0	25	14.5
450	31	6,531	-19.0	-34.5	25	16.5
400	31	7,408	-25.3	-40.2	25	19.2
350	31	8,364	-32.5	-45.1	25	22.8
300	31	9,433	-40.2	-50.5	25	25.2
250	31	10,655	-47.6		25	29.3
200	31	12,114	-51.2		25	28.4
175	31	12,980	-52.0		25	27.3
150	31	13,975	-53.8		25	23.3
125	31	15,141	-55.7		25	18.2
100	31	16,561	-56.0		25	10.4
80	31	17,981	-55.6		24	6.2
70	31	18,833	-54.7		23	3.0
60	31	19,823	-53.3		16	1.4
50	31	20,999	-52.2		09	3.4
40	31	22,450	-50.1		09	5.4
30	31	24,340	-47.4		09	7.6
25	31	25,549	-45.9		09	9.1
20	30	27,045	-43.2		09	9.9
15	30	28,998	-39.7		09	11.7
10	20	31,805	-34.3		09	15.1
7	7	34,305	-28.6			

* SWAN ISLAND, W. I. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	10	27.1	23.9	09	4.1
1000	31	117	26.5	23.5	09	5.6
950	31	572	23.7	20.7	10	8.6
900	31	1,042	20.9	16.4	10	10.5
850	31	1,536	18.3	11.7	10	11.7
800	31	2,054	15.6	6.4	10	10.6
750	31	2,598	12.8	1.5	10	10.3
700	31	3,177	9.7	-2.6	11	9.5
650	31	3,786	6.1	-7.3	10	9.4
600	31	4,441	2.3	-10.1	11	8.6
550	31	5,135	-1.7	-15.0	11	7.8
500	30	5,893	-6.2	-19.6	10	7.3
450	30	6,706	-11.1	-25.7	10	6.1
400	30	7,606	-16.8	-31.4	09	4.7
350	30	8,595	-23.7	-37.0	07	4.1
300	30	9,703	-32.3	-44.6	06	3.8
250	30	10,962	-42.6		04	3.5
200	28	12,432	-54.5		02	3.5
175	28	13,274	-61.1		01	3.9
150	28	14,217	-67.2		03	6.1
125	28	15,303	-71.6		06	8.0
100	28	16,614	-73.4		08	10.6
80	27	17,924	-70.7		08	13.6
70	27	18,722	-67.3		08	15.4
60	27	19,660	-63.9		09	15.4
50	27	20,786	-60.7		09	17.4
40	27	22,184	-57.6		09	17.5
30	27	24,019	-53.3		10	18.1
25	26	25,201	-50.4		10	16.9
20	26	26,669	-47.0		09	16.1
15	24	28,585	-44.1		09	17.7
10	19	31,300	-42.9		09	24.4
7	7	33,721	-37.4			

TAMPA, FLA. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	8	26.0	23.8	13	1.0
1000	31	144	25.8	22.4	17	1.9
950	31	599	23.6	18.6	20	3.4
900	31	1,068	21.0	14.8	20	3.2
850	31	1,561	18.2	10.5	20	3.3
800	31	2,078	15.1	7.0	[illegible]	2.9
750	31	2,617	11.9	3.6	20	2.3
700	31	3,198	8.0	-.9	21	2.1
650	31	3,809	5.3	-5.4	21	2.2
600	31	4,459	1.8	-10.3	23	1.9
550	31	5,153	-2.0	-15.3	25	1.8
500	31	5,908	-6.4	-19.6	25	1.7
450	31	6,725	-11.2	-25.7	29	1.8
400	31	7,622	-16.8	-31.4	30	1.4
350	31	8,612	-23.6	-38.4	27	.4
300	31	9,721	-31.8	-45.8	03	1.7
250	31	10,984	-41.6		04	3.3
200	31	12,458	-53.5		03	4.6
175	31	13,305	-59.7		04	5.4
150	31	14,255	-65.7		04	6.5
125	31	15,351	-69.6		05	8.6
100	30	16,673	-70.7		07	10.0
80	30	18,002	-68.5		08	10.3
70	30	18,808	-65.9		08	12.3
60	29	19,752	-62.8		09	14.0
50	29	20,884	-59.3		09	16.8
40	29	22,295	-55.5		09	18.4
30	29	24,146	-51.6		09	17.8
25	29	25,334	-49.8		09	18.3
20	25	26,804	-47.5		08	19.3
15	22	28,727	-43.3		09	21.1
10	18	31,475	-39.8		09	24.2
7	6	33,899	-35.7			

TOPEKA, KANS. 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	268	22.3	20.5	13	.4
1000	31	113				
950	31	564	23.6	16.5	21	3.5
900	31	1,036	22.7	15.7	24	6.5
850	31	1,533	20.0	12.0	25	6.8
800	31	2,054	17.0	7.5	27	6.0
750	31	2,599	13.4	4.2	27	5.3
700	31	3,180	9.8	.4	29	4.8
650	31	3,788	5.8	-4.2	29	6.0
600	31	4,444	1.7	-9.6	29	7.2
550	31	5,132	-2.9	-14.3	29	7.7
500	31	5,890	-7.0	-20.1	29	8.3
450	31	6,702	-11.8	-25.3	29	10.0
400	31	7,599	-17.3	-30.2	29	11.7
350	31	8,587	-23.8	-35.9	29	13.5
300	31	9,695	-31.9	-43.5	30	15.3
250	31	10,958	-41.5		30	16.3
200	31	12,435	-52.7		30	15.3
175	31	13,286	-58.4		30	15.3
150	31	14,243	-63.5		30	13.5
125	31	15,350	-68.0		29	9.8
100	31	16,688	-67.6		30	6.2
80	31	18,041	-64.2		03	2.8
70	31	18,864	-61.3		07	4.0
60	31	19,827	-58.7		08	5.2
50	29	20,980	-56.6		08	7.3
40	29	22,405	-53.7		09	9.4
30	29	24,268	-50.2		09	10.3
25	29	25,465	-48.2		09	12.1
20	27	26,941	-45.9		09	13.8
15	25	28,869	-42.4		09	15.9
10	14	31,626	-36.9			
7	5	34,091	-31.9			

+ TRUK, CAROLINE IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	2	27.7	24.4	07	1.8
1000	31	92	26.8	22.9	08	2.5
950	31	540	23.5	19.3	09	4.4
900	31	1,017	21.0	16.1	10	5.0
850	31	1,511	18.4	12.8	10	4.7
800	31	2,030	15.6	9.7	10	4.8
750	31	2,577	12.7	6.5	10	5.3
700	31	3,154	9.8	2.7	10	5.6
650	31	3,767	6.5	-1.3	10	6.5
600	31	4,421	2.7	-4.9	10	6.7
550	31	5,114	-1.0	-9.3	10	6.7
500	31	5,878	-4.9	-15.3	10	6.7
450	31	6,696	-9.6	-21.9	10	6.0
400	31	7,603	-14.8	-28.0	09	5.6
350	31	8,601	-21.3	-35.0	10	4.9
300	31	9,719	-29.7	-43.0	09	4.4
250	31	10,992	-40.0	-51.9	08	3.3
200	31	12,475	-52.7		05	2.6
175	31	13,323	-59.9		03	3.0
150	31	14,268	-67.9		03	3.0
125	31	15,343	-75.8		06	1.9
100	31	16,616	-77.9		08	3.2
80	30	17,922	-69.5		08	5.7
70	30	18,723	-66.9		10	5.3
60	30	19,662	-63.5		10	6.1
50	30	20,789	-60.1		10	5.0
40	30	22,193	-56.9		10	5.5
30	29	24,029	-53.8		10	5.1
25	28	25,208	-51.2		09	5.0
20	27	26,664	-49.3		09	7.3
15	25	28,570	-45.6		09	10.1
10	22	31,291	-42.5		10	15.5
7	14	33,722	-39.3			

* TUCSON, ARIZ. 923 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	31	789	24.8	16.2	15	3.2
1000	31	81				
950	31	535				
900	31	1,014	25.9	14.5	17	2.3
850	31	1,516	23.1	11.9	25	.6
800	31	2,042	19.8	8.8	30	.9
750	31	2,590	15.9	6.4	11	.4
700	31	3,178	11.7	4.0	14	1.5
650	31	3,791	7.1	1.0	14	3.1
600	31	4,449	2.7	-3.6	14	4.0
550	31	5,143	-1.6	-8.7	15	3.6
500	31	5,903	-5.8	-14.2	18	2.5
450	31	6,716	-10.6	-20.2	19	2.2
400	31	7,621	-16.3	-26.6	18	2.9
350	31	8,614	-22.8	-33.5	18	3.8
300	31	9,726	-31.0	-41.0	19	4.5
250	31	10,993	-40.9	-49.1	19	5.5
200	30	12,474	-52.6		16	6.3
175	30	13,323	-59.2		18	5.9
150	30	14,274	-65.8		18	6.1
125	29	15,367	-71.1		18	4.5
100	28	16,678	-72.3		11	2.1
80	28	18,004	-67.8		10	5.3
70	28	18,812	-65.1		09	7.7
60	28	19,759	-61.4		09	10.0
50	28	20,897	-58.7		09	12.5
40	28	22,309	-55.4		10	14.2
30	27	24,153	-52.3		09	14.7
25	25	25,337	-49.7		09	15.8
20	24	26,803	-47.4		09	18.7
15	21	28,718	-44.1		09	19.9
10	15	31,470	-38.8		09	21.8
7	9	33,971	-33.4			

* VANDENBERG AFB, CALIF. 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed M.p.s.
SURFACE	27	100	12.4	12.1	33	.9
1000	27	116			33	.8
950	27	558	16.6	8.0	36	2.9
900	27	1,015	21.9	1.5	02	3.2
850	27	1,509	20.6	.5	02	3.0
800	27	2,030	17.6	-1.3	06	1.8
750	27	2,576	14.3	-4.6	36	.2
700	27	3,157	10.8	-6.9	18	1.2
650	27	3,767	7.2	-10.2	19	1.5
600	27	4,425	2.9	-15.5	21	2.1
550	27	5,116	-1.7	-19.2	21	2.3
500	27	5,875	-6.7	-25.2	22	3.8
450	27	6,679	-12.4	-30.0	23	5.7
400	27	7,579	-18.9	-34.7	23	8.3
350	27	8,559	-26.2	-40.8	22	10.7
300	27	9,656	-34.3	-48.5	22	12.8
250	27	10,909	-42.6		21	16.8
200	27	12,386	-51.9		21	19.6
175	27	13,241	-57.3		21	19.1
150	27	14,203	-62.6		21	16.6
125	27	15,315	-67.3		22	11.6
100	27	16,658	-68.1		20	3.2
80	26	18,005	-65.9		10	2.3
70	26	18,819	-63.4		10	4.7
60	25	19,772	-60.5		09	6.0
50	25	20,915	-58.1		09	8.1
40	24	22,324	-55.5		09	10.7
30	24	24,170	-52.9		09	13.7
25	23	25,348	-50.9		09	15.5
20	23	26,810	-48.0		09	16.2
15	23	26,721	-45.1		09	17.0
10	23	31,459	-40.0		09	19.5
7	17	33,925	-34.9		09	24.4

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	VICTORIA, TEXAS 1011 MB						• WAKE IS., PACIFIC AREA 1015 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	33	25.7	23.7	20	1.1	31	5	27.8	[illegible]	09	[illegible]
1000	31	125	25.6	24.2	[illegible]	3.5	31	137	25.9	[illegible]	09	8.2
950	31	575	23.3	[illegible]	[illegible]	9.7	31	586	22.1	[illegible]	09	9.7
900	31	1,050	21.8	14.6	19	8.2	31	1,058	19.3	15.7	09	9.5
850	31	1,545	19.4	9.6	18	5.0	31	1,549	16.5	12.4	09	9.0
800	31	2,065	16.3	[illegible]	16	4.1	31	2,064	13.8	6.7	09	8.2
750	31	2,609	13.1	1.9	15	2.9	31	2,602	11.2	3.9	09	7.6
700	31	3,190	9.8	-2.2	14	2.2	31	3,182	8.6	-3.0	09	7.0
650	31	3,797	6.1	-6.1	11	2.3	31	3,785	5.3	-8.6	09	6.2
600	31	4,454	2.1	-10.4	09	3.0	31	4,441	1.7	[illegible]	09	5.7
550	31	5,149	-1.8	-15.2	08	3.7	31	5,132	-2.5	-18.5	08	4.5
500	31	5,905	-6.0	-20.2	07	5.0	31	5,888	-7.2	-20.6	07	3.1
450	31	6,718	-11.0	-24.8	08	5.5	31	6,694	-12.2	-26.6	04	2.2
400	31	7,620	-15.7	[illegible]	07	7.1	31	7,594	-18.1	-31.4	34	2.1
350	31	[illegible]	-23.4	-38.5	07	7.6	31	8,578	-25.0	-36.9	32	3.6
300	31	9,720	[illegible]	[illegible]	07	7.3	31	9,680	-33.2	-44.9	30	7.3
250	31	10,986	[illegible]		07	7.5	31	10,933	-43.2		29	10.5
200	31	12,460	-53.2		07	6.3	31	12,397	-54.9		29	12.9
175	31	13,309	-59.5		07	6.4	31	13,238	-61.4		29	14.5
150	31	14,259	-65.8		07	6.3	31	14,179	-67.6		29	13.6
125	31	15,351	-71.3		07	7.3	31	15,263	-71.9		29	7.8
100	31	16,664	-72.4		07	9.6	31	16,579	-71.3		03	2.7
80	30	17,988	-68.8		09	11.5	31	17,907	-68.4		09	8.0
70	30	18,794	-65.2		09	10.8	30	18,711	-66.3		09	11.9
60	30	19,741	-62.0		09	11.3	29	19,651	-63.3		09	14.9
50	30	20,874	-59.6		09	14.1	27	20,780	-60.4		09	16.2
40	30	22,281	-56.5		09	16.5	27	22,179	-57.9		09	16.9
30	30	24,124	-52.4		09	18.2	25	24,008	-54.5		09	18.1
25	30	25,309	-49.9		09	16.9	24	25,184	-52.0		09	19.0
20	30	26,780	-46.4		09	19.9	24	26,638	-49.4		09	22.2
15	27	28,098	-44.2		09	20.4	22	28,537	-46.4		09	23.6
10	16	31,434	-39.7		09	23.7	18	31,247	-42.7		09	28.3
7	5	33,929	-34.4				7	33,652	-39.5			

Standard pressure surface (mb)	• WALLOPS IS., VA. NASA 1015 MB						WASHINGTON DULLES INT. AP 1006 MB						WAYCROSS, GA. 1011 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	3	23.4	20.7	20	.7	31	85	20.2	[illegible]	33	.4	31	44	23.4	[illegible]	23	.6
1000	30	132	23.0	19.5	24	1.6	31	135	20.5	17.6	34	.3	31	138	23.6	[illegible]	23	[illegible]
950	30	576	21.5	15.6	26	3.4	31	583	20.0	[illegible]	32	[illegible]	31	565	23.2	19.5	25	[illegible]
900	30	1,048	18.6	12.3	27	4.4	31	1,046	18.1	[illegible]	30	3.4	31	1,060	21.0	15.8	24	[illegible]
850	30	1,538	16.1	8.2	27	5.3	31	1,535	15.5	[illegible]	29	4.7	31	1,553	18.0	12.0	23	3.2
800	30	2,052	13.5	4.2	27	6.0	31	2,048	12.6	[illegible]	28	[illegible]	31	2,071	15.0	[illegible]	22	2.9
750	30	2,589	11.1	-.4	27	7.0	31	2,591	10.0	[illegible]	28	7.4	31	2,603	11.8	[illegible]	21	2.7
700	30	3,168	8.3	-4.8	27	7.7	31	3,159	6.9	[illegible]	27	[illegible]	31	[illegible]	[illegible]	[illegible]	24	2.9
650	30	3,771	4.7	-8.2	27	8.4	31	[illegible]	3.7	-10.2	27	8.9	31	3,791	5.0	-3.0	24	[illegible]
600	30	4,425	.9	-12.8	27	9.6	31	4,411	.3	[illegible]	27	10.4	31	4,469	1.7	-8.2	24	[illegible]
550	30	5,114	-2.6	-17.9	27	10.5	31	5,104	-3.4	[illegible]	27	11.2	31	[illegible]	-2.0	-14.0	26	[illegible]
500	30	5,871	-7.0	-21.3	27	10.9	31	5,852	-7.6	-24.7	27	[illegible]	31	5,898	-6.1	-18.9	27	1.4
450	30	6,651	-11.9	-27.3	27	11.3	31	6,665	-12.7	[illegible]	27	12.9	31	6,708	-10.8	[illegible]	[illegible]	1.3
400	30	7,579	-17.8	-33.2	27	12.2	31	7,555	-18.6	[illegible]	28	13.6	31	[illegible]	-16.6	-30.6	27	1.4
350	30	8,565	-24.5	-39.6	27	13.3	31	8,538	-25.3	-40.6	27	15.4	31	8,603	-23.2	[illegible]	27	2.1
300	30	9,670	-32.8	-46.9	27	13.7	31	9,641	-33.1	-48.5	27	16.4	31	9,714	-31.4	-46.3	30	2.7
250	30	10,928	-42.2		27	13.2	31	10,898	-42.2	-55.1	27	17.5	31	10,979	-41.2	-54.5	33	3.1
200	30	12,404	-52.8		29	13.2	31	12,376	-52.2		28	[illegible]	31	12,457	-52.7		35	4.1
175	30	13,255	-58.0		29	13.3	31	13,229	-57.6		28	15.7	31	13,308	-58.6		01	5.3
150	30	14,216	-62.8		30	10.5	31	14,192	-61.9		29	14.5	31	14,263	-64.3		02	5.7
125	30	15,328	-66.3		29	7.7	30	15,306	-65.3		29	11.6	31	15,366	-68.5		04	6.3
100	30	16,677	-65.8		30	5.6	30	16,663	-64.7		29	7.6	31	16,696	-69.9		06	6.2
80	30	18,039	-63.4		36	3.0	30	18,030	-62.8		33	3.5	31	18,032	-67.3		07	8.2
70	30	18,864	-61.0		05	3.7	30	18,858	-60.4		04	3.1	31	18,843	-64.4		08	10.0
60	30	19,826	-58.9		07	5.6	30	19,824	-58.1		08	4.5	31	19,792	-61.3		08	12.4
50	29	20,975	-56.3		08	8.6	30	20,979	-55.6		08	6.4	31	20,933	-58.0		09	13.8
40	28	22,401	-53.3		09	9.9	30	22,411	-52.6		09	8.6	30	22,351	-54.5		09	15.4
30	26	24,262	-50.0		09	11.6	28	24,280	-49.4		09	10.5	30	24,210	-50.9		09	15.7
25	26	25,459	-47.7		09	12.9	28	25,480	-47.5		09	11.9	30	25,401	-49.5		09	16.4
20	25	26,942	-45.4		09	14.5	25	26,967	-45.1		09	13.4	29	26,870	-46.8		09	17.8
15	25	28,874	-42.4		09	16.2	22	28,905	-41.5		09	15.5	26	28,792	-43.9		08	20.9
10	19	31,645	-37.0		09	18.1	19	31,687	-36.7		09	18.4	22	31,542	-38.5		09	24.2
7	10	34,103	-33.6				8	34,148	-32.2				13	34,017	-34.8			

Standard pressure surface (mb)	WINNEMUCCA, NEV. 870 MB						WINSLOW, ARIZ. 853 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	1,312	13.9	2.3	08	.5	31	1,487	19.1	9.8	21	1.6
1000	30	108					31	87				
950	30	551					31	536				
900	30	1,016					31	1,010				
850	30	1,506	19.7	3.1	04	1.2	31	1,513			22	1.5
800	30	2,027	18.2	.4	01	1.8	31	2,037	20.7	7.6	24	3.1
750	30	2,575	14.6	-2.2	27	1.4	31	2,588	17.2	4.5	25	3.1
700	30	3,154	10.1	-4.9	23	3.9	31	3,176	12.9	1.6	22	2.3
650	30	3,760	5.3	-8.0	23	6.9	31	3,787	8.2	-.4	19	3.2
600	30	4,413	.1	-11.1	22	9.7	31	4,450	3.1	-3.5	17	3.7
550	30	5,096	-5.3	-16.3	23	11.6	31	5,138	-2.0	-8.3	18	3.7
500	30	5,846	-10.0	-25.7	24	11.0	31	5,901	-6.6	-14.0	20	4.2
450	30	6,643	-15.2	-32.0	24	11.4	31	6,710	-11.5	-20.9	22	5.0
400	30	7,531	-21.5	-36.7	24	13.9	31	7,612	-17.0	-29.5	21	6.0
350	30	8,502	-28.4	-43.1	24	16.5	31	8,601	-23.7	-35.6	22	7.1
300	30	9,589	-36.3	-48.8	24	19.7	31	9,711	-31.8	-42.6	23	9.3
250	30	10,831	-44.9		24	23.9	31	10,975	-41.2	-49.1	22	10.5
200	30	12,298	-52.2		24	26.0	31	12,455	-52.7		22	11.7
175	30	13,154	-56.1		24	25.8	31	13,305	-59.1		23	11.8
150	30	14,125	-60.0		24	23.5	31	14,257	-65.6		23	10.2
125	30	15,253	-63.2		24	15.9	31	15,350	-70.9		22	7.1
100	30	16,620	-64.2		24	8.4	31	16,666	-71.5		21	2.1
80	30	17,993	-62.2		21	2.3	29	17,989	-67.6		11	3.6
70	30	18,822	-60.1		12	1.8	29	18,801	-63.9		10	5.5
60	30	19,789	-57.7		10	3.3	29	19,753	-61.0		09	7.6
50	30	20,946	-55.4		09	5.2	29	20,893	-58.3		09	9.5
40	29	22,373	-53.1		09	7.8	28	22,308	-55.3		09	11.1
30	29	24,238	-50.3		09	9.9	28	24,155	-52.6		09	13.2
25	27	25,430	-48.4		09	11.6	28	25,339	-50.6		09	13.9
20	26	26,905	-46.1		08	13.1	25	26,800	-47.9		09	16.8
15	22	28,834	-42.2		09	15.8	24	28,712	-44.6		09	17.5
10	18	31,611	-36.8		09	17.6	17	31,443	-39.1		09	19.7
7	9	34,110	-31.4				8	33,929	-34.9			

Standard pressure surface (mb)	YAKUTAT, ALASKA 1013 MB						• YAP, CAROLINE IS. 1008 MB						YUCCA FLAT, NEV. 881 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	12	9.3	9.2	09	1.9	31	14	27.7	24.5	22	.6	31	1,198	17.1	.8	30	.8
1000	31	119	9.7	8.8	11	2.3	31	80	26.8	23.1	22	1.7	31	89				
950	31	542	8.3	7.1	14	3.6	31	525	23.2	19.3	23	1.4	31	533				
900	31	991	5.7	4.9	14	4.2	31	1,004	20.5	16.2	22	1.5	31	1,006				
850	31	1,457	3.5	2.0	15	3.8	31	1,496	17.9	12.6	21	.7	31	1,505	23.4	6.4	24	1.3
800	31	1,947	1.6	-2.7	15	2.8	31	2,014	15.5	9.4	13	1.1	31	2,031	20.4	3.6	21	3.4
750	31	2,465	-.9	-6.3	14	2.3	31	2,554	12.6	5.9	11	1.8	31	2,579	16.5	1.1	20	4.1
700	31	3,014	-3.7	-10.1	16	2.0	31	3,137	9.5	2.3	09	2.5	31	3,168	12.1	-1.5	18	4.0
650	31	3,594	-6.9	-13.1	17	1.2	31	3,744	6.2	-1.5	09	3.4	31	3,777	7.3	-4.5	17	5.1
600	31	4,218	-10.5	-17.6	22	1.0	31	4,402	2.6	-5.4	10	4.5	31	4,437	2.5	-10.0	17	5.9
550	31	4,876	-14.6	-23.3	25	1.6	31	5,093	-1.3	-9.1	10	4.8	31	5,126	-2.2	-14.9	19	5.5
500	31	5,599	-19.4	-29.8	26	2.3	31	5,856	-5.3	-14.3	10	5.2	31	5,887	-6.9	-21.3	21	5.8
450	31	6,366	-24.8	-34.9	26	3.1	30	6,674	-10.0	-20.4	10	4.8	31	6,695	-12.1	-28.4	23	7.5
400	31	7,221	-31.0	-41.6	27	3.7	30	7,579	-15.6	-26.1	10	4.2	31	7,593	-18.4	-33.6	24	9.9
350	31	8,155	-38.1	-46.3	27	4.8	30	8,573	-22.3	-33.8	11	5.2	31	8,575	-25.5	-39.6	24	12.6
300	31	9,199	-45.8		28	6.1	30	9,687	-30.5	-42.6	10	4.1	31	9,675	-33.5	-46.3	23	16.4
250	31	10,394	-51.8		28	9.5	30	10,956	-40.7	-50.5	10	2.9	31	10,930	-42.2		23	19.3
200	31	11,845	-49.2		27	7.9	30	12,434	-53.5		07	3.2	31	12,408	-51.6		22	22.9
175	31	12,725	-47.6		27	6.8	30	13,278	-60.8		07	3.5	31	13,264	-57.0		23	21.9
150	31	13,745	-47.3		27	5.8	30	14,219	-68.5		06	3.7	31	14,227	-62.5		23	19.1
125	31	14,950	-47.7		26	4.4	30	15,290	-76.3		05	5.3	31	15,337	-67.4		23	13.1
100	31	16,422	-46.1		26	2.9	30	16,564	-77.5		06	9.1	30	16,676	-67.8		23	4.3
80	31	17,893	-47.9		24	1.6	30	17,870	-70.4		08	10.1	30	18,026	-64.5		17	1.7
70	30	18,773	-47.6		23	1.2	30	18,669	-67.2		09	10.5	30	18,847	-61.4		10	2.9
60	30	19,791	-47.2		18	.6	30	19,635	-64.0		09	10.1	29	19,807	-59.0		09	5.6
50	29	20,999	-46.8		10	1.1	30	20,733	-60.4		09	9.1	29	20,955	-56.8		09	7.5
40	28	22,480	-46.0		09	3.0	30	22,133	-57.2		09	10.9	29	22,378	-54.0		09	9.7
30	28	24,399	-44.6		08	4.8	30	23,966	-54.0		09	11.4	27	24,239	-51.4		09	12.5
25	28	25,623	-43.2		08	6.4	28	25,144	-51.0		10	10.7	23	[illegible]	-49.5		09	13.5
20	26	27,133	-41.3		09	7.5	26	26,599	-48.2		10	12.2	16	26,895	-47.0		09	14.0
15	22	29,106	-37.9		08	8.9	23	28,499	-46.6		10	12.2	8	28,825	-43.9			
10	20	31,929	-32.9		08	11.6	20	31,226	-42.0		09	17.4						
7	14	34,471	-28.0				16	33,652	-39.2									

Standard pressure surface (mb)	YUMA, ARIZ. 993 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	18	131	29.5	15.5	05	.6
1000	18	69				
950	18	524	29.6	[illegible]	21	2.7
900	18	1,009	27.3	[illegible]	21	4.6
850	18	1,512	24.3	[illegible]	19	3.6
800	18	2,039	20.6	3.6	17	3.4
750	18	2,586	16.5	.4	18	4.0
700	18	3,177	12.2	-1.2	16	4.4
650	18	3,787	7.8	-3.7	16	4.3
600	18	4,450	3.3	-8.0	17	4.0
550	18	5,145	[illegible]	-12.2	18	3.7
500	18	5,905	-6.0	[illegible]	19	3.6
450	18	6,714	-11.2	[illegible]	21	3.4
400	18	7,618	-16.7	-34.7	22	4.4
350	18	8,609	-23.2	-39.5	21	5.3
300	18	9,719	-31.5	-46.8	21	8.3
250	18	10,983	-41.3		21	10.9
200	18	12,460	-52.6		20	12.8
175	11	13,305	-58.8			
150	7	14,266	-65.0			

[illegible] for rawinsonde purposes. "Number of observations" refers to those of dy- [illegible] given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

' Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

• Observations for these stations are scheduled at 0000 G.C.T.

• [illegible] Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. MEX. — Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
July 1	----	----	0.85	0.98	1.26	----	----	----	----
2	0.75	0.83	.97	1.12	1.37	1.08	0.89	0.75	0.69
3	.79	.86	.99	1.14	----	1.13	.98	.80	.67
5	.73	.80	.93	1.10	1.34	.99	----	----	----
7	.76	.84	.98	1.16	1.35	1.07	.88	.73	.61
8	.76	----	.94	1.12	----	----	----	----	----
11	----	----	----	----	----	1.20	----	----	----
13	.80	.88	.98	1.12	1.34	----	----	----	----
16	----	----	----	----	1.34	----	----	----	----
19	.71	.80	.91	1.07	----	----	.77	.61	----
21	----	----	----	----	1.28	----	----	----	----
22	----	----	.85	1.02	1.32	1.06	----	----	----
23	.70	.79	.89	----	1.32	1.09	----	----	----
24	----	----	----	1.07	1.31	----	----	----	----
25	----	----	----	----	1.26	----	----	----	----
26	----	----	----	----	1.29	----	----	----	----
27	----	.85	----	1.12	----	----	----	----	----
28	----	----	----	----	1.35	1.08	.91	.76	.64
29	.66	.77	.90	1.05	1.27	1.04	.83	.71	.61
30	----	----	----	----	H 1.19	----	----	----	----
31	.71	.81	----	1.10	----	----	----	----	----
Averages	0.74	0.82	0.93	1.09	1.31	1.08	0.88	0.73	0.64
BLUE HILL OBS. MASS. — Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
July 3	0.52	0.65	0.86	1.07	----	----	----	----	----
4	.49	.48	----	----	1.16	----	----	----	----
6	----	----	----	----	1.27	1.03	0.88	0.76	0.66
8	----	----	----	----	----	1.11	.91	.79	.72
9	----	----	----	----	----	1.03	.83	.65	.54
10	.49	.58	.71	.93	----	----	----	----	----
15	----	----	----	1.10	1.32	----	----	----	----
16	.55	.67	.81	1.00	----	----	----	----	----
Averages	0.49	0.60	0.79	1.03	1.25	1.06	0.87	0.73	0.64

HS Slight haze   H Haze
HM Moderate haze   * Values corresponding to true solar noon

Date	Sun's zenith distance A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
TUCSON, ARIZ. — Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
July 1	----	----	----	----	1.24	0.91	----	----	----
2	0.62	0.73	0.84	0.99	1.24	----	----	----	----
3	.57	.68	.80	.95	1.21	----	----	----	----
4	.71	.81	.94	1.12	1.29	----	0.82	0.70	0.60
5	.59	.71	.87	1.06	1.26	1.05	.86	.75	.63
6	.80	.88	.98	1.11	1.34	1.12	.92	.87	.75
7	.74	.83	.94	1.13	1.32	1.06	.90	.77	.67
15	----	----	----	----	----	.93	----	----	----
24	----	----	----	----	1.22	----	----	----	----
27	----	----	----	----	1.24	.99	----	----	----
29	----	----	----	.94	----	----	----	----	----
30	.55	.70	.85	1.01	1.22	----	----	----	----
Averages	0.65	0.76	0.89	1.04	1.26	1.01	0.88	0.77	0.66
OMAHA, NEBR. — Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
July 1	----	----	----	----	----	0.96	----	----	----
8	HM0.52	HM0.63	----	----	----	----	----	----	----
12	----	----	----	----	HM1.16	HS0.96	HS0.78	----	----
13	----	----	----	HM0.99	HS1.21	HS .96	HS .82	HS0.70	HS0.56
20	HS .64	HS .78	HS0.94	----	----	----	----	----	----
22	HS .62	HS .74	HM .80	HM .94	----	----	----	----	----
24	----	----	----	----	1.27	HS1.07	HS .92	HS .81	HS .67
25	----	----	----	----	HS1.16	----	----	----	----
26	----	----	----	HS1.00	----	----	----	----	----
27	----	HS .81	HS .93	HS1.05	----	----	----	----	----
31	----	----	HS .91	HS1.13	HS1.35	HS1.10	HS1.02	HS .91	HS .84
Averages	0.60	0.74	0.89	1.02	1.25	1.02	0.89	0.81	0.52
GUAM, M. I. — Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observations due to cloudiness								

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63 of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	624	722	727	592	687	683	731	537	---	493	454	519	608	592	634	670	545	388	539	643	584	614	668	650	513	586	542	649	671	620	595	603
AMES IOWA	654	386	233	538	364	58	144	---	362	528	616	575	585	592	419	480	301	289	216	566	501	550	432	621*	513	311	434	603	594	446	583	450*
ANNETTE ALASKA	538	444	550	484	542	249	---	79	67	99	208	378	485	182	593	698	668	691	342	457	119	322	322	437	93	508	593	670	469	259	382	398
APALACHICOLA FLORIDA	613	529	605	677	661	589	505	417	361	606	695	403	653	654	477	132	413	546	383	288	140	303	715	248	346	447	358	207	544	571	672	476
ARGONNE NAT. LAB.	716	665	546	492	270	130	134	143	344	620	549	646	690	660	638	576	465	253	158	638	542	542	557	609	622	416	498	190	620	592	452	483
ASTORIA OREGON	422	220	408	452	365	289	250	407	212	178	533	526	721	641	735	662	694	654	697	649	606	608	587	514	643	699	446	548	621	439	346	509
BARROW ALASKA	378	335	490	551	335	762	307	463	296	487	672	744	478	189	393	435	462	369	650	286	582	404	519	533	268	357	256	391	523	439	---	445
BETHEL ALASKA	301	480	401	481	339	341	210	420	394	261	141	340	281	239	---	115	111	---	301	395	367	184	201	336	---	---	---	---	---	---	---	302
BISMARCK N.DAK.	779	716	699	659	416	547	167	787	700	750	752	742	748	463	550	523	613	439	730	512	682	704	706	662	708*	513	---	---	724	582	690	630*
BLUE HILL MASS.	340	688	583	636	416	711	311	698	655	472	375	198	58	230	658	621	542	486	298	268	107	461	256	403	162	137	97	287	121	304	523	390
BOISE IDAHO	803	742	749	738	579	500	728	704	730	717	698	709	718	688	707	708	708	708	678	691	685	705	652	541	623	712	564	662	664	670	673	682
BROWNSVILLE TEXAS	645	513	692	703	618	638	692	725	555	735	594	637	498	594	692	630	---	606	641	694	660	674	662	703	597	610	692	613	666	683	684	645
BURLINGTON VERMONT	574	570	338	630	218	700	691	672	603	189	470	321	200	577	602	567	430	444	637	390	420	550	607	496	310	152	372	222	253	332	570	455
CAPE HATTERAS N.C.	687	264	376	697	662	650	---	389	656	609	598	439	635	641	677	682	644	609	634	643	576	563	537	327	195	594	592	259	252	311	283	523
CARIBOU MAINE	573	790	596	721	87	826	811	750	813	489	111	105	271	407	733	468	614	731	744	741	---	637	688	666*	667	375	353	63	120	298	711	532*
CHARLESTON S.C.	328	588	594	510	700	637	553	574	554	623	616	375	662	357	672	674	558	548	521	547	315	253	465	645	455	612	619	382	569	638	382	533
CLEVELAND OHIO	702	658	652	306	234	185	276	603	592	575	641	532	726	693	664	590	258	459	431	471	780	485	531	489	646	484	394	505	383	624	643	513
COLUMBIA MISSOURI	627	609	633	710	597	640	526	707	622	385	582	678	688	514	596	668	635	152	575	566	592	630	560	461	657	654	669	466	629	614	480	585
DODGE CITY KANSAS	562	750	747	660	610	730	632	519	722	471	710	737	565	718	699	445	550	582	620	435	536	720	674	561	616	650	725	737	696	478	697	631
E. LANSING MICHIGAN	766	651	535	180	390	48	705	610	615	618	597	626	729	682	635	618	250	113	72	330	494	579	531	461	599	630	331	462	502	638	400	497
EL CENTRO CALIF. NPF	275	275	275	703	709	698	651	734	673	665	501	654	676	728	721	563	406	438	640	468	468	606	606	601	655	548	639	578	578	578	629	579
EL PASO TEXAS	743	---	---	---	---	---	---	677	437	461	719	712	627	609	727	623	584	648	510	528	715*	681	535	711	704	676	284	542	722	657	557	616*
ELY NEVADA	853	865	848	836	765	506	521	674	748	831	818	697	596	745	812	825	653	591	665	675	593	402	615	668	753	641	505	722	443	538	546	676
EPPLEY NEWPORT R.I.	377	707	528	656	414	645	203	712	646	564	341	251	162	438	668	635	542	562	187	148	258	456	183	408	155	375	219	495	387	346	504	425
FAIRBANKS ALASKA	469	207	443	594	576	440	278	347	341	407	407	626	535	537	350	501	481	472	529	316	516	390	119	---	263	266	296	253	288	325	536	404
FLAMING GORGE UTAH	737	749	459	707	553	747	---	682	596	---	---	648	368	---	---	673	418	367	473	647	671	415	518	382	533	662	704	606	221	668	416	562
FORT WORTH TEXAS	635*	697	700	750	737	732	706	739	742	732	725	697	728	719	728	700	638	590	575	473	482	555	644	690	561	474	354	690	720	691	375	644*
FRESNO CALIFORNIA	693	698	711	682	675	688	657	654	649	649	561	541	626	652	670	672	647	626	633	630	609	624	618	635	652	641	465	608	617	614	621	636
GAINESVILLE FLORIDA	608	370	568	680	512	516	289	588	452	532	619	432	620	383	262	276	462	402	271	310	216	337	486	475	388	556	351	270	508	464	390	439
GLASGOW MONTANA	462	719	523	552	645	383	421	663	756	748	695	714	744	625	550	371	551	580	707	654	717	718	652	703	559	228	693	297	689	717	693	604
GRAND JUNCTION COLO.	762	738	568	440	617	765	748	717	708	710	---	712	677	---	---	393	542	425	305	315	607	622	654	381	687	624	694	496	---	665	668	602
GREAT FALLS MONTANA	773	721	639	673	454	195	349	691	765	733	696	542	782	742	748	725	744	609	710	716	710	738	730	691	721	758	694	609	674	730	633	668
GREENSBORO N.C.	534	474	540	591	641	539	379	438	170	288	245	595	611	608	567	591	634	552	595	511	431	507	334	304	461	457	474	455	223	599	388	475
INDIANAPOLIS INDIANA	601	590	600	628	507	414	407	211	374	419	465	702	556	664	659	615	585	604	351	136	320	227	471	412	633	644	446	389	603	628	438	494
LAKE CHARLES LA.	635	465	639	654	458	441	670	658	541	211	319	394	478	662	453	601	579	543	204	179	501	189	448	647	454	593	523	513	476	558	554	498
LAKELAND FLORIDA	517	504	548	600	533	513	567	531	496	---	590	---	213	538	229	---	599	468	440	342	420	530	340	606	312	569	420	557	410	369	484	473
LANDER WYOMING	715	770	785	787	667	718	---	700	643	711	726	761	710	482	518	696	706	602	619	637	712	732	724	551	599	740	713	578	379	643	648	666
LARAMIE WYOMING	705	710	532	634	432	616	727	564	694	566	671	685	516	463	665	640	403	335	641	521	605	558	623	531	654	686	695	679	258	644	557	587
LAS VEGAS NEVADA	762	746	757	782	772	750	745	748	752	752	722	709	549	739	725	719	386	675	482	641	448	666	317	651	683	645	232	482	514	604	660	639
LITTLE ROCK ARKANSAS	528	478	651	653	531	632	655	682	582	531	569	556	606	---	---	---	678	603	324	550	545	513	382	395	400	315	380	718	708	677	344	542
LOS ANGELES CALIF.	765	720	702	586	504	392	411	649	718	721	340	729	757	---	---	---	673	693	709	674	704	699	704	713	718	477	543	621	577	627	691	636
LOS ANGELES CALIF. U	741	702	674	650	476	230	444	628	721	716	349	723	744	721	706	692	697	500	717	597	663	670	680	703	667	542	537	628	647	613	672	627
MADISON WISCONSIN	754	711*	---	---	---	---	---	---	358	665	612	573	614	499	612	486	181	173	528	660	490	631	371	740	534	433	490	554	649*	688	---	542*
MANHATTAN KANSAS	287	646	659	646	290	394	257	582	556	324	631	647	424	638	578	585	479	437	374	510	616	601	579	514	428	604	658	628	643	271	620	520
MATANUSKA ALASKA	309	665	400	269	653	644	306	435	353	594	336	246	240	175	393	616	592	440	374	531	451	638	574	97	221	634	176	95	343	299	271	399
MEDFORD OREGON	755	630	714	750	756	781	755	768	625	693	780	757	787	790	790	785	777	755	744	754	737	729	463	544	---	---	---	---	---	709	726	725
MIAMI FLORIDA	523	340	572	715	755	714	723	678	652	445	670	669	676	480	453	620	420	285	533	511	569	460	510	663	542	668	477	270	666	458	278	548
MIDLAND TEXAS	702	---	---	680	578	639	528	703	648	700	694	661	639	696	674	635	552	424	545	651	491	443	605	618	655	538	429	642	650	656	364	601
NASHVILLE TENNESSEE	469	377	526	648	550	572	387	509	491	574	498	489	589	623	527	587	607	524	664	539	503	516	346	450	533	548	380	522	592	624	482	524
NEW YORK N.Y. U	---	---	---	---	---	---	---	---	---	---	---	---	---	---	684	653	512	513	348	104	148	121	76	279	346	163	421	115	125	478	374	---
NORTH OMAHA NEBRASKA	700	527	516	448	386	328	---	---	---	502	697	660	662	666	615	472	225	462	321	649	437	650	571	655	581	586	477	550	585	161	677	527
OAK RIDGE TENNESSEE	472	499	619	651	602	533	291	455	490	462	428	670	612	660	599	609	607	656	642	448	525	536	144	450	516	484	456	590	559	612	627	532
OKLAHOMA CITY OKLA.	645	672	697	703	656	680	665	709	703	685	678	692	676	671	668	599	635	577	560	401	520	414	668	502	53	538	621	702	683	551	562	606
PAGE ARIZONA	648	756	531	385	808	819	815	829	801	812	798	755	529	743	736	632	513	655	445	616	719	641	589	489	672	705	672	544	357	668	720	658
PALMER AAES ALASKA	570	593	304	351	567	592	299	350	314	455	323	251	232	295	413	584	575	450	390	514	447	570	490	95	490	595	344	127	304	408	538	414

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	722	713	630	719	729	758	757	728	586	687	666	611	695	673	608	396	559	627	332	667	644	642	504	644	635	399	583	568	595	610	631	623
PORTLAND MAINE	416	616	607	700	277	746	695	693	698	280	177	316	92	375	673	650	572	454	681	482	224	577	---	662	629	145	117	77	164	260	580	454
PROSSER WASHINGTON	698	558	738	734	713	668	732	734	718	584	705	740	723	739	720	688	719	711	685	717	718	719	699	442	725	721	636	712	712	704	666	693
RAPID CITY S.DAK.	727	721	720	752	386	378	612	702	572	508	683	704	675	280	585	620	607	486	443	199	564	518	461	669	607	695	703	655	619	594	639	583
RENO NEVADA	714	716	708	677	560	681	620	582	573	658	665	662	625	595	684	678	672	657	560	634	648	612	492	630	661	655	495	629	644	669	670	636
RICHLAND 25 NW WASH.	739	642	721	677	736	611	710	755	749	566	789	733	742	746	743	665	714	711	704	721	730	706	700	517	739	721	626	707	709	691	670	700
RIVERSIDE CALIFORNIA	746	750	725	730	721	535	609	665	724	740	413	684	736	753	749	719	667	689	561	459	667	644	646	713	710	653	528	595	676	569	666	659
RUSTON LOUISIANA	428	608	531	545	431	314	661	640	604	544	370	421	612	501	585	584	590	483	408	521	570	598	224	542	433	281	472	473	622	559	382	501
SAINT CLOUD MINN.	641	581	486	528	264	317	101	301	555	617	648	634	488	404	281	622	255	604	429	608	608	297	851	518	636	403	342	609	568	412	626	491
SALT LAKE CITY	786	816	785	815	773	584	693	722	759	763	713	712	544	595	745	---	---	729	670	754	682	---	---	---	646	742	721	573	540	731	717	704
SAN ANTONIO TEXAS	641	684	668	692	643	644	652	609	598	699	687	637	663	647	704	671	488	642	689	533	542	651	645	633	676	417	365	592	646	653	584	623
SANTA MARIA CALIF.	702	752	776	758	420	474	597	680	663	608	622	608	724	666	711	730	701	614	664	663	653	659	565	650	567	498	599	611	653	675	687	644
SAULT STE MARIE MICH	729	352	653	307	451	666	620	614	235	547	595	670	640	478	542	---	666	666	353	556	578	578	387	572	547	639	332	191	626	619	144	518
SEATTLE TACOMA WASH.	683	297	358	469	632	473	469	588	725	207	684	529	636	645	730	725	718	791	724	280	702	700	704	691	535	706	704	461	691	670	560	596
SPOKANE WASHINGTON	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	683	696	669	668	556	669	676	603	674	685	663	650	---
STATE COLLEGE PENN.	484	682	525	560	295	251	129	655	328	107	541	400	673	704	648	678	504	489	386	129	359	502	190	181	380	531	375	---	547	420	540	440
STERLING VIRGINIA	754	558	511	---	---	---	---	66	---	99	---	508	581	584	622	578	411	411	285	286	---	287	128	176	260	505	483	164	221	562	558	384
SWAN ISLAND W.I.	49	575	644	584	615	603	421	573	610	345	294	607	651	577	663	665	551	621	619	580	640	655	637	607	633	660	647	614	596	496	616	569
TAMPA FLORIDA	607	559	627	654	634	640	583	560	525	619	698	652	183	465	101	512	549	487	436	318	635	648	489	653	354	667	488	636	580	392	442	529
TUCSON ARIZONA	657	713	473	672	680	702	685	505	505	632	381	522	664	550	555	323	605	490	384	495	548	649	429	569	409	433	608	511	629	607	501	551
WAKE ISLAND PACIFIC	688	687	676	647	664	638	677	644	676	624	508	647	673	672	613	648	652	459	640	458	651	578	578	326	442	567	602	573	627	660	588	606

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

JULY 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Langleys. . .	245	264	140	157	280	296	134	166	149	237	166	124	112	135	185	275

Date.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	291	195	170	222	415	251	222	19	195	225	141	33	127	167	226	192

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 A) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Langleys. . .	22.37	14.56	8.64	19.29	13.73	3.55	6.39	13.26	14.68	18.23	22.14	19.41	20.12	20.36	14.91	17.04

Date.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	11.95	11.95	9.23	19.53	16.81	16.69	14.91	20.95	13.97	8.52	11.48	17.28	18.70	11.48	15.51	15.08

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code as defined in the August 1962 WMO Circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms

Station	Day of month																															Mean
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

Data will be delayed

DESCRIPTION OF CHARTS

CHART I. A. NORMAL DAILY AVERAGE TEMPERATURE (°F. 1931-60) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN (°F. 1931-60) FOR MONTH. Chart I-A is reproduced from Environmental Data Service Publication "Climatic Maps of the United States". Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin", a publication of Environmental Data Service.

CHART II. TOTAL PRECIPITATION. Chart II is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin".

CHART III. PRECENTAGE OF NORMAL PRECIPITATION. Chart III is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin".

CHART IV. TOTAL SNOWFALL. CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND. Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and selected cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and selected cooperative stations as of 7:00 a.m. Eastern Standard Time on the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

Isolines for Charts I, II, III, IV, and V, are drawn through points of approximately equal value. Caution should be used in interpolating on these charts, particularly in mountainous areas.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. Chart VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm.-2) for all Weather Bureau and selected cooperative stations which record this element. The analyses include adjustments required to bring station records to approximately the same level of calibration. Adjusted numbers are in parentheses. Chart VII-B shows the percentages of the mean based on at least 5 years of record during the period 1950-1960, and corrected to the International Pyrheliometer Scale of 1956.

CHART VIII. TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. Centers which can be identified for 24 hours or more are tracked in these charts. Semipermanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND RESULTANT SURFACE WIND. The average monthly sea level pressures are obtained from eight daily 3-hourly observations reported at Weather Bureau Stations. Resultant surface wind directions (to 36 points of the compass) for the month are shown by arrows. Resultant speeds are in miles per hour and are indicated by the length of arrow shafts. Constancy ratios (resultant surface wind divided by average surface wind for month) are shown to two decimal places. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record; and for each 10° intersection in a diamond grid over the oceans.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in meters per second; flag represents 25 m.p.s., full feather 5 m.p.s., and half feather 2 1/2 m.p.s. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages for surface elements are presented in the CDNS Annual Issue each year.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), July.

B. Temperature Departure from 30 - Year Mean (°F 1931-60), July 1969.

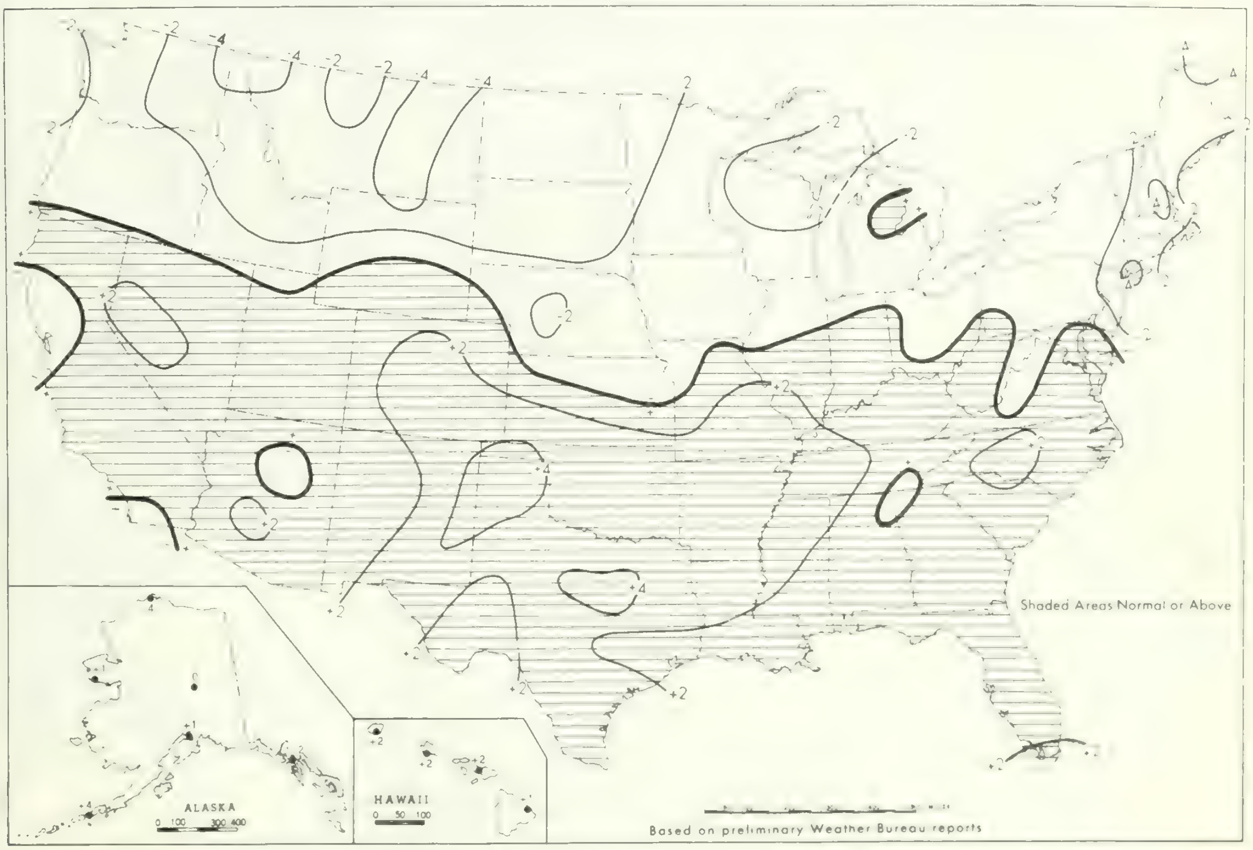


Chart II. Total Precipitation (Inches), July 1969.

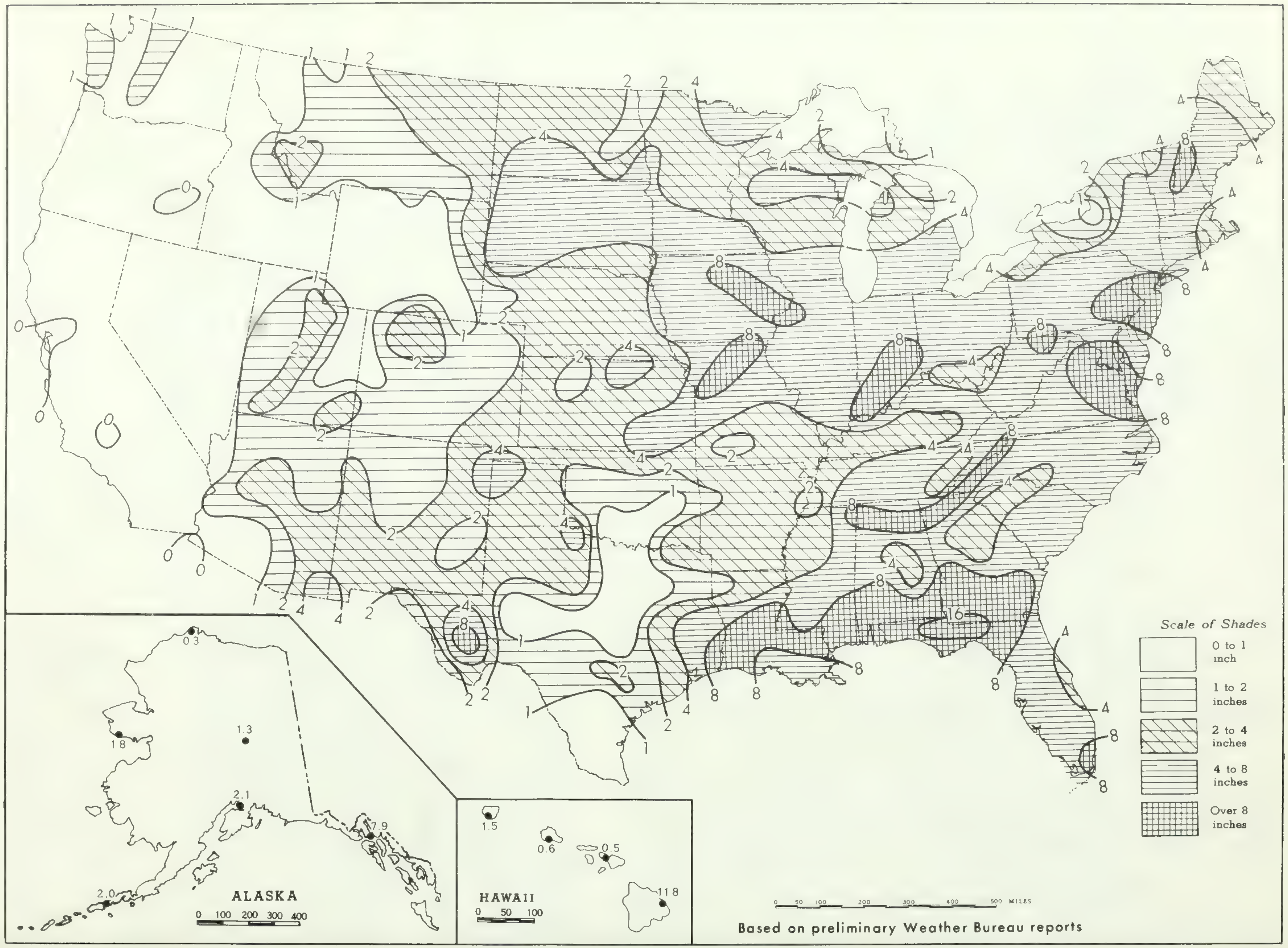


Chart III. Percentage of Normal Precipitation, July 1969.

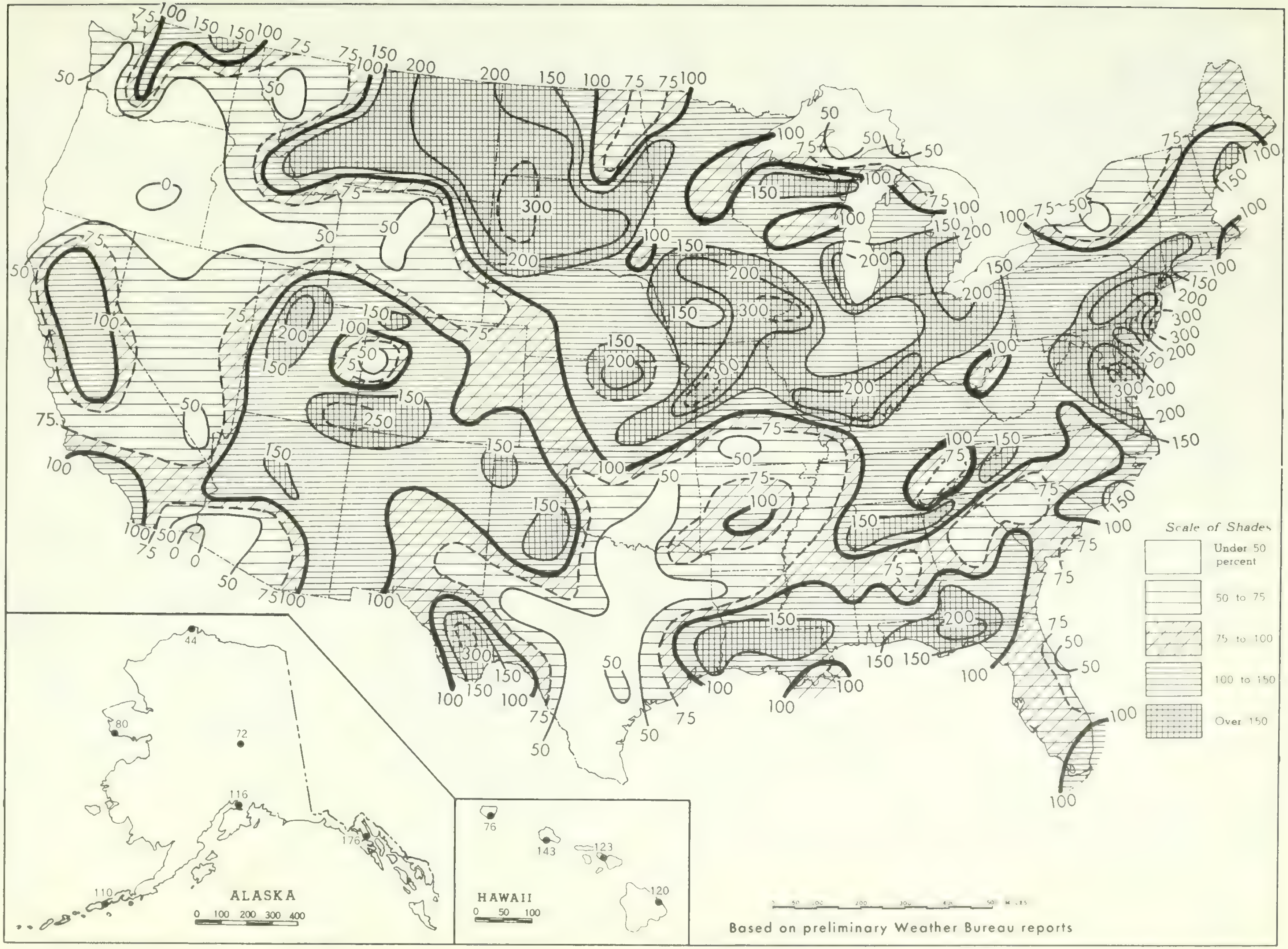
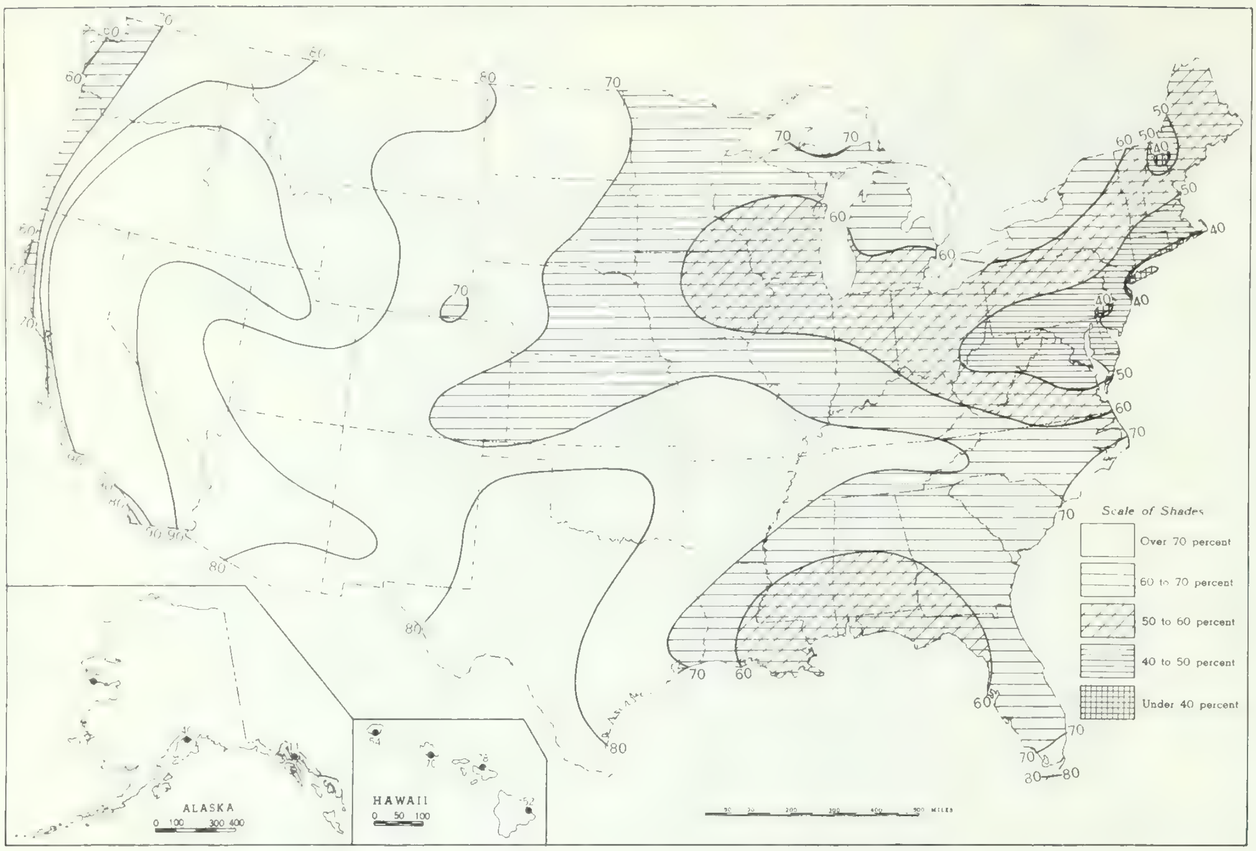
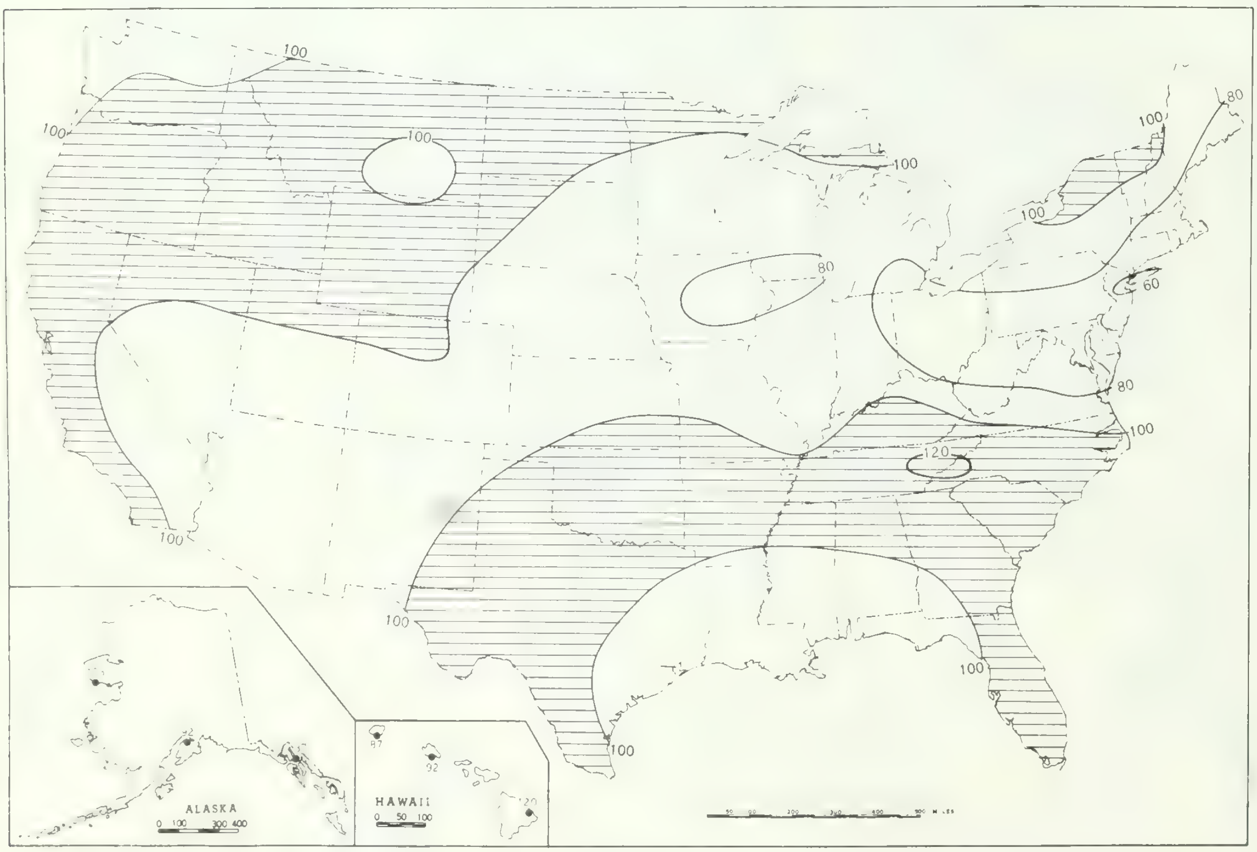


Chart VI. A. Percentage of Possible Sunshine, July 1969.

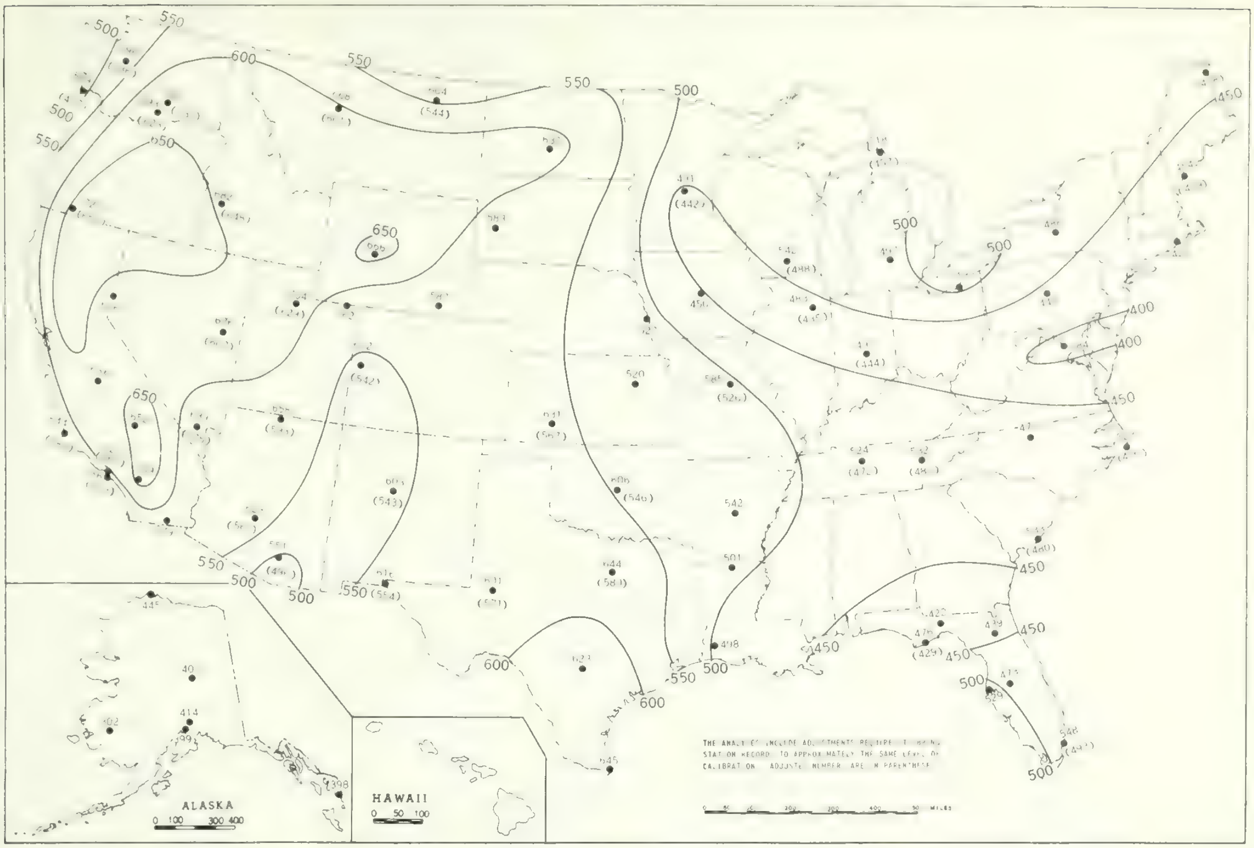


B. Percentage of Mean Monthly Sunshine, July 1969.

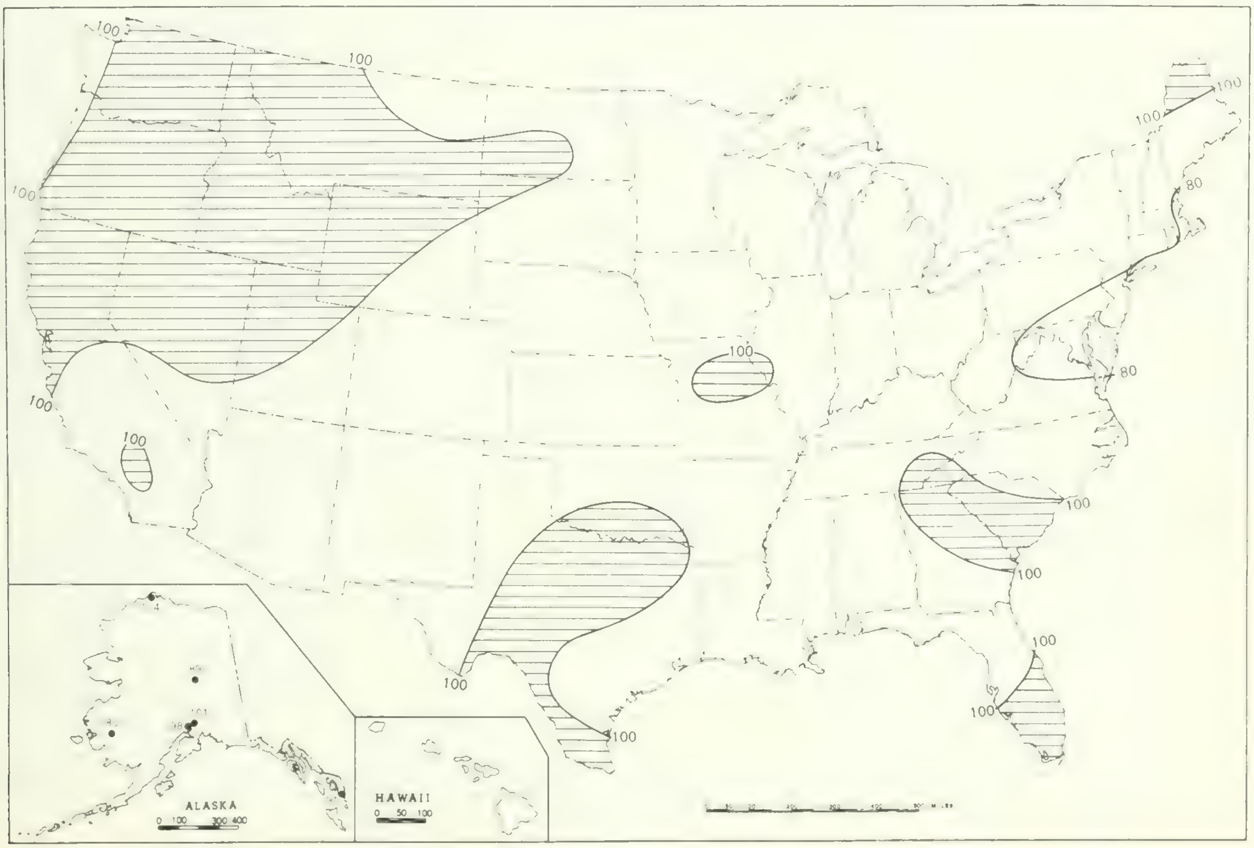


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, July 1969.

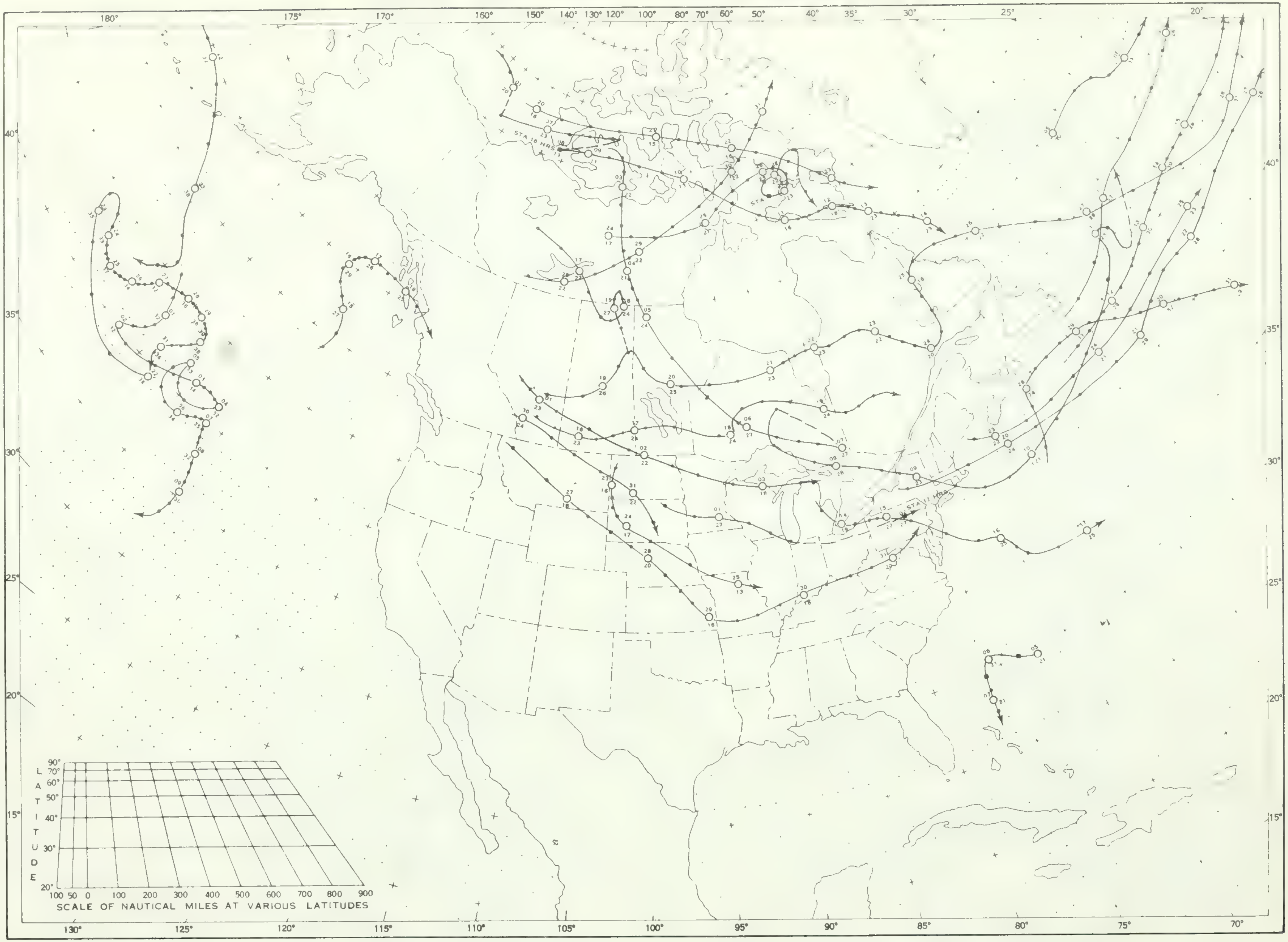


B. Percentage of Mean Daily Solar Radiation, July 1969.



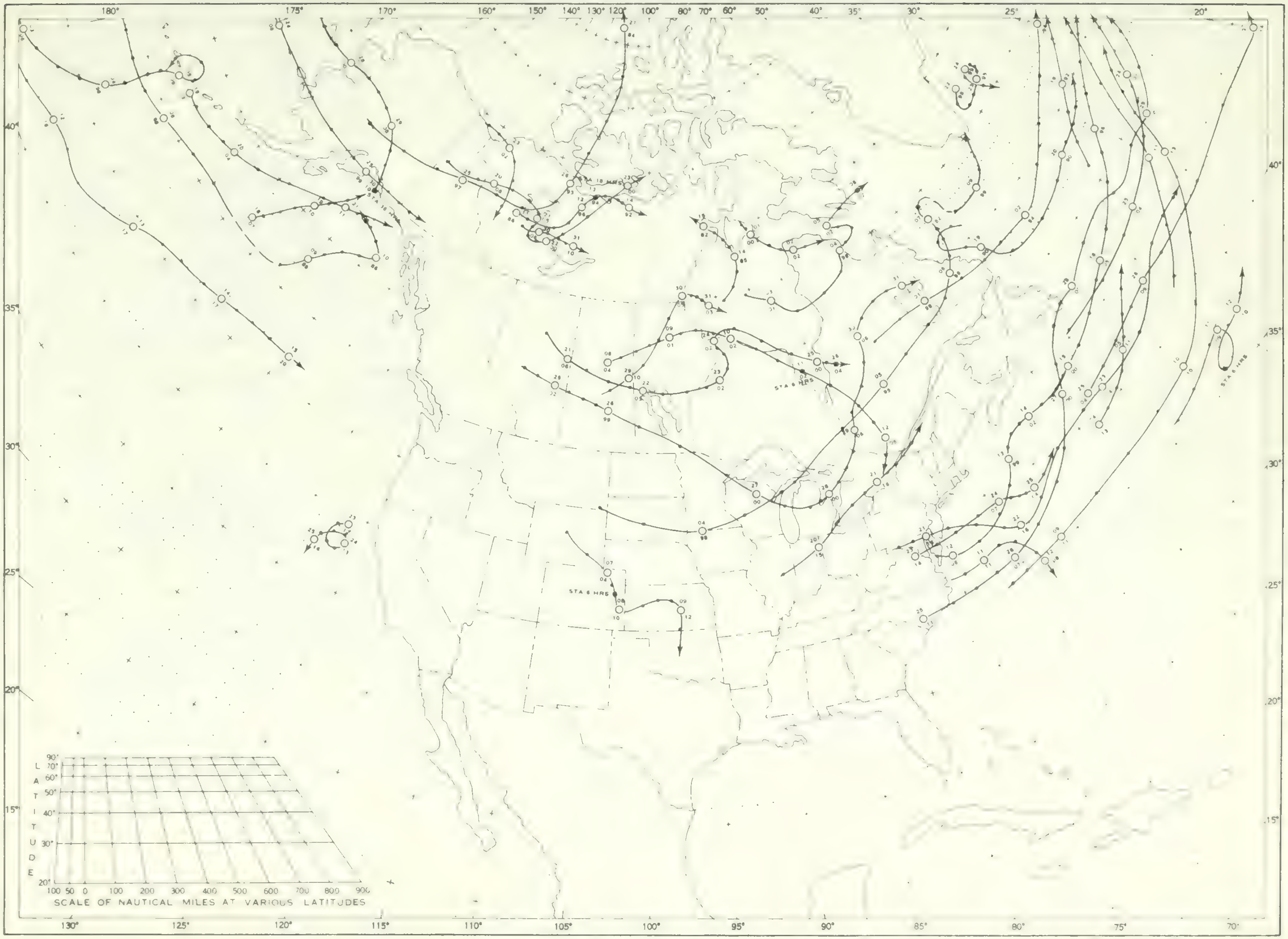
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, July 1969.



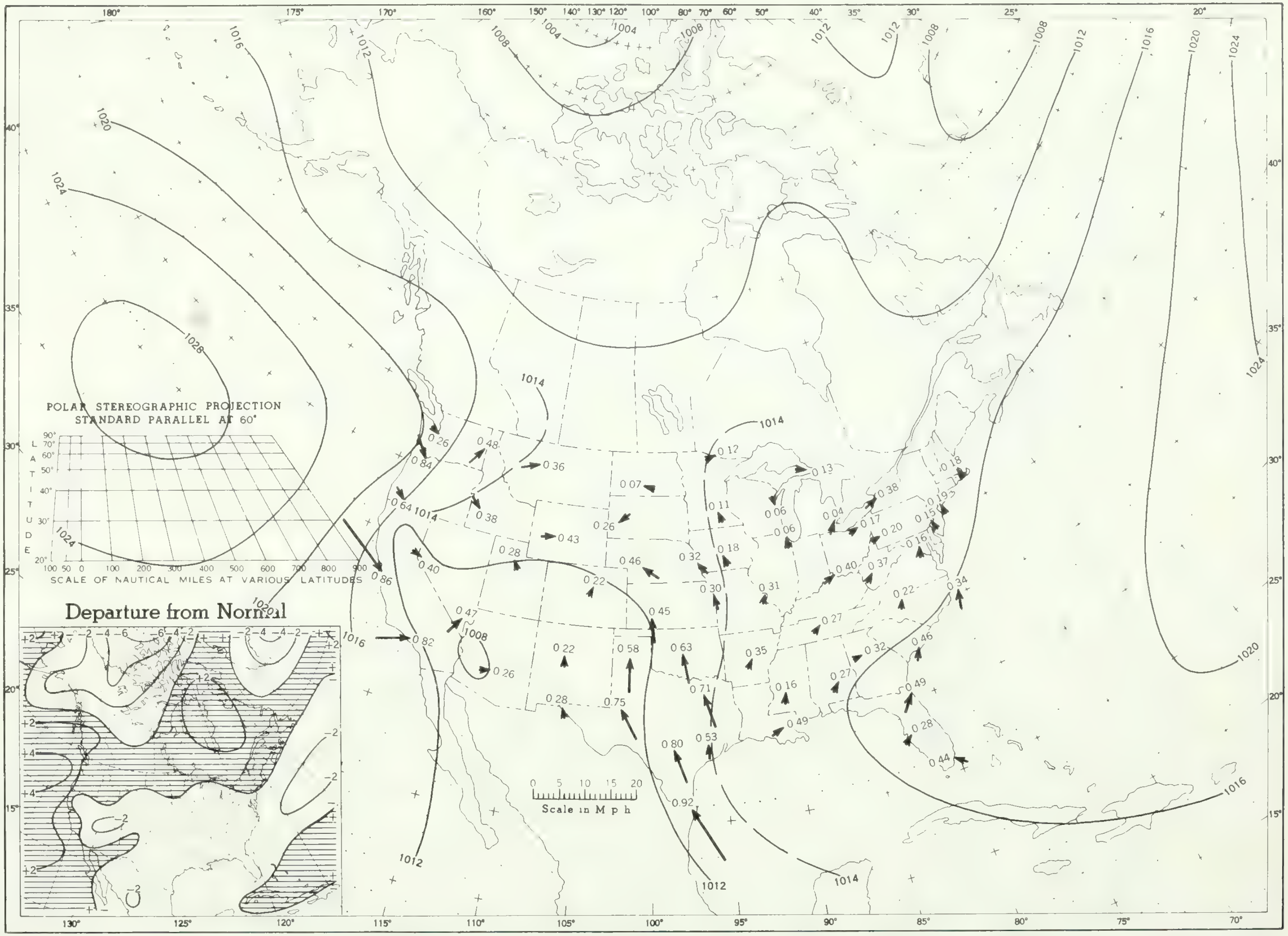
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, July 1969.



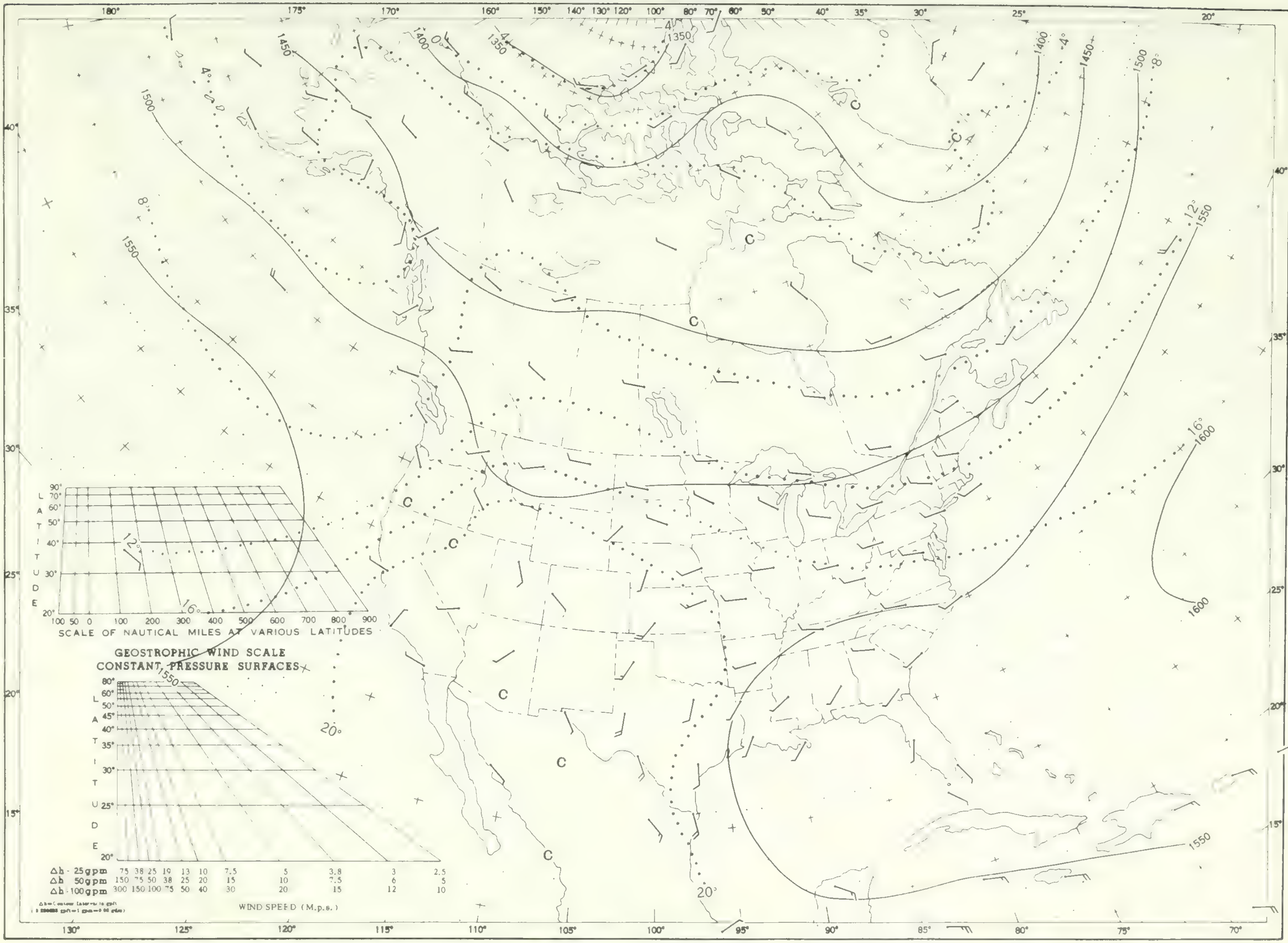
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, July 1969. Inset: Departure of Average Pressure (mb) from Normal, July 1969.



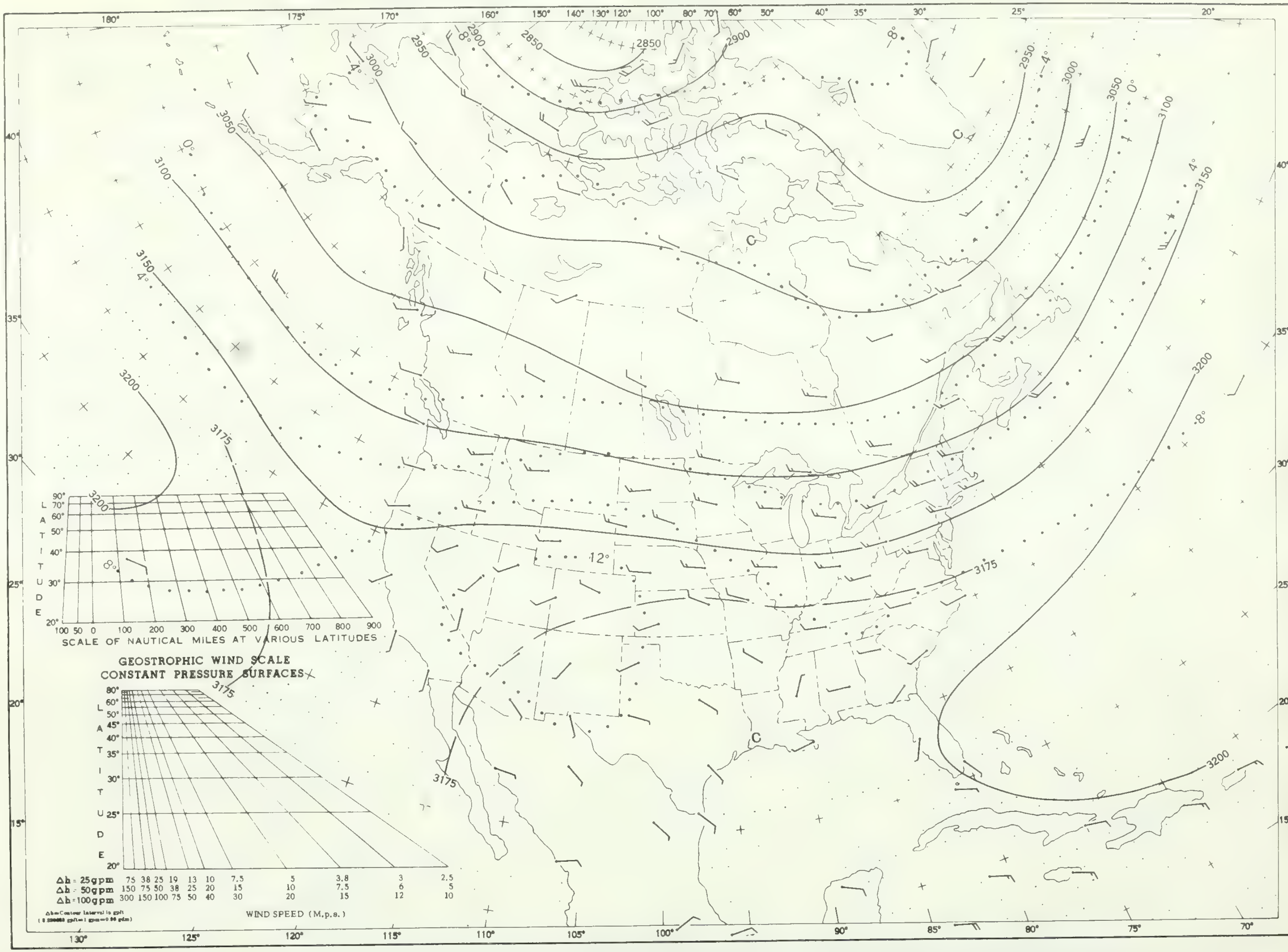
Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb Surface, 1200 GMT, July 1969. Average Height and Temperature, and Resultant Winds.



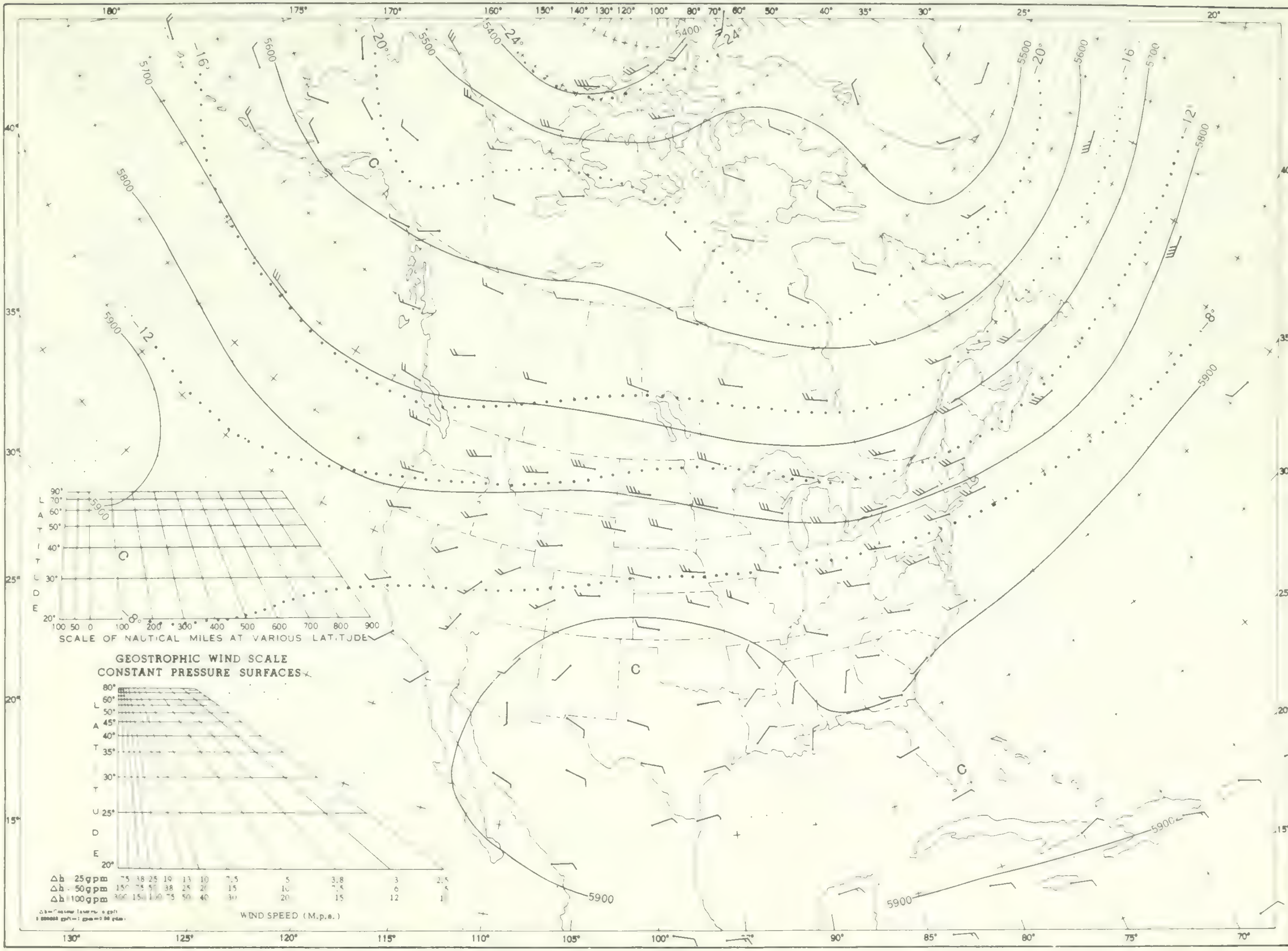
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb Surface, 1200 GMT, July 1969. Average Height and Temperature, and Resultant Winds.



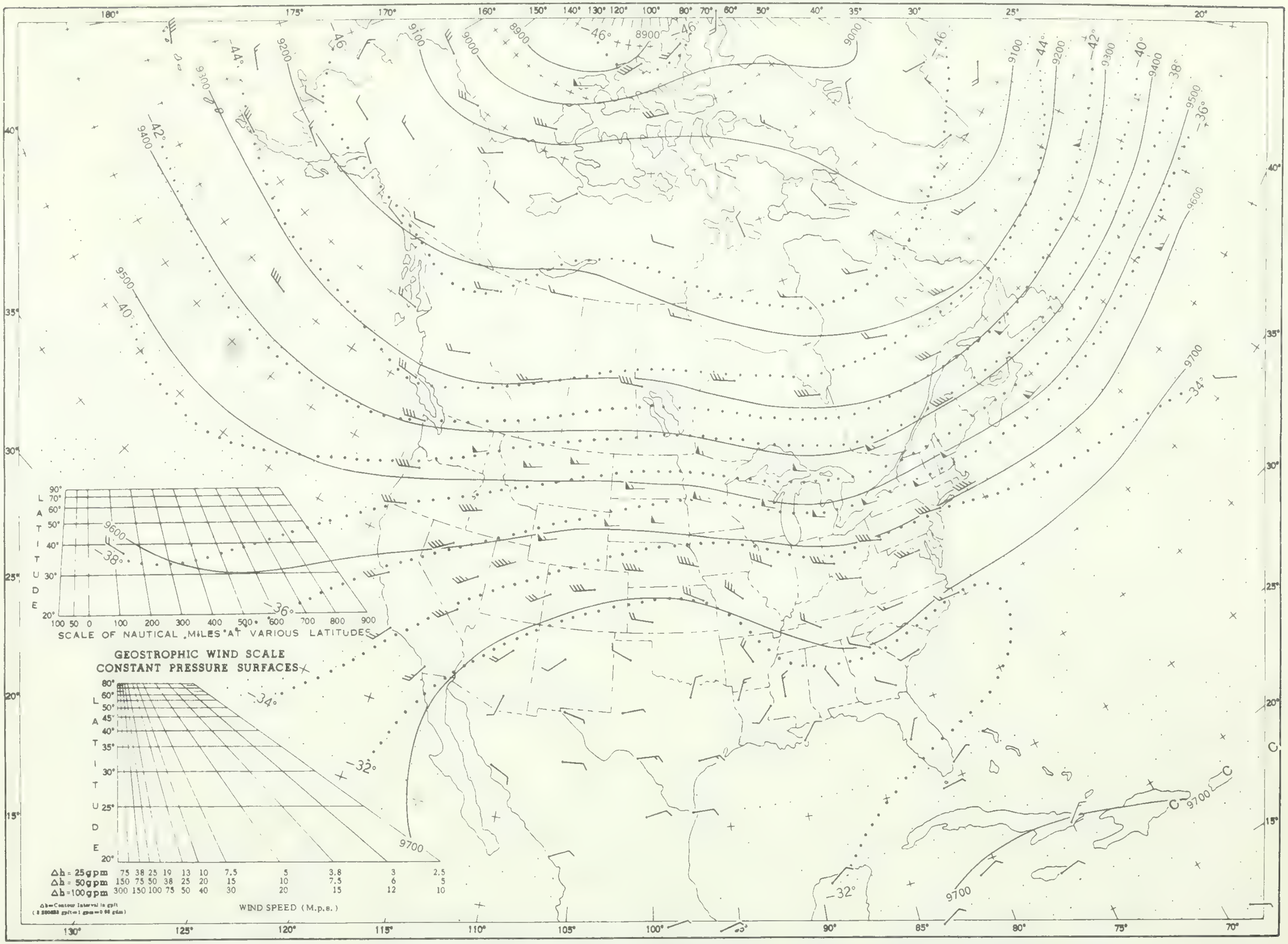
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, July 1969 Average Height and Temperature, and Resultant Winds



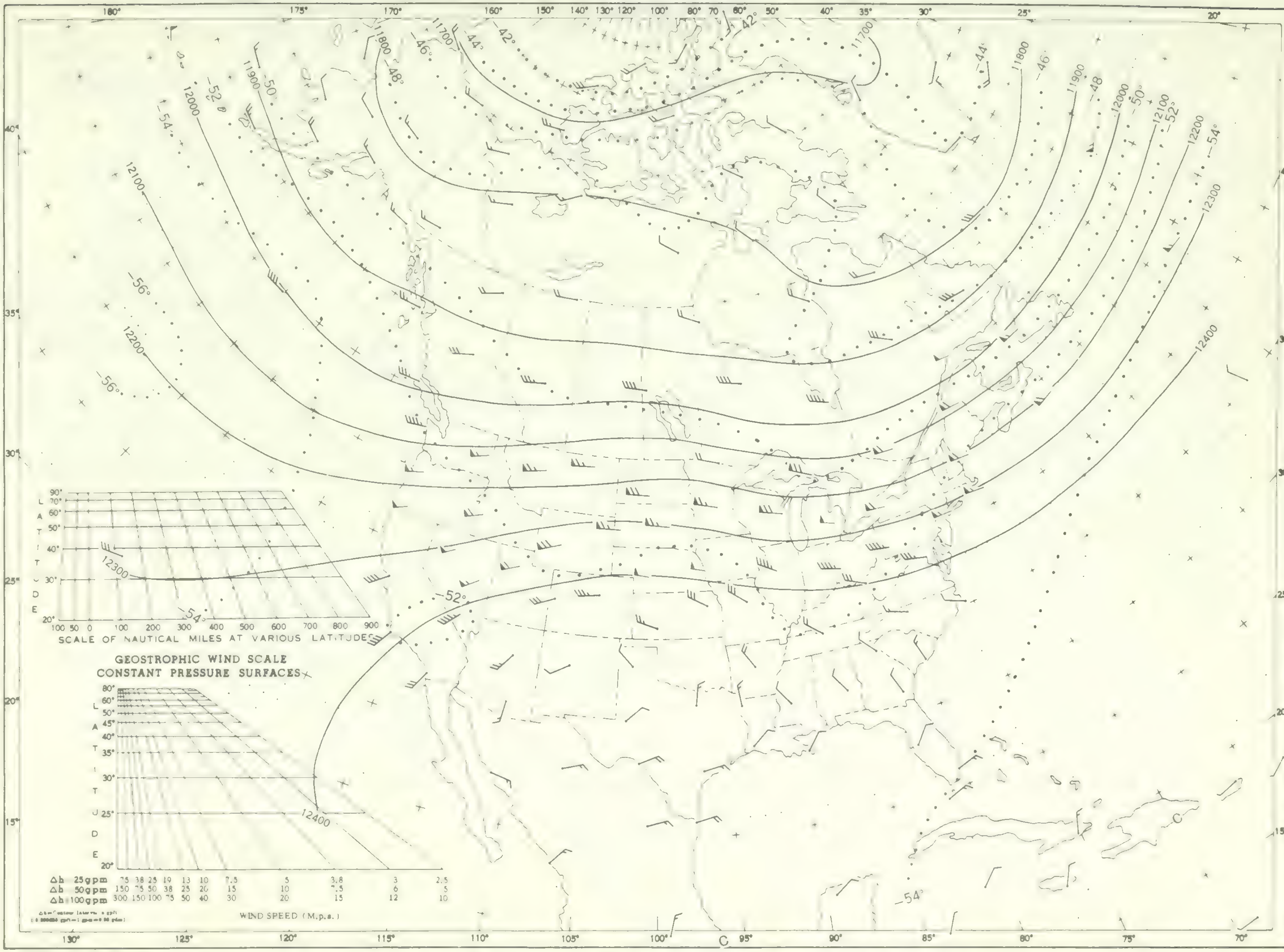
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, July 1969. Average Height and Temperature, and Resultant Winds



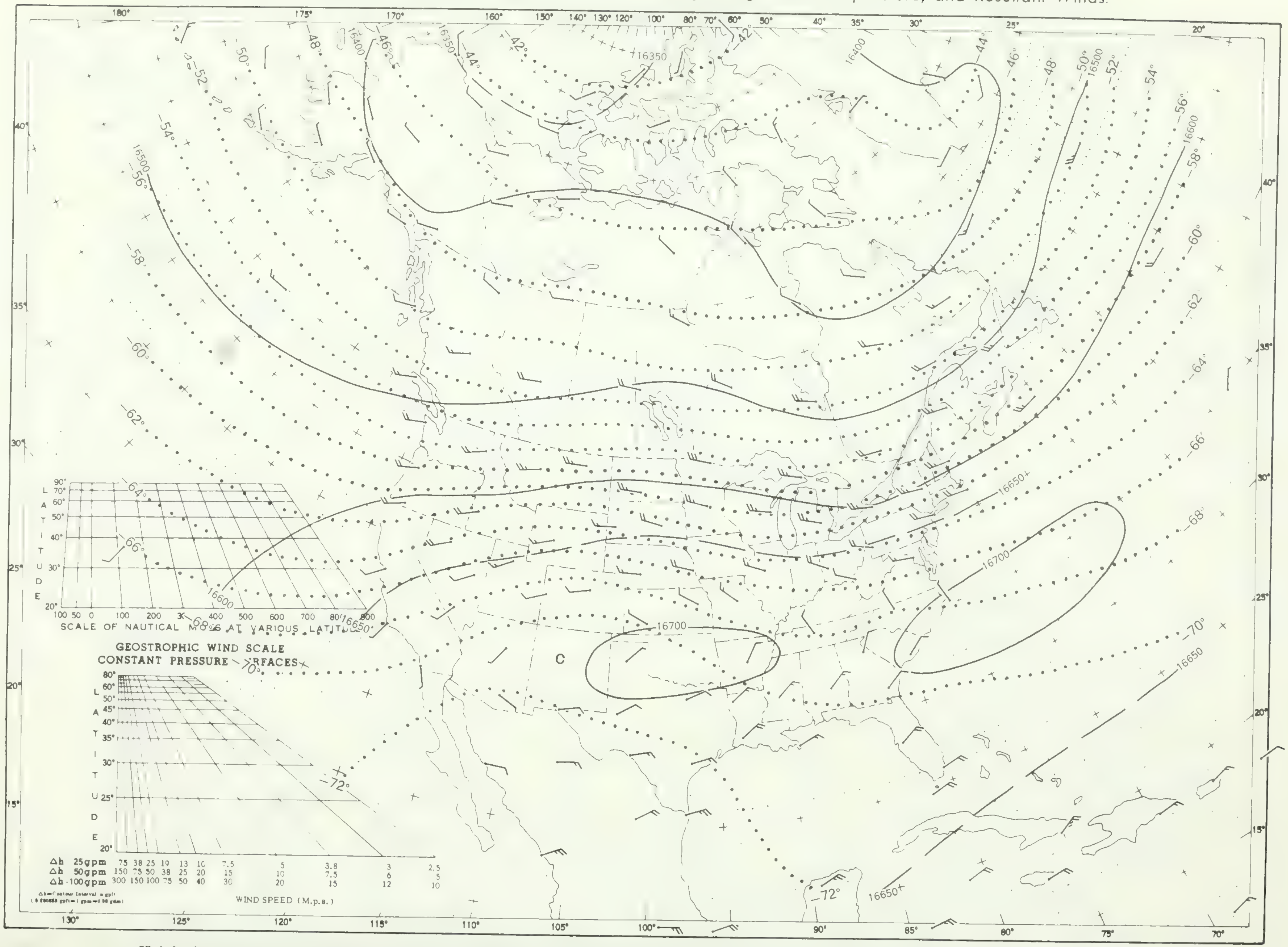
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV 200-mb Surface, 1200 GMT, July 1969 Average Height and Temperature, and Resultant Winds.



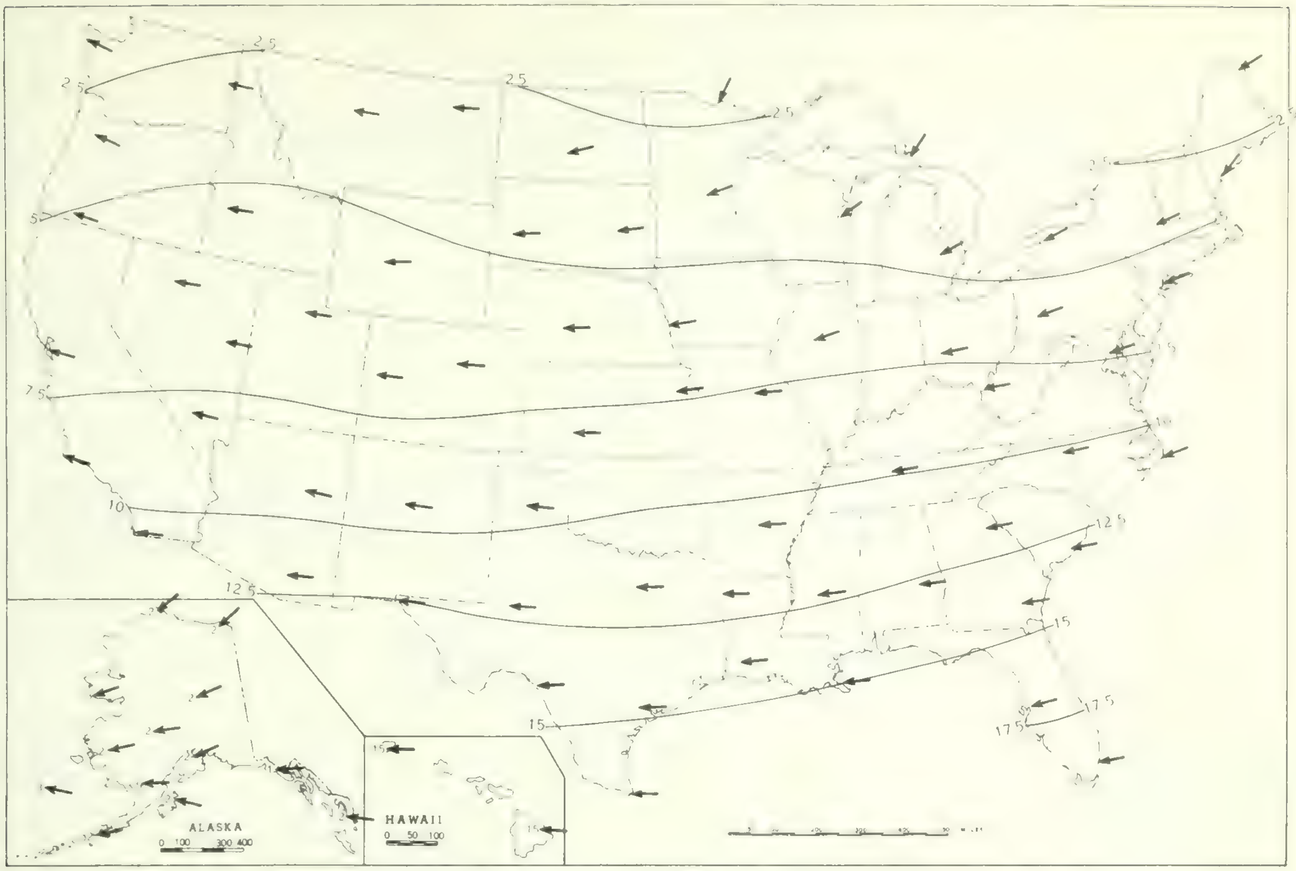
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, July 1969 Average Height and Temperature, and Resultant Winds.

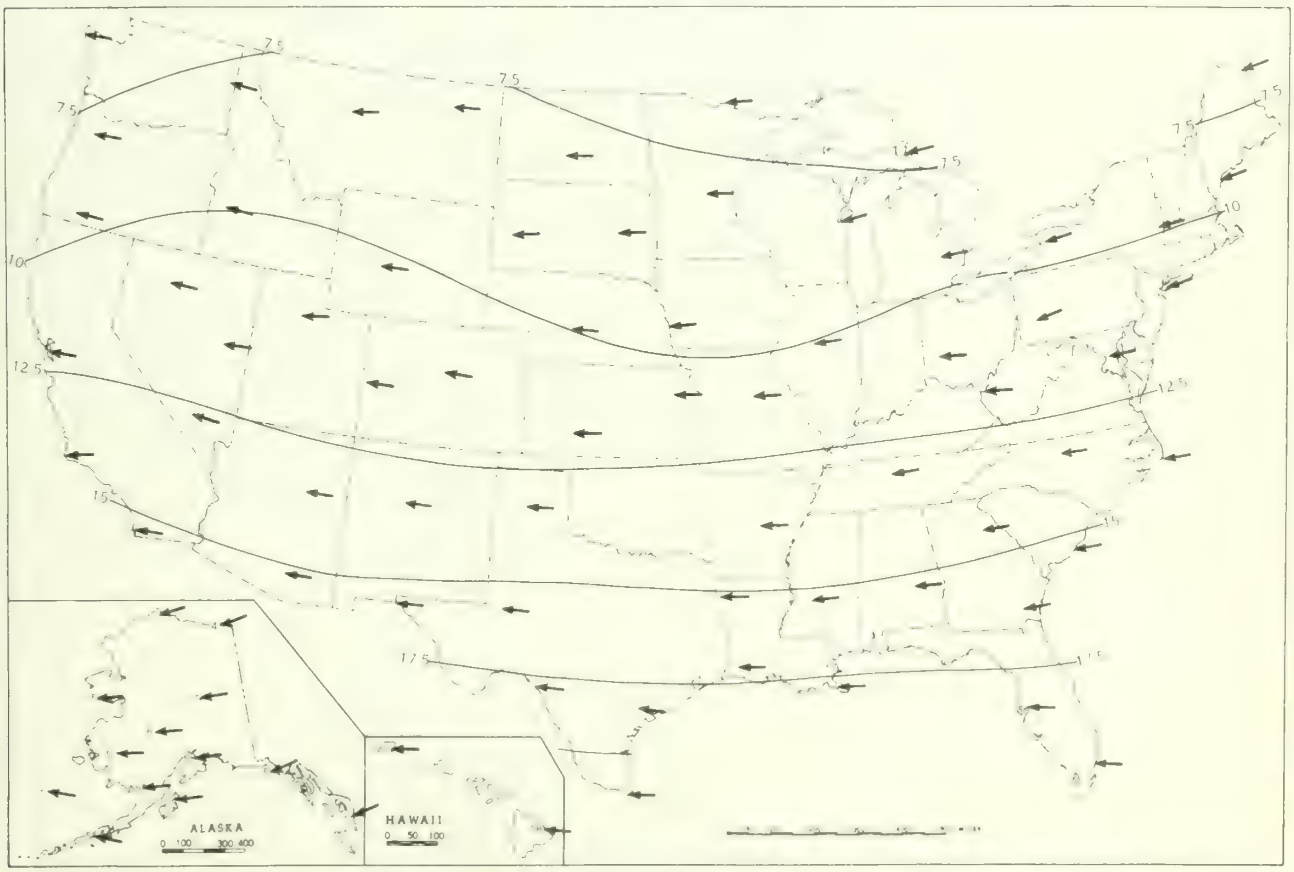


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, July 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, July 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

AUGUST 1969
Volume 20 No. 8

Asheville 1970

C O N T E N T S

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 8 AUGUST 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. Hot weather with little rain persisted in much of the West and some portions of the northern Great Plains.
2. One of the most devasting hurricanes of record hit Mississippi on the 17th.

TEMPERATURE.--Temperatures in the Far Northwest averaged near or slightly below normal in August. That area was cooler than normal throughout the month except for a short warm spell a few days before and after the end of the 3d week of August. Sweltering heat persisted in the southwestern deserts, with temperatures going above 100° on many days and from 110° to 117° on a few days. These areas averaged 4° to 5° warmer than in most years. Under sunny skies afternoon temperatures in Texas ranged from the upper 90's to 110° until the last week when maximums dropped to the upper 80's and low 90's. August temperatures in Texas averaged slightly above normal. The month averaged warmer than normal over the northern tier of States from Montana to New England. Afternoon temperatures soared to 100° in parts of Montana on 2 or 3 days in the 3d week of August but frost occurred in the western valleys of the State in the final week.

Temperatures averaged below normal from Kansas and Oklahoma to Pennsylvania, in the middle Atlantic coastal area, and the Deep South. Clouds and rain kept temperatures down over much of this area in the first 3 weeks. Cool, dry continental air lay over the Deep South in the last part of August. The final week was especially cool in South Carolina where the temperatures at some places averaged up to 6° below normal. Temperatures in the Northeast averaged near or above normal except below normal in the 3d week when cool dry continental air dropped minimums in the 40's and 50's and afternoon maximums in the 70's and 80's from Pennsylvania to New England. Monthly average temperatures in New York, New Jersey, and New England were 1° to 4° above normal.

Numerous temperature records were set in August 1969. El Paso, Texas, registered 100° or higher on 17 days. On the 11th, Waco, Texas, registered 112°, the hottest August temperature in 82 years. The temperature at Phoenix, Ariz., averaged 94.4°, the hottest in the 20th Century. Numerous other places, mostly in the Southwest, suffered the hottest August of record.

PRECIPITATION.--Heavy thundershowers occurred along the eastern seaboard and parts of the Deep South in the first few days of August. Storm totals exceeding 4 inches in some localities caused considerable flash flooding and erosion. While much of the South became too wet, local areas, missed by the rains, needed more moisture. About the end of the first week of August, a cold front edged into the northern Great Plains, setting off thunderstorms and killer tornadoes. Several tornadoes occurred in North Dakota on the late afternoon of the 5th and the forenoon of the 6th and a dozen touched down in Minnesota on the 6th. The worst of the tornadoes killed 12 persons, injured 70, and caused over $2 million damage to property in Cass and Aitken Counties, Minn. Ten tornadoes struck St. Louis County, Minn., causing additional losses of lives and property. Tornadoes struck Iowa on the 8th and Indiana and Ohio on the 9th. The most damaging of these killed 4 persons, injured 247, and caused extensive property damage in the Cincinnati, Ohio, area. The twister demolished 27 residences, caused heavy damage to 200 and minor damage to 2,300 others, besides damaging or destroying 25 businesses and 100 mobile homes.

Hurricane Camille slammed into the Mississippi coast on the 17th with winds estimated at 200 m.p.h. and tides 10 to 20 feet above mean sea level. The death toll in Mississippi and southwestern Louisiana stands at 137. Catastropic flooding followed 5- to 30-inch rains in southwestern Virginia as the storm, no longer a hurricane, moved eastward to the Atlantic. The torrential rains caused washouts, extensive flooding, and dreadful landslides which crushed buildings, killing the occupants and, in some cases, burying them in mud and debris. The death toll in Virginia stands at 153; 2 were killed in West Virginia.

Moderate to heavy showers fell in the Great Plains near the end of the third week of August. On the evening of the 23d, heavy showers caused minor local flooding in Colorado and Oklahoma. Showers were both frequent and generous in Texas in the last half of the month. Heavy showers at the end of August caused local flooding along the Little Blue River in south-central Nebraska and in north-central Kansas.

No rain or only light sprinkles fell in Oregon and northern and central California. Monthly totals less than an inch were common over most of the west and the northern portions of the Rocky Mountains and Great Plains.

Some new minimum precipitation records were established in August 1969. Among these were 0.08 inch at Dubuque, Iowa, 0.11 inch at Muskegon, Mich., and 0.05 inch at Glasgow, Mont., for the driest August of record.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

AUGUST 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	100	10+	4 Stations	50	30+	Bay Minette	14.37	Palmerdale 2W	0.47
Alaska	Point Retreat Light Sta	82	26	Clear Water	14	14	Five Finger Light Sta	24.45	Summit Nike Site	.00
Arizona	Willow Beach	122	6	Fort Valley	38	19	Tonto Creek Fish Htchy	7.17	3 Stations	.00
Arkansas	Fort Smith WBAP	106	9	2 Stations	49	31+	Pine Bluff	7.98	Bonnerdale	T
California	Baker 9NNW	123	10	Bodie	24	29+	Mitchell Caverns	1.64	453 Stations	.00
Colorado	Bonny Dam	108	9	Fraser	28	8	Stratton 3NE	9.43	Fort Morgan	.07
Connecticut	Hartford WBAP	94	24	Coventry	34	22	Shepaug Dam	7.34	Bridgeport WBAP	1.66
Delaware	7 Stations	91	31+	Milford 2WSW	47	28	Selbyville	10.73	Wilmington NCastle WBAP	2.34
Florida	2 Stations	101	21+	De Funiak Springs	55	26	Tarpon Spgs Sewage Pl	18.52	Miami Beach	1.84
Georgia	Bainbridge	99	19	Clayton 1W	45	23	Jesup 8S	20.94	2 Stations	1.10
Hawaii	Mauna Kea Beach 98	94	26	2 Stations	33	31+	Piihonua 89	43.00	9 Stations	.00
Idaho	2 Stations	112	24+	Stanley 1NNE	17	30	Swan Valley	1.10	50 Stations	.00
Illinois	Harrisburg	100	9	Marengo	43	22	Keithsburg 1NW	4.94	Galena	T
Indiana	3 Stations	98	30+	LaGrange Sewage Plant	42	22	Saint Meinrad	6.23	Elkhart	.33
Iowa	Albia	96	28	Waterloo WBAP	45	23	Webster City	7.16	Dubuque L&D No 11	.02
Kansas	Anthony	111	13	Atwood	47	16	Russell FAA AP	13.30	Wakefield	.25
Kentucky	2 Stations	101	10+	Vanceburg	48	11	Gilbertsville 1SE	7.72	Cumberland Falls St Pk	1.36
Louisiana	Minden	106	11	Winnfield 2W	56	5	Diamond 4NW	11.01	Book	T
Maine	Saco	94	25	Squa Pan Dam	32	27	Ripogenus Dam	7.03	Saco	2.17
Maryland	Baltimore WB City	96	25	Oakland 1SE	39	27	Crisfield Somers Cove	13.37	Cumberland	2.25
Massachusetts	Lowell	99	31	Chester 2	36	27+	Turners Falls	6.50	Hatchville	1.08
Michigan	2 Stations	96	30+	Herman	29	20	Tahquamenon Falls Park	6.91	Grand Haven Fire Dept	.01
Minnesota	Campbell	99	29	Cotton 10E	30	20	Indus	6.29	Beardsley	.01
Mississippi	Monticello	102	11	Batesville 2SW	52	7	Columbia	11.38	Stonesville Exp Sta	.94
Missouri	2 Stations	105	10	Louisiana Starks Nur	47	23	Kansas City WBAP	8.70	St Louis Gateway Arch	.18
Montana	Loma 1WNW	111	24	Wisdom	19	30	Ennis	3.20	20 Stations	.00
Nebraska	McCook	109	9	Agate 3E	39	14	Hastings	9.37	Saint Ann 3ESE	.13
Nevada	Sunrise Manor Las Vegas	116	1	Mountain City RS	21	30	2 Stations	1.20	40 Stations	.00
New Hampshire	Keene	94	24	Mount Washington	26	20	Mount Washington	7.50	Keene	2.21
New Jersey	8 Stations	94	26+	Sussex 1SE	39	22	Plainfield	10.96	Toms River	1.47
New Mexico	3 Stations	109	18+	Cloudcroft Ranger Sta	36	31	Queen Ranger Station	10.88	2 Stations	.00
New York	N.Y. John F. Kennedy INAP	97	25	Watertown FAA AP	30	27	Warwick	7.09	Wilson 2NE	.40
North Carolina	Cedar Island	96	10	Celo 2S	39	23	Lake Toxaway 2SW	21.61	Yadkinville 6E	1.65
North Dakota	Medora 22NNW	106	22	2 Stations	34	28+	Ashley	3.45	Bowman 11SE	.09
Ohio	Wilmington	98	18	do	39	21	Greenville Water Plt	7.10	Willoughby-Eastlake	.23
Oklahoma	2 Stations	114	13	Beaver	53	10	Hollis	7.65	Valliant 1E	.10
Oregon	Spray	108	23	Fremont	16	29	Bonneville Dam	1.45	141 Stations	.00
Pennsylvania	Phoenixville 1E	98	24	Clermont 4NW	30	27	Lehighton	9.37	Greenville	.60
Puerto Rico	2 Stations	94	27+	Cerro Maravilla	57	12	Maricao Fish Hatchery	13.73	Fredericksted Fort	.80
Rhode Island	Providence WBAP	92	25+	Kingston	38	22	Newport	4.39	Providence WBAP	2.58
South Carolina	Bamberg	98	8	Johnston 2SSW	46	30	Edisto Island 5SW	17.38	Batesburg	1.96
South Dakota	Orman Dam	110	11	2 Stations	38	14	Sioux Falls WBAP	5.07	2 Stations	T
Tennessee	2 Stations	101	10+	Unicoi 3ESE	42	23	Dresden	11.00	Woodbury 1WNW	1.35
Texas	Langtry	113	18	Marfa No 2	51	9	Eagle Pass	8.72	2 Stations	.00
Utah	Saint George	112	5	Ibapah	21	30	Blanding	3.46	do	.00
Vermont	2 Stations	92	25	West Burke	33	22	Huntington Center	7.30	Mays Mill	2.52
Virginia	Charlottesville 1W	105	27	Pulaski 2E	41	23	Louisa	16.33	Chase City	1.70
Washington	2 Stations	104	24+	2 Stations	29	29	Quillayute WBAP	3.43	63 Stations	.00
West Virginia	do	94	31+	Canaan Valley	35	27+	Mc Ross	8.29	Moundsville	1.60
Wisconsin	Grantsburg 1E	97	29	Laona 4SSW	31	20	Brule Ranger Station	5.08	Cashton 2S	.00
Wyoming	Basin	106	25	Bondurant 3NW	15	31	Carpenter 3E	1.52	8 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M.p.h.		M.p.h							%
ALABAMA																																
BIRMINGHAM	620	993.6	1015.5	89	67	77.8	-3.3	95	27+	58	25+	16	0	67	73	1.76	-3.09	0.49	11	6	0.0	0	2.9	11	27	SE	18	10	12	9	5.6	60
HUNTSVILLE	624	993.2	1015.8	89	67	77.8	-2.4	98	9	58	24+	14	0	65	69	3.38	0.09	1.10	9	6	0.0	0	2.2	10	25	13	18	16	9	6	4.4	
MOBILE	211	1006.4	1014.2	89	72	80.6	-1.5	96	10	65	26	15	0	71	78	12.05	5.61	6.62	12	9	0.0	0	2.9	8	63	14	18	4	19	8	6.3	
MONTGOMERY	183	1008.1	1015.3	88	68	78.0	-3.7	93	21+	59	25	13	0	68	76	5.06	0.96	1.89	13	8	0.0	0	1.7	11	24	N	3	10	8	13	5.8	55
ALASKA												B																				
ANCHORAGE	114	1003.4	1008.4	62	46	54.2	-1.7	73	4	33	14	2	0	41	62	0.33	-2.24	0.13	6	0	0.0	0	0.3	20	23	17	5+	6	7	18	7.1	61
ANNETTE	110	1008.1	1012.0	63	53	58.0	-0.4	75	4	46	12	4	0	50	78	11.25	3.74	2.62	23	0	0.0	0	6.0	14	29	10	16+	2	3	26	8.7	
BARROW	31	1009.1	1009.8	35	28	31.8	-6.1	57	31	24	13+	0	30	30	95	0.88	-0.02	0.45	11	0	4.0	2	4.2	31	26	34	10+	0	3	28	9.2	
BARIER ISLAND	39	1007.1	1008.9	38	29	33.5	-6.5	52	4+	25	12+	0	29	31	92	1.50	0.45	0.49	15	0	7.4	3	6.0	28	44	27	17	1	3	27	9.0	
BETHEL	125	1006.4	1012.1	56	42	49.0	-3.3	65	26	34	23	0	0	43	82	3.25	-0.95	1.34	15	0	0.0	0	4.7	29	32	19	4	2	4	25	8.4	
BETTLES	644	983.7	1009.1	55	36	45.2		65	29	26	10	0	10	35	70	2.26		0.64	11	0	2.6	2	1.9	30	29	36	10+	2	4	25	8.4	
BIG DELTA	1268	962.8	1009.0	58	39	48.4		74	4	26	14	1	5	36	65	0.71		0.19	10	0	T	0	2.3	25	23	19	28+	2	13	16	7.2	
COLD BAY	96	1013.5	1017.1	59	48	53.4	2.1	73	5	38	25	1	0	48	82	5.02	0.77	1.92	17	0	0.0	0	9.3	29	38	27	10	0	4	27	9.0	
FAIRBANKS	436	992.2	1009.3	61	39	49.8	-4.5	76	29	31	10	4	5	36	64	2.04	-0.16	0.78	12	1	T	0	2.3	23	27	25	7+	3	12	16	7.2	
GULKANA	1572	951.6	1008.4	60	35	47.8		76	4	24	15	3	13	34	61	0.59		0.37	6	0	T		1.7	20	25	20	9	2	15	14	6.9	
HOMER	67			60	42	50.7		67	10+	33	20+	0	0			0.98	-1.84	0.39	10	1	0.0	0						5	12	14	6.5	
ILIAMNA	186			60	45	52.3		69	6	35	22	0	0			4.59		1.17	16	0	0.0	0						8	7	16	6.6	
JUNEAU	12	1008.8	1009.7	57	44	50.3	-3.8	69	2	31	24	0	1	47	92	7.54	2.52	1.48	23	0	0.0	0	3.8	10	35	12	10	3	4	24	8.7	29
KING SALMON	49	1008.5	1010.4	59	43	50.9	-3.7	68	26	33	19+	0	0	41	71	3.42	-0.01	0.83	19	0	0.0	0	4.2	26	29	18	29	1	7	23	8.2	
KOTZEBUE	10	1009.8	1010.2	51	40	45.4	-5.2	63	27	34	10+	0	0	38	77	1.32	-0.84	0.72	10	0	T	0	8.5	32	49	30	6	5	8	18	7.2	
MC GRATH	344	997.6	1010.3	58	39	48.4	-5.7	69	27	27	14	0	8	36	64	2.67	-1.12	0.52	15	0	0.0	0	2.2	28	21	21	4	8	6	17	7.0	
NOME	13	1009.8	1010.8	53	37	45.2	-3.8	62	27	28	22+	0	7	37	71	2.29	-1.51	1.26	11	0	0.0	0	3.3	31	29	23	4	5	9	17	7.1	36
ST. PAUL ISLAND	22	1014.6	1015.4	54	45	49.9	2.3	60	7	36	18	0	0	48	90	4.01	0.72	0.96	18	0	0.0	0	5.4	26	29	29	29	1	1	29	9.5	
SHEMYA	122	1008.5	1012.1	54	48	50.7	1.0	58	29	45	31+	0	0	49	96	7.13	5.01	1.57	24	0	0.0	0	4.1	15	35	36	31	0	2	29	9.5	
SUMMIT	2401	923.5	1009.2	53	35	44.1		61	24+	27	12	0	14	32	66	1.59		0.55	11	0	0.2	0	1.0	30	23	23	28+	3	7	21	8.1	
TALKEETNA	345	995.6	1008.9	63	38	50.6	-4.1	74	3	27	14	3	9	40	69	1.91	-3.42	1.08	11	0	0.0	0	0.6	31	21	3	13+	7	5	19	6.6	
UNALAKLEET	15	1009.8	1010.6	54	39	46.5		66	27	30	23+	0	6	40	78	3.03		0.84	13	1	0.0	0	3.4	30	41	24	2	4	8	19	7.2	
YAKUTAT	28	1007.5	1008.6	57	40	48.5	-5.3	63	24	30	25	0	4	45	89	6.05	-4.87	1.68	19	2	0.0	0	1.9	12	22	11	10	3	3	25	8.5	
ARIZONA																																
FLAGSTAFF	7006	790.7	1014.8	79	51	65.1	1.2	86	9+	42	20	0	0	52	67	1.90	-0.94	0.35	15	22	0.0	0	0.9	23	23	23	11+	5	16	10	6.2	
PHOENIX	1117	968.5	1005.9	106	83	94.4	6.9	114	5	74	14	31	0	61	35	0.14	-0.98	0.05	6	13	0.0	0	1.0	14	46Y	ENE	7	17	9	5	3.6	86
TUCSON	2584	922.1	1007.4	99	74	86.3	3.2	106	5	70	18	31	0	61	49	2.57	-0.31	0.82	11	16	0.0	0	3.5	18	54	NE	7	12	14	5	4.8	84
WINSLOW	4895	851.3	1010.8	93	65	78.9	1.1	100	9+	57	31+	22	0	55	49	0.83	-0.60	0.22	11	11	0.0	0	2.2	22	29	24	26+	11	13	7	5.0	
YUMA	194	998.0	1005.0	108	84	95.9	4.3	115	22+	75	20	31	0	64	38	T	-0.50	T	0	1	0.0	0	5.6	17	35	S	6	23	4	4	2.5	91
ARKANSAS																																
FORT SMITH	447	998.0	1014.1	92	68	80.0	-2.3	106	9	62	31	24	0	65	64	2.37	-0.55	1.85	5	5	0.0	0	4.1	10	25	SW	21	19	5	7	3.6	77
LITTLE ROCK	257	1005.4	1014.7	91	67	79.0	-2.3	102	9	58	13	19	0	67	71	2.73	-0.09	1.83	7	4	0.0	0	2.4	11	28	NE	2	14	7	10	4.2	76
CALIFORNIA																																
BAKERSFIELD	475	991.5	1008.6	101	72	86.2	4.5	107	3	63	26	31	0	49	29	T	0.00	T	0	0	0.0	0	3.2	33	18	31	24	28	2	1	1.0	
BISHOP	4108	871.7		98	55	76.8	2.5	103	9+	47	30	31	0			0.04	-0.08	0.03	2		0.0	0						23	7	1	1.6	
BLUE CANYON	5280			81	62	71.5	4.8	87	22+	54	28	0	0			0.00	-0.06	0.00	0		0.0	0			17	19	28	27	3	1	1.0	
EUREKA U	43			60	51	55.8	-0.9	68	31	49	30+	0	0			T	-0.10	T	0		0.0	0			25	NW	4	9	18	4	4.6	71
FRESNO	328	997.0	1008.6	98	61	79.7	0.8	103	21	53	29	30	0	55	47	0.00	-0.01	0.00	0	0	0.0	0	3.2	29	21	NW	4	25	4	2	1.3	96
LONG BEACH	34	1008.5	1010.0	86	64	75.2	2.9	96	22	61	23+	9	0	61	69	T	-0.03	T	0	0	0.0	0	2.3	26	18	28	22	18	12	1	3.3	
LOS ANGELES	97	1005.8	1009.4	77	65	71.0	1.9	86	10	60	23	0	0	63	79	0.00	-0.02	0.00	0	0	0.0	0	6.2	25	23Y	W	21	14	10	7	4.5	
LOS ANGELES U	270			87	67	77.0	3.9	97	22	61	19	13	0			0.00	-0.04	0.00	0		0.0	0			14	SW	18	26	5	0	1.8	92
MT SHASTA R	3544			85	50	67.8	1.1	93	31	41	26	8	0			0.00	-0.18	0.00	0		0.0	0										
OAKLAND	6	1010.8	1011.2	72	55	63.4	-0.8	83	13	51	14	0	0	53	74	0.00	-0.03	0.00	0	0	0.0	0	7.2	30	21	31	10	24	6	1	1.8	
RED BLUFF	342	996.6	1009.1	101	65	83.1	2.1	110	2+	57	24	31	0	40	25	0.00	-0.06	0.00	0	0	0.0	0	1.3	32	24	N	5	27	3	1	0.8	98
SACRAMENTO	17	1008.5	1009.2	98	58	77.9	3.8	106	3	52	24+	28	0	52	49	0.00	-0.02	0.00	0	0	0.0	0	4.0	22	20	W	17	27	3	1	1.0	100
SANDBERG R	4517	861.5		88	65	76.4	3.1	93	15+	58	29+	12	0	37	28	T	-0.09	T	0		0.0	0	2.5	24	30	34	5+	26	4	1	1.1	
SAN DIEGO	13	1008.5	1009.4	79	67	72.8	1.0	89	22	64	29+	0	0	63	75	0.01	-0.07	0.01	1	0	0.0	0	4.3	28	21	NW	22	18	8	5	3.7	78
SAN FRANCISCO	8	1010.8	1011.4	73	53	63.0	0.2	81	29+	49	14	0	0	50	72	T	-0.02	T	0	0	0.0	0	13.9	30	32	27	28	27	3	1	1.3	
SAN FRANCISCO U	52			66	53	59.4	0.0	74	29	48	14	0	0			T	-0.04	T	0		0.0	0			27	W	22+					90
SANTA MARIA	236			73	51	62.4	0.0	83	4	46	27+	0	0			T	-0.03	T	0		0.0	0						22	9	0	2.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In			In	In	M.p.h.		M p.h							%
CALIFORNIA																																
STOCKTON	22	1008.5	1009.6	97	61	79.1	2.9	104	3+	55	24	29	0	50	41	0.00	0.00	0.00	0	0	0.0	0	6.0	30	18	29	24	26	5	0	0.9	
COLORADO																																
ALAMOSA	7536	776.2		82	50	65.9	2.9	89	2	43	21	0	0			1.31	0.33	0.77	11		0.0	0						13	14	4	4.1	
COLORADO SPRINGS	6145	814.1	1013.7	84	57	70.2	1.0	96	8	52	14+	6	0	51	59	2.38	0.22	0.66	13	12	0.0	0	2.5	5	31	35	7	9	16	6	5.0	
DENVER	5283	837.8	1011.4	89	59	73.9	2.4	100	8	54	26	15	0	50	50	0.79	- 0.49	0.53	10	8	0.0	0	0.4	14	25	33	29+	9	16	6	4.7	75
GRAND JUNCTION	4843	852.0	1010.0	95	64	79.5	4.0	103	6	57	31+	24	0	46	36	0.88	- 0.19	0.62	7	8	0.0	0	2.9	16	45	NW	16	14	12	5	3.8	83
PUEBLO	4684	856.1	1010.9	92	66	79.0	4.4	104	8+	56	15	21	0	54	47	1.58	- 0.27	0.82	9	8	0.0	0	2.0	9	41	N	3	11	16	4	4.4	73
CONNECTICUT																																
BRIDGEPORT	7	1015.2	1015.8	83	64	73.3	1.0	93	25	48	22	1	0	64	74	1.66	- 2.79	0.49	10	6	0.0	0	5.5	25	28	31	8	11	10	10	5.2	
HARTFORD	169	1008.5	1014.8	85	61	73.3	2.1	94	24	44	22	4	0	62	72	3.32	- 0.69	2.33	8	5	0.0	0	3.0	23	21	NW	21	8	13	10	5.6	67
DELAWARE																																
WILMINGTON	74	1013.5	1016.5	84	66	75.4	1.1	91	25	54	21	1	0	64	71	2.34	- 3.25	1.36	8	6	0.0	0	2.5	23	21	34	26+	10	[illegible]	13	5.3	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1014.6	1016.9	86	67	76.3	- 0.2	92	25+	5[illegible]	28+	4	0	65	69	6.98	2.08	2.69	10	5	0.0	0	1.8	23	44	NW	2	13	5	13	5.1	66
FLORIDA																																
APALACHICOLA U	13			87	74	80.3	- 1.2	92	21	69	30	2	0			15.47	7.73	4.73	17	11	0.0	0			34	SE	17	5	13	13	6.5	50
DAYTONA BEACH	31	1014.6	1015.8	88	73	80.4	- 0.3	94	10	68	27	11	0	72	81	9.40	3.03	4.13	15	14	0.0	0	2.0	12	23	26	12	1	19	11	6.8	
FORT MYERS	15	1014.6	1014.9	90	75	82.2	- 0.5	92	22+	71	30	19	0	74	82	8.49	1.11	2.75	15	15	0.0	0	2.5	10	29	32	10	8	12	11	5.9	
JACKSONVILLE	20	1014.6	1015.6	90	73	81.2	- 1.1	97	2	66	27	15	0	73	81	15.10	8.25	3.05	19	17	0.0	0	2.8	13	52	NE	6	3	13	15	6.9	59
KEY WEST	4	1013.5	1014.2	89	81	84.9	1.3	91	8	75	26+	9	0	76	76	2.25	- 2.08	1.10	9	10	0.0	0	6.8	13	34	S	3	5	15	11	6.3	80
LAKELAND U	214			89	73	80.8	- 1.1	93	21+	69	12	17	0			6.40	- 0.68	2.18	19		0.0	0						2	19	10	6.1	59
MIAMI	7	1014.2	1014.5	90	77	83.5	1.2	93	24+	73	30+	21	0	72	71	4.31	- 2.66	1.39	17	15	0.0	0	4.4	12	24	28	11	4	17	10	6.5	
ORLANDO	108	1011.2	1015.4	91	73	82.2	- 0.6	95	10	69	27	23	0	72	77	7.17	0.23	2.22	19	17	0.0	0	1.9	15	28	24	3	4	14	13	6.7	
TALLAHASSEE	55	1012.9	1015.1	90	71	80.2	- 0.9	96	21+	61	27	21	0	73	82	4.88	- 2.05	1.70	12	9	0.0	0	2.3	7	23	19	10	5	12	14	6.1	
TAMPA	19	1014.6	1014.7	89	73	80.9	- 1.1	92	28+	68	27	18	0	71	78	11.88	3.64	3.10	20	20	0.0	0	2.4	13	23	25	4	4	10	17	7.0	74
WEST PALM BEACH	15	1014.2	1014.8	89	74	81.4	- 1.6	94	23+	68	21	9	0	73	78	7.75	1.01	2.40	17	16	0.0	0	3.2	12	29	12	2	5	15	11	6.4	
GEORGIA																																
ATHENS	802	987.8	1016.3	86	66	76.2	- 2.8	95	9	58	29	6	0	66	76	5.92	2.29	3.05	12	9	0.0	0	2.1	8	17	25	19	9	8	14	6.0	
ATLANTA	1010	980.4	1016.3	85	67	76.1	- 2.1	91	9	58	22	3	0	67	79	6.12	2.52	1.79	14	5	0.0	0	3.5	9	29	S	19	8	7	16	6.2	69
AUGUSTA	136	1010.8	1016.0	86	67	76.3	- 3.9	93	9	55	24	8	0	68	82	4.80	0.91	1.98	10	8	0.0	0	1.5	9	23	11	31+	6	8	17	6.7	
COLUMBUS	385	1002.0		87	69	78.0	- 2.7	93	27+	58	25	9	0	68	77	2.93	- 1.71	0.72	14	10	0.0	0	3.2	7	29	18	18	10	7	14	6.2	
MACON	354	1003.4	1016.2	88	67	77.1	- 4.2	94	20+	56	25	12	0	68	79	6.88	2.70	2.67	11	7	0.0	0	2.5	7	25	E	13	10	7	14	5.9	60
ROME	637			87	64	75.5	- 2.9	94	9	55	24	6	0			7.35	3.59	3.52	12		0.0	0										
SAVANNAH	46	1014.2	1016.0	86	72	78.9	- 2.1	93	19+	66	26+	8	0	71	80	10.33	3.71	1.49	16	8	0.0	0	2.3	7	34	NW	3	6	7	18	7.3	45
HAWAII																																
HILO	27	1014.9	1016.1	84	69	76.2	0.4	87	27	67	9	0	0	69	84	17.50	6.05	5.11	30	0	0.0	0	0.3	34	17	E	15	0	12	19	7.7	52
HONOLULU	7	1015.2	1015.7	90	76	83.2	3.8	92	27+	73	29+	28	0	67	62	0.11	- 0.78	0.05	6	0	0.0	0	14.6	6	30	E	13	6	23	2	4.9	76
KAHULUI	48	1013.2	1015.4	88	71	79.5	0.5	92	8	63	9	2	0	67	70	0.71	0.36	0.23	12	0	0.0	0	12.7	5	30	E	26+	12	15	4	4.7	74
LIHUE	103	1012.2	1017.2	85	75	80.0	1.6	86	10+	72	26+	0	0	70	73	0.83	- 1.63	0.24	13	0	0.0	0	13.3	6	29	E	26+	1	24	6	6.2	63
IDAHO																																
BOISE	2838	913.0	1010.7	90	55	72.4	0.3	107	23	43	6	15	0	37	30	T	- 0.16	T	0	0	0.0	0	2.8	31	30	W	4	22	8	1	2.0	95
LEWISTON	1413			87	56	71.9	0.2	103	23	44	29	13	0			T	- 0.43	T	0		0.0	0						22	7	2	1.9	
POCATELLO	4454	862.9	1012.0	90	52	70.5	0.4	104	2	32	31	17	1	37	32	0.54	- 0.01	0.50	3	3	0.0	0	4.9	23	34	SW	11	19	11	1	2.9	89
ILLINOIS																																
CAIRO U	314			88	69	78.3	- 1.6	98	9	64	4	14	0			0.75	- 2.35	0.32	6		0.0	0			33	SW	9	19	7	5	3.6	77
CHICAGO O HARE	658	992.2	1016.3	84	64	73.9	2.6	90	30	53	23+	1	0	60	63	0.51	- 2.70	0.27	3	2	0.0	0	2.0	22	22	22	7	18	12	1	3.4	
CHICAGO MIDWAY	607	994.2	1016.6	85	66	75.3	1.1	93	30	58	23+	3	0	60	62	1.11	- 2.05	0.92	3	2	0.0	0	3.3	19	22	SW	7	19	9	3	3.5	73
MOLINE	582	994.6	1015.8	85	63	73.7	0.1	91	31+	52	23	4	0	63	71	2.00	- 1.53	0.62	7	7	0.0	0	2.4	19	28	SE	9	16	10	5	4.1	76
PEORIA	652	992.6	1016.2	84	63	73.1	- 1.2	90	30	56	23+	1	0	62	71	2.82	- 0.06	2.17	6	4	0.0	0	1.4	17	22	S	8	15	6	10	4.6	75
ROCKFORD	724	989.2	1015.6	83	61	71.7	- 0.8	90	31+	48	22	2	0	61	73	2.14	- 2.00	0.67	5	4	0.0	0	2.9	21	24	27	7	15	12	4	3.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F	F.		F.				F.	%	In.	In.	In.			In	In.	M.p.h.		M p.h.							%
ILLINOIS																																
SPRINGFIELD	588	993.9	1015.9	85	63	74.0	-1.2	90	31+	55	22	2	0	63	70	2.34	-0.40	1.09	6	5	0.0	0	1.7	15	36	NW	9	16	8	7	4.1	76
INDIANA																																
EVANSVILLE	381	1002.0	1016.0	87	63	74.6	-2.7	95	9	56	12	7	0	64	74	1.91	-1.16	1.18	5	2	0.0	0	1.2	4	26	W	9	19	8	4	3.8	80
FORT WAYNE	791	987.5	1017.0	86	61	73.7	1.2	93	30	50	21	11	0	59	64	0.42	-2.62	0.36	3	1	0.0	0	2.4	24	23	W	7	19	7	5	3.7	85
INDIANAPOLIS	792	987.8	1016.3	84	61	72.7	-1.0	89	15	53	22	0	0	63	74	2.98	-0.05	2.36	7	3	0.0	0	0.5	16	28	SW	9	18	10	3	3.4	77
SOUTH BEND	773	988.8	1016.2	84	62	73.0	1.0	90	30+	52	23+	2	0	62	71	0.44	-3.11	0.26	3	3	0.0	0	3.0	23	21	22	7	19	8	4	3.8	
IOWA																																
BURLINGTON	692			84	63	73.2	-1.4	89	31+	55	22	0	0	63	69	3.82	0.21		3	6	0.0		2.1	18	20	1	9	15	9	7	4.5	
DES MOINES	938	981.7	1015.8	85	65	74.7	0.6	92	6	58	23+	6	0	62	66	1.83	-1.84	0.80	7	4	0.0	0	3.7	16	29	NW	8	15	12	4	4.0	76
DUBUQUE	1056	977.7		83	60	71.7	1.2	91	29	52	2	2	0			0.08	-3.65	0.08	1		0.0	0						15	9	7	4.4	
SIOUX CITY	1095	975.3	1014.2	84	63	73.6	-1.5	92	6	57	14	3	0	66	78	5.91	3.25	2.55	6	5	0.0	0	5.6	15	45	W	6	16	10	5	3.9	73
WATERLOO	868	984.4	1015.7	83	58	70.6	-1.1	92	6	45	23	3	0	60	72	0.54	-2.88	0.24	6	8	0.0	0	3.3	21	25	22	6	16	9	6	4.4	
KANSAS																																
CONCORDIA	1470	961.7	1013.3	87	65	75.9	-3.1	101	8	60	3+	10	0	64	71	3.38	0.23	1.44	10	4	0.0	0	5.9	15	29	S	29	11	10	10	5.2	61
DODGE CITY	2582	923.8	1012.3	90	68	78.9	-0.3	106	12+	61	16	17	0	62	63	4.21	1.85	1.97	11	9	0.0	0	7.3	16	33	S	29	9	10	12	5.6	60
GOODLAND	3654	888.3	1011.7	87	63	75.1	0.4	105	12+	54	15	12	0	57	60	1.78	-0.50	0.70	10	7	0.0	0	7.0	15	31	18	29	14	7	10	4.8	
TOPEKA	876	983.1	1014.4	86	65	75.5	-2.9	99	8	55	1	7	0	65	71	0.87	-3.42	0.40	6	4	0.0	0	3.3	13	24	N	9	10	10	11	5.5	61
WICHITA	1321	966.8	1013.3	90	68	78.9	-1.9	105	13	60	10	16	0	63	61	1.07	-1.80	0.49	7	4	0.0	0	5.5	15	29	S	6	14	9	8	4.4	68
KENTUCKY																																
COVINGTON	869	985.8	1016.9	85	63	74.0	-0.1	92	31	55	23	3	0	62	69	2.15	-0.45	1.48	7	4	0.0	0	0.1	7	28	31	9	12	13	6	4.5	
LEXINGTON	966	982.1	1016.9	85	64	74.7	-1.3	91	9+	57	11	3	0	61	65	5.96	2.75	2.94	6	4	0.0	0	1.1	9	25	12	19	16	9	6	4.1	
LOUISVILLE	477	998.6	1015.9	85	64	74.7	-1.5	93	9	58	22+	4	0	63	71	3.65	0.68	1.72	8	3	0.0	0	0.5	7	33	NW	9	17	10	4	3.8	80
LOUISIANA																																
BATON ROUGE	64	1011.2	1013.8	90	72	80.9	-1.5	95	10	66	30	20	0	72	80	3.74	-1.52	1.40	11	7	0.0	0	1.9	7	23	32	17	9	14	8	5.0	
LAKE CHARLES	9	1012.2	1013.3	91	73	81.9	-0.3	95	17+	66	30	27	0	72	77	1.97	-2.83	1.47	7	7	0.0	0	2.5	10	18	18	11	10	15	6	5.3	
NEW ORLEANS	4	1013.2	1014.0	89	71	80.1	-1.8	94	10	66	30+	14	0	73	81	7.80	2.46	3.06	11	6	0.0	0	1.2	9	42	33	17	11	13	7	5.0	
SHREVEPORT	254	1004.4	1013.4	96	72	84.3	0.5	105	10	67	4	29	0	65	57	0.50	-2.05	0.28	4	3	0.0	0	3.5	11	20	22	16	15	10	6	4.2	66
MAINE																																
CARIBOU	624	989.5		74	54	64.0	1.4	87	31	40	22+	0	0			4.02	0.35	1.24	15		0.0	0						2	14	15	7.3	
PORTLAND	47	1011.5	1013.7	81	62	71.3	4.5	92	31+	46	22	4	0	62	74	2.20	-0.22	1.14	10	3	0.0	0	2.6	24	26	NW	19	9	12	10	5.5	61
MARYLAND																																
BALTIMORE	148	1011.5	1016.9	87	66	76.5	1.5	94	30	55	28	10	0	63	67	3.81	-1.38	2.12	10	6	0.0	0	2.4	25	29	W	18	13	8	10	5.0	62
MASSACHUSETTS																																
BLUE HILL OBS R	629			82	62	72.2	2.8	91	31	48	27	2	0			2.30	-1.75	0.73	7		0.0	0			35	SW	5					73
BOSTON	15	1013.5	1014.4	83	66	74.3	2.6	93	25+	54	27	4	0	61	66	1.89	-1.77	0.49	8	3	0.0	0	5.9	24	31	NW	19	10	16	5	4.8	77
NANTUCKET	43			77	62	69.2	1.1	84	25	46	22	0	0			1.62	-2.06	0.52	8	6	0.0	0			23	SE	10	8	9	14	6.2	64
WORCESTER	986	979.7	1015.9	80	61	70.4	2.1	86	31+	48	27	0	0	61	73	3.34	-0.90	1.56	12	8	0.0	0	5.8	26	25	30	21+	8	18	5	4.9	
MICHIGAN																																
ALPENA	689	990.2	1015.0	81	55	68.2	3.7	91	23	42	20	3	0	58	73	2.50	-0.53	0.94	9	8	0.0	0	3.2	25	18	SW	5	15	12	4	4.0	75
DETROIT	619			83	64	73.9	1.1	91	30+	50	21	2	0	59	62	2.46	-0.40	1.08	5	4	0.0		2.6	25	31	28	8					
DETROIT M WAYNE CO	633	992.2	1015.8	34	62	73.1	2.3	92	24	50	21	3	0	60	67	1.06	-1.78	0.43	5	5	0.0	0	3.3	25	25	SW	17+	16	11	4	3.6	79
FLINT	771	988.5	1015.8	82	59	70.1	0.5	90	30	44	21	1	0	59	71	1.45	-2.72	0.29	6	3	0.0	0	3.8	24	25	26	8	20	7	4	3.1	
GRAND RAPIDS	784	987.1	1015.9	85	59	72.1	1.7	92	30	46	22+	8	0	57	63	0.14	-2.56	0.08	2	0	0.0	0	4.5	23	32	W	7	18	10	3	3.5	77
HOUGHTON LAKE	1149	974.6	1016.0	81	56	68.4	2.9	88	24+	40	21	0	0	59	72	0.85	-1.82	0.42	4	6	0.0	0	4.3	25	26	24	7	17	10	4	3.7	
LANSING	841	984.8	1016.1	87	59	72.8	2.6	95	30	42	21	10	0	60	68	0.17	-2.88	0.14	2	2	0.0	0	4.4	24	26	W	8+	18	8	5	3.6	74
MARQUETTE U	677			81	61	70.8	5.0	95	30	49	21	6	0			0.53	-2.50	0.21	7		0.0	0			28	SW	7	13	13	5	4.2	76
MUSKEGON	625	992.9	1015.6	82	61	71.7	1.4	87	30	50	21	0	0	60	70	0.11	-2.80	0.10	2	1	0.0	0	4.4	24	23	22	7	21	8	2	2.6	
SAULT STE MARIE	721	987.8	1014.0	78	54	65.7	1.7	89	17	39	20	0	0	56	72	2.18	-0.71	1.29	10	6	0.0	0	3.8	27	27	SW	7	13	10	8	4.7	71

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h							%
MINNESOTA																																
DULUTH	1428	963.4	1014.2	81	56	68.5	4.7	90	28	42	21	1	0	54	62	2.18	-1.63	1.00	5	5	0.0	0	4.6	23	40	W	7	13	13	5	4.1	8C
INTERNATIONAL FALLS	1179	969.5	1011.9	80	55	67.6	4.5	90	11	43	18	1	0	56	69	2.17	-1.47	1.16	10	9	0.0	0	3.4	22	25	28	7	13	10	8	4.6	
MINNEAPOLIS	834	984.4	1014.3	87	62	74.4	4.4	96	29	54	14+	7	0	59	61	0.99	-2.19	0.71	3	2	0.0	0	5.3	22	35	W	6	20	9	2	3.3	85
ROCHESTER	1297	968.5	1015.4	81	58	69.2	-0.6	89	30	51	31+	0	0	58	71	3.36	-0.43	2.37	4	2	0.0	0	5.4	21	32	30	18	16	10	5	4.0	
ST CLOUD	1034	976.6	1013.8	86	59	72.6	4.0	94	29+	49	1	8	0		63	2.16	-1.57	1.58	2		0.0	0						23	6	2	2.7	
MISSISSIPPI																																
JACKSON	310	1002.7	1014.3	92	68	79.6	-2.4	97	9	60	12	23	0	69	74	3.35	0.02	2.92	5	5	0.0	0	2.6	9	40	NE	18	10	13	8	4.9	61
MERIDIAN	290	1003.7	1014.7	90	67	78.1	-3.1	95	10	59	26+	19	0	68	74	3.94	0.40	2.17	6	6	0.0	0	1.5	10	28	14	18	10	12	9	5.3	
MISSOURI																																
COLUMBIA	778	987.5	1015.1	87	66	76.8	-0.4	96	8	59	22	10	0	62	65	1.94	-1.87	0.97	3	3	0.0	0	2.8	13	30	NW	9	9	10	12	5.5	76
KANSAS CITY	742	988.2	1014.6	88	70	78.9	-0.9	98	8	63	23	14	0	66	66	8.70	4.93	7.46	7	5	0.0	0	3.6	14	26	SW	9	14	8	9	4.6	68
ST JOSEPH	811			88	66	76.8	-0.7	93	13+	57	23+	11	0	64	73	2.74	-1.47		6	4	0.0		2.5	15	21	16	13	12	12	7	4.5	
ST LOUIS	535	996.3	1016.2	88	66	77.0	0.2	94	29	56	22	14	0	64	67	0.52	-2.50	0.34	4	3	0.0	0	2.0	14	24	W	9	12	12	7	4.8	70
SPRINGFIELD	1268	970.9	1015.3	89	64	76.6	-1.4	98	20+	56	23	17	0	62	66	2.62	-0.70	1.96	6	4	0.0	0	4.1	15	26	NW	21	19	6	6	3.8	73
MONTANA																																
BILLINGS	3567	889.6	1010.4	89	58	73.2	1.3	100	24	46	30	18	0	41	34	0.42	-0.48	0.41	3	3	0.0	0	1.6	23	30	NW	6	21	7	3	2.5	89
GLASGOW	2284	929.9	1009.8	90	57	73.4	5.6	102	24+	44	30	18	0	42	36	0.05	-1.44	0.03	3	4	0.0	0	1.7	10	32	30	6	22	6	3	2.6	
GREAT FALLS	3662	886.9	1010.4	89	55	72.1	5.3	106	24	41	30	16	0	35	27	0.03	-1.23	0.02	3	3	0.0	0	4.8	24	41	SW	18	24	5	2	2.5	92
HAVRE	2584	920.1	1009.9	91	50	70.7	3.7	110	24	36	30	18	0	35	30	0.01	-1.09	0.01	1	5	0.0	0	4.1	26	43	NW	5	23	5	3	2.3	93
HELENA	3828	879.8	1011.9	89	51	70.1	3.9	105	24	39	30	16	0	39	36	0.38	-0.51	0.38	1	3	0.0	0	3.0	27	37	W	5	20	8	3	2.6	90
KALISPELL	2965	909.9	1013.1	85	41	62.9	-0.2	103	24	31	29	11	3	39	45	0.09	-1.00	0.05	3	4	0.0	0	2.5	21	25	23	5	19	11	1	2.7	
MILES CITY	2629	918.7	1009.3	93	62	77.5	4.9	104	10	54	18+	21	0	46	36	0.17	-1.07		1	2	0.0		0.7	13								
MISSOULA	3190	903.5	1013.3	88	47	67.0	2.2	103	23	36	6	14	0	38	38	0.04	-0.68	0.04	1	3	0.0	0	3.0	31	34	W	4	23	6	2	2.3	90
NEBRASKA																																
GRAND ISLAND	1841	948.9	1013.6	88	64	76.0	0.7	97	12	56	16	13	0	62	67	3.75	1.40	2.20	5	6	0.0	0	6.3	17	29	19	29	12	11	8	4.9	
LINCOLN U	1150			86	67	76.8	-0.9	97	6	61	31+	12	0			2.09	-1.29	1.09	6		0.0	0			40	S	12	13	9	9	5.0	66
NORFOLK	1544			86	63	74.2	-1.0	94	11+	54	31+	10	0			3.69	1.08	1.90	6		0.0	0						15	8	8	4.4	
NORTH PLATTE	2775	917.0	1012.5	88	59	73.6	-0.9	101	8	45	15	13	0	59	65	1.61	-0.52	0.78	5	6	0.0	0	5.8	14	31	NW	8	12	12	7	4.8	71
OMAHA	977	979.7	1014.2	86	65	75.6	-0.6	94	11+	58	1	10	0	64	70	5.06	1.08	2.78	7	3	0.0	0	4.3	16	34	NW	7	14	7	10	4.9	78
SCOTTSBLUFF	3957	879.4	1011.7	91	59	75.1	2.5	103	11+	50	9	17	0	55	57	1.26	0.25	0.50	7	8	0.0	0	5.7	12	29	24	29+	19	10	2	3.5	
VALENTINE	2587			91	60	75.6	2.7	106	8	44	31	19	0			0.37	-1.92	0.25	3		0.0	0			34	S	29	19	10	2	2.8	80
NEVADA																																
ELY	6253	810.4	1010.4	89	50	69.6	3.5	95	8	37	30	14	0	39	37	0.34	-0.15	0.14	5	6	0.0	0	5.7	20	31	NE	17+	13	14	4	4.1	75
LAS VEGAS	2162	933.0	1006.7	107	78	92.2	5.0	113	5+	69	19	31	0	49	27	0.33	-0.15	0.19	4	5	0.0	0	4.0	21	32	SE	8	22	9	0	2.2	92
RENO	4404	864.9	1011.3	94	44	68.8	3.3	103	9	36	28+	27	0	35	31	T	-0.17	T	0	1	0.0	0	2.5	29	30	W	4	26	4	1	1.2	98
WINNEMUCCA	4301	866.6	1011.0	95	44	69.7	2.1	103	10	33	30	25	0	23	18	0.00	-0.15	0.00	0	0	0.0	0	1.6	27	45	SE	10	24	6	1	1.5	94
NEW HAMPSHIRE																																
CONCORD	342	1002.4	1014.[illegible]	81	57	68.9	1.5	89	31+	37	27+	0	0	61	77	2.84	-0.12	2.04	9	4	0.0	0	2.3	27	27	W	19	12	15	4	4.8	70
MT WASHINGTON OBS	6262			53	42	47.7	0.0	63	16	26	20	0	5			7.50	0.85	1.71	16	7	0.0	0			97Y	W	19	1	4	26	8.7	24
NEW JERSEY																																
ATLANTIC CITY	64	1013.9	1016.4	84	63	73.3	-0.4	94	25	43	22	8	0	64	76	2.56	-2.34	0.82	9	5	0.0	0	4.6	23	21	4	20+	11	7	13	5.2	66
ATLANTIC CITY U	11			82	69	75.4	1.7	92	25	58	22+	3	0			4.15	-0.99	1.61	9						31	W	10					
NEWARK	7	1014.6	1015.7	86	69	77.3	2.9	92	25	59	27+	6	0	63	63	2.24	-2.19	0.70	13	4	0.0	0	4.6	23	21	34	20+	12	12	7	4.8	
TRENTON U	56			84	67	75.8	1.9	91	25	55	27+	3	0			3.33	-1.44	1.07	13		0.0	0			27	NW	17	10	12	9	5.0	73
NEW MEXICO																																
ALBUQUERQUE	5311	[illegible]39.5	1011.0	93	66	79.0	2.8	99	2	61	25	25	0	52	45	0.95	-0.38	0.55	8	11	0.0	0	0.7	12	43	E	27	15	8	8	4.3	77
CLAYTON	4969			87	61	73.9	0.6	97	11	54	15	13	0			5.17	3.08	2.68	10		0.0	0						11	13	7	5.0	
ROSWELL	3617			96	67	81.4	4.8	105	17	62	16	26	0			0.71	-0.91	0.33	8		0.0	0			28	SW	18					69
NEW YORK																																
ALBANY	275	1004.7	1015.3	83	58	70.6	0.6	92	24	41	27	2	0	60	74	2.1[illegible]	-0.89	0.58	8	4	0.0	0	2.0	23	36	SW	8	10	10	11	5.7	64

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW YORK																																
BINGHAMTON	1590	959.0	1017.0	77	58	67.6	1.1	85	31+	44	27+	0	0	60	78	1.96	- 1.61	0.62	8	6	0.0	0	4.1	26	26	W	2	10	10	11	5.5	72
BUFFALO	705	990.5	1015.9	80	62	71.2	2.8	87	15	46	27	0	0	59	68	2.48	- 0.57	2.28	3	4	0.0	0	6.5	24	29	W	8	11	12	8	4.9	79
J.F. KENNEDY	13	1015.2	1015.9	86	69	77.4	2.9	97	25	58	22	5	0	64	68	2.39	- 2.58	1.42	11	5	0.0	0	5.1	22	25	26	17	9	14	8	4.9	
NEW YORK U	132	1012.2	1015.4	86	69	77.4	2.3	94	25	58	22+	5	0	62	64	2.53	- 1.91	0.78	10	3	0.0	0	3.6	25	33	NE	26					67
NEW YORK LA GUARDIA	11	1014.2	1015.9	83	69	76.0	0.6	90	25+	57	27	2	0	60	61	2.64	- 2.44	0.87	12	5	0.0	0	3.7	26	27	SW	8	10	13	8	4.8	
ROCHESTER	547	996.6	1016.4	83	61	72.0	2.3	92	31	46	27	3	0	60	70	1.82	- 0.90	0.92	8	2	0.0	0	5.2	25	31	W	8	13	10	8	4.6	71
SYRACUSE	410	1000.7	1015.4	83	60	71.3	1.1	91	31	42	27	2	0	58	65	1.77	- 1.48	0.91	8	4	0.0	0	2.8	25	27	SW	8	12	10	9	5.1	79
NORTH CAROLINA																																
ASHEVILLE	2140	942.8	1017.6	82	59	70.7	- 0.8	90	9+	45	23	2	0	63	83	6.47	1.53	2.34	15	9	0.0	0	0.3	20	20	36	20	13	5	13	5.4	71
CAPE HATTERAS R	7	1016.9	1017.3	83	70	76.8	- 0.8	88	19	60	25	0	0	70	81	6.77	0.35	2.72	14	4	0.0	0	1.2	17	34	W	9	9	12	10	5.5	74
CHARLOTTE	736	989.8	1016.7	84	67	75.6	- 3.1	91	26	58	29+	5	0	65	72	5.14	0.92	3.21	9	2	0.0	0	1.2	9	19	SW	20+	9	7	15	5.9	68
GREENSBORO	897	986.1	1017.4	85	67	75.7	- 0.5	92	9	52	28	5	0	67	77	3.95	- 0.66	1.77	11	5	0.0	0	0.6	13	22	SW	20+	10	6	15	5.8	62
RALEIGH	434	1001.4	1016.8	84	64	73.8	- 3.1	89	9+	52	28	0	0	66	81	6.31	1.11	1.68	11	5	0.0	0	1.4	13	46	33	10	11	7	13	5.9	69
WILMINGTON	28	1015.6	1017.0	86	68	76.9	- 2.5	92	19	60	24+	6	0	68	79	4.69	- 2.17	1.09	11	8	0.0	0	1.2	11	33	SW	4	6	10	15	6.7	69
NORTH DAKOTA																																
BISMARCK	1647	952.9	1011.1	90	58	73.8	4.5	101	28+	44	18	16	0	55	55	0.92	- 0.81	0.52	5	6	0.0	0	2.8	16	38	SE	3	16	14	1	3.2	85
FARGO	896	979.3	1011.5	86	59	72.4	2.9	95	16+	45	18	8	0	59	65	0.38	- 2.57	0.37	3	2	0.0	0	5.9	19	34	S	12	22	7	2	2.7	91
WILLISTON	1899	943.1	1010.0	90	56	72.8	4.6	103	22	38	18	18	0	50	48	0.54	- 0.94	0.25	5	8	0.0	0	0.1	16	41	NW	6	21	7	3	2.8	92
OHIO																																
AKRON	1208	973.2	1017.2	82	59	70.2	- 1.3	88	15	46	21	0	0	59	71	1.68	- 1.43	0.80	7	6	0.0	0	1.9	24	20	22	8	13	11	7	4.6	
CINCINNATI OBS	761			85	63	74.0	- 1.7	93	31	56	23+	6	0			2.62	- 0.66	1.07	6		0.0	0			17	NW	9					70
CLEVELAND	777	988.2	1017.0	83	60	71.8	1.4	91	31	48	23+	5	0	60	66	0.53	- 2.75	0.23	5	2	0.0	0	2.5	23	26	SW	7	16	11	4	4.1	73
COLUMBUS	812	987.8	1017.3	83	60	71.2	- 2.0	89	7	48	21	0	0	62	74	3.25	0.39	1.87	5	3	0.0	0	0.7	11	23	SW	8	12	13	6	4.4	74
DAYTON	1002	981.4	1016.9	84	62	73.0	- 0.7	93	31	50	21	3	0	60	66	3.39	0.51	2.98	7	3	0.0	0	0.7	27	25	SW	9	14	12	5	4.2	76
MANSFIELD	1295			84	62	73.0	2.8	90	15	53	22+	1	0	59	66	2.36	- 0.87	1.67	5	3	0.0	0	2.7	23	20	24	8	13	14	4	4.4	
TOLEDO	669	992.2	1017.0	84	59	71.4	0.5	91	15+	47	21	4	0	59	69	1.15	- 2.18	1.01	2	2	0.0	0	2.5	25	22	W	8	20	6	5	3.5	79
YOUNGSTOWN	1178	974.9	1017.3	81	57	69.1	- 0.9	89	29	43	27+	0	0	59	73	0.51	- 2.99	0.33	6	3	0.0	0	1.6	24	20	35	10	15	8	8	4.4	
OKLAHOMA																																
OKLAHOMA CITY	1285	967.8	1013.1	91	69	80.2	- 2.6	105	13	64	31+	18	0	65	64	2.38	- 0.14	1.04	7	6	0.0	0	5.9	14	30	SE	15	17	7	7	4.0	79
TULSA	650	990.2	1013.8	92	69	80.8	- 0.8	106	9	64	11+	19	0	65	62	3.24	0.20	2.40	2	3	0.0	0	4.1	16	23	SW	14+	17	9	5	3.6	72
OREGON																																
ASTORIA	8	1016.6	1017.3	68	49	58.7	- 2.3	76	23	42	29	0	0	51	77	0.62	- 0.87	0.26	12	0	0.0	0	3.6	27	24	18	24	8	9	14	5.9	
BURNS U	4151	872.7	1012.8	85	49	67.0	- 0.2	97	23	37	5	7	0	33	31	T	- 0.29	T	0		0.0	0	3.4	31				28	2	1	1.0	
EUGENE	359	1002.7	1016.2	81	49	64.6	- 1.3	90	23+	38	29	2	0	49	62	T	- 0.40	T	0	0	0.0	0	2.7	32	23	21	24	16	12	3	3.7	
MEACHAM	4050	877.1	1013.7	74	48	61.0	- 0.7	92	23	37	29+	1	0			0.00	- 0.53	0.00	0		0.0	0			21	28	4	27	4	0	1.1	
MEDFORD	1298	967.2	1014.2	89	51	69.9	- 0.8	98	22+	41	25	14	0	45	48	0.00	- 0.18	0.00	0	0	0.0	0	3.0	32	23	30	23	27	4	0	1.0	
PENDLETON	1482	961.1	1014.0	86	54	70.1	- 1.8	100	23	45	29+	11	0	41	38	0.00	- 0.28	0.00	0	0	0.0	0	4.6	27	30	28	11	25	6	0	1.6	
PORTLAND	21	1014.9	1016.1	78	54	66.1	- 0.5	88	31+	46	29	0	0	51	62	0.04	- 0.61	0.04	1	1	0.0	0	4.4	32	23	SW	24	14	9	8	4.5	75
SALEM	196	1009.1	1016.4	80	47	63.5	- 2.6	91	23	38	29	3	0	49	63	0.05	- 0.40	0.05	1	0	0.0	0	2.7	33	24	29	17	14	12	5	3.8	
SEXTON SUMMIT R	3836	884.5	1014.1	74	50	61.8	- 1.4	87	31	42	5+	0	0			0.00	- 0.25	0.00	0		0.0	0			28	34	29	29	2	0	0.9	
PACIFIC AREA																																
JOHNSTON	7	1012.9	1013.3	86	77	81.5	0.0	88	8	72	5	0	0	72	75	1.29	- 0.97	0.37	12	0	0.0	0	14.9	8	30	E	26	9	14	8	5.4	74
KOROR R	94	1007.1	1010.7	88	76	81.9	0.9	90	27	72	5	1	0	76	84	12.39	- 3.37	4.16	24	4	0.0	0	1.2	21	26	NE	19	0	7	24	8.5	50
KWAJALEIN	8	1009.5	1010.1	88	78	83.0	1.1	91	15+	74	22	3	0	75	79	5.74	- 3.85	1.62	24	0	0.0	0	6.8	8	29	12	22	0	3	28	9.4	
MAJURO	10	1010.2	1010.3	87	76	81.6	1.4	91	7+	72	14	3	0	75	79	10.24	- 1.44	2.52	22	5	0.0	0	3.7	7	24	E	9	0	15	16	7.4	62
PAGO PAGO	12	1013.2	1013.4	82	74	78.3		87	21	70	20	0	0	71	80	7.35		2.62	20	1	0.0	0	14.5	12	26	SE	25+	1	8	22	8.1	47
PONAPE R	123	1004.7	1010.2	88	71	79.6	0.2	90	30+	69	26+	3	0	74	87	13.28	- 3.04	2.13	28	1	0.0	0	1.8	15	14	NW	9	0	9	22	8.1	58
TAGUAC GUAM R	361	998.0	1010.6	86	72	79.0	- 0.3	89	20+	69	9+	0	0	74	87	9.30	- 3.54	1.55	24	6	0.0	0	4.9	10	19	SE	29+	0	8	23	8.7	59
TRUK MOEN ISLAND	5	1009.5	1010.0	87	75	81.0	0.6	89	23+	73	5+	0	0	75	83	14.29	1.48	4.13	24	2	0.0	0	2.3	8	30	NE	11	0	7	24	8.7	80
WAKE	11	1012.5	1012.6	91	79	84.7	2.3	92	30+	74	15+	31	0	74	74	1.63	- 5.45	0.62	15	0	0.0	0	8.2	10	26	NE	11	9	17	5	5.1	83
YAP R	44	1008.1	1010.0	86	74	80.4	- 0.9	89	31	72	16+	0	0	75	85	11.58	- 3.12	3.75	25	1	0.0	0	0.2	17	24	SW	[illegible]	0	11	20	8.1	56

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1969

State and Station	Elevation (ground)	Pressure: Station ☉	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F.	%	In	In.	In.			In.	In.	M p.h.		M.p.h.							%
PENNSYLVANIA																																
ALLENTOWN	387	1002.4	1016.3	83	61	72.0	0.0	91	25	47	27	1	0	62	74	3.33	-1.14	1.50	11	10	0.0	0	3.3	25	32	27	19	15	7	9	4.6	
ERIE	731	990.2	1016.7	79	60	69.6	-0.2	86	15+	48	27+	0	0	60	73	1.75	-1.23	0.80	8	5	0.0	0	4.1	22	21	20	8+	17	9	5	3.9	
HARRISBURG	338	1003.7	1016.5	84	63	73.4	-0.7	91	25	50	22	2	0	63	72	2.07	-1.58	0.72	9	5	0.0	0	2.7	27	34	NW	17	13	8	10	4.8	70
PHILADELPHIA	5	1014.9	1015.9	84	66	75.2	1.6	91	25	53	28	1	0	65	74	2.66	-1.97	1.56	11	3	0.0	0	3.5	25	21	SW	15	10	10	11	5.2	65
PITTSBURGH	1137	973.6	1017.0	80	59	69.7	-1.1	86	25+	46	21	0	0	59	69	2.96	-0.35	1.40	8	4	0.0	0	1.6	27	21	24	8	12	10	9	5.0	56
SCRANTON	930	983.4	1017.1	80	60	69.9	-0.1	87	31	46	27	0	0	60	73	4.47	0.89	2.45	12	6	0.0	0	1.5	22	27	NW	17	13	6	12	4.8	75
WILLIAMSPORT	524	998.0	1016.9	82	60	71.1	-0.5	90	25	47	27	1	0	63	82	3.09	-0.53	0.82	13	7	0.0	0	2.0	27	21	32	17+	12	8	11	5.5	
RHODE ISLAND																																
BLOC. ISLAND	110			77	66	71.4	1.8	83	25	53	22	0	0			2.94	-0.92	1.31	9		0.0	0										
PROVIDENCE	51	1012.9	1015.3	85	64	74.3	3.8	92	25+	46	22	3	0	61	67	2.58	-1.38	1.15	9	6	0.0	0	5.8	25	25	33	9	10	13	8	5.1	68
SOUTH CAROLINA																																
CHARLESTON	40	1014.6	1016.5	85	70	77.5	-2.2	92	9	64	28+	4	0	70	82	11.84	5.23	3.65	16	11	0.0	0	2.2	10	29Y	N	12	5	7	19	7.3	43
CHARLESTON U	9			84	74	78.6	-2.4	92	20	68	24+	3	0			13.90	7.83	3.40	15		0.0	0			29	E	24+					
COLUMBIA	213	1008.8	1016.6	87	68	77.5	-3.0	93	20+	53	24	12	0	68	78	2.93	-2.81	1.14	11	4	0.0	0	1.8	8	16	7	30	9	6	16	6.5	42
GNVLE-SPARTANBURG	957	983.1	1017.2	84	66	74.6	-3.6	92	9	57	29+	3	0	66	78	6.53	2.02	1.81	11	4	0.0	0	2.0	4	20	S	19	13	5	13	5.4	58
SOUTH DAKOTA																																
ABERDEEN	1296	966.1	1011.9	88	58	73.1	1.6	99	11	45	31+	12	0	59	64	0.74	-1.42	0.62	4	6	0.0	0	5.0	17	38	14	4	20	8	3	2.7	
HURON	1281	966.8	1012.3	86	58	71.7	-1.1	96	16	43	31+	7	0	58	64	1.57	-0.50	0.47	4	3	0.0	0	6.5	16	50	N	8	20	7	4	3.1	81
RAPID CITY	3162	903.2	1011.2	90	58	73.8	1.8	101	11	50	14+	19	0	52	51	0.31	-0.91	0.21	2	4	0.0	0	2.0	15	47	SW	12	20	10	1	2.8	83
SIOUX FALLS	1418	963.1	1013.7	86	61	73.3	1.5	99	6	45	14	9	0	59	63	5.07	1.48	2.36	6	4	0.0	0	5.6	17	37	34	8	16	10	5	3.6	
TENNESSEE																																
BRISTOL	1507	963.8	1017.0	85	61	73.0	-1.8	92	18	50	23	2	0	62	73	2.11	-1.69	1.05	8	2	0.0	0	1.0	3	25	30	2	8	17	6	5.2	
CHATTANOOGA	665	991.5	1015.6	86	63	74.3	-5.5	93	9	55	23	3	0	66	78	6.20	2.44	3.01	11	6	0.0	0	0.6	10	31	SW	15	12	12	7	5.2	61
KNOXVILLE	980	981.7	1016.1	84	65	74.5	-2.9	90	30	58	24+	1	0	65	75	6.72	3.26	3.02	11	4	0.0	0	0.3	5	31	SW	19	7	15	9	5.3	79
MEMPHIS	258	1005.1	1014.9	90	69	79.3	-1.2	99	9	63	13+	17	0	66	66	6.62	3.65	3.35	8	5	0.0	0	2.4	7	40	NW	2	14	9	8	4.4	70
NASHVILLE	590	993.9	1015.3	90	67	78.1	-1.1	98	9	61	25+	13	0	66	70	2.27	-0.59	1.76	8	3	0.0	0	0.9	11	32	SW	19	16	8	7	4.2	77
OAK RIDGE R	905			86	64	74.8	-1.3	93	9	56	24	4	0			4.17	-0.45	1.43	11		0.0	0			36Y		15	9	12	10	5.5	
TEXAS																																
ABILENE	1762	951.6	1011.3	96	75	85.6	2.6	106	13	69	31	25	0	63	51	8.18	6.71	3.88	6	6	0.0	0	7.2	16	41	NE	4	17	5	9	4.3	76
AMARILLO	3604	891.3	1010.9	93	68	80.2	0.7	102	13	64	26+	21	0	59	54	4.51	1.93	1.93	10	10	0.0	0	7.2	17	50	SW	6	16	10	5	4.0	75
AUSTIN	597	990.9	1012.1	96	74	84.9	0.2	105	11	66	31	26	0	69	64	5.78	3.84	2.80	7	7	0.0	0	4.7	17	53	NW	14	13	10	8	4.7	71
BROWNSVILLE	19	1010.8	1011.5	93	77	84.9	0.8	98	4	74	31+	27	0	74	74	7.74	4.97	2.57	13	5	0.0	0	7.2	13	35	SE	6	9	17	5	5.3	70
CORPUS CHRISTI	41	1010.8	1012.2	94	76	85.3	1.1	100	18+	73	30	25	0	73	71	2.83	0.06	1.61	10	2	0.0	0	8.7	13	30	S	20	12	12	7	4.9	71
DALLAS	481	995.6	1012.4	96	76	86.0	1.0	105	13+	70	5	27	0	67	56	2.43	0.50	1.69	6	3	0.0	0	5.5	13	29	SE	22	18	8	5	3.8	70
DEL RIO	1026	975.6	1010.8	97	75	86.0	0.2	109	17	67	26	25	0	65	55	4.27	2.75	3.81	8	4	0.0	0	9.4	12	30	12	20	15	7	9	4.3	
EL PASO	3918	880.5	1008.0	98	73	85.7	5.3	105	17+	67	30	28	0	54	37	0.28	-0.91	0.16	5	5	0.0	0	2.4	11	37	NE	2	15	8	8	4.4	87
FORT WORTH	537	992.6	1012.5	95	74	84.2	-1.2	103	13+	68	31	26	0	70	67	2.56	0.88	1.38	5	5	0.0	0	4.6	15	24	12	22	17	8	6	4.3	
GALVESTON U	7			89	80	84.4	1.1	95	17	73	27	10	0			5.75	1.36	3.88	8		0.0	0			31	SE	28					78
HOUSTON	98	1009.5	1013.1	94	72	83.2	0.7	101	10	68	31	27	0	72	76	2.67	-1.34	1.53	9	12	0.0	0	3.2	14	21	13	29	10	14	7	5.1	74
LUBBOCK	3254	903.2	1011.3	93	67	79.6	0.8	101	17	63	24+	24	0	59	55	2.59	0.91	2.27	5	9	0.0	0	4.7	15	28	16	20	15	9	7	4.4	
MIDLAND	2851	915.0	1010.7	96	70	82.7	0.5	106	17	64	27	24	0	54	43	0.32	-1.16	0.19	5	4	0.0	0	6.7	14	23	16	16	15	10	6	3.9	
PORT ARTHUR	16	1012.9	1013.4	93	74	83.1	0.8	98	18+	69	6+	23	0	75	82	3.06	-2.43	0.84	11	6	0.0	0	2.4	12	30	E	26	9	18	4	5.0	63
SAN ANGELO	1903	946.2	1010.9	98	71	84.9	-0.2	107	14+	62	31	28	0	62	54	2.96	1.69	1.39	10	9	0.0	0	6.1	15	35	2	14	15	9	7	4.3	
SAN ANTONIO	788	985.1	1012.4	97	74	85.7	1.9	104	17+	67	31	28	0	67	60	4.19	1.83	1.74	8	7	0.0	0	5.1	14	27	SE	24+	12	11	8	4.8	72
VICTORIA	104	1008.5	1012.5	96	76	86.0	2.6	102	17+	72	29	29	0	72	70	3.49	0.36	1.25	12	11	0.0	0	5.2	15	40Y	S	29	7	16	8	5.6	
WACO	501	994.9	1012.5	100	77	88.1	2.6	112	11	71	31+	29	0	70	60	2.23	0.55	1.18	8	5	0.0	0	5.3	14	52	32	14	16	9	6	4.2	
WICHITA FALLS	994	976.6	1012.2	97	71	83.8	-1.9	112	13	67	29+	25	0	67	63	3.95	2.16	1.01	6	6	0.0	0	7.2	13	46	36	22	17	8	6	4.0	
UTAH																																
MILFORD	5028	845.9		95	60	77.1	4.9	99	23+	51	31	28	0			0.64	-0.09	0.36	4		0.0	0						18	9	4	3.4	
SALT LAKE CITY	4220	870.3	1010.4	94	62	77.6	3.1	99	24+	50	13	24	0	46	37	0.34	-0.53	0.15	5	9	0.0	0	5.0	16	45	SW	11	19	8	4	3.1	90
WENDOVER	4237	869.6	1011.1	92	68	79.9	2.7	99	2	59	30	23	0			0.03	-0.33	0.03	1		0.0	0										

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
VERMONT																																
BURLINGTON	332	1002.0	1014.4	79	58	68.6	1.9	87	31+	40	27	0	0	60	77	3.71	0.34	0.84	15	10	0.0	0	2.6	20	28	NW	19	6	14	11	6.3	67
VIRGINIA																																
LYNCHBURG	916			83	62	72.8	- 2.0	91	9	54	28	1	0			3.03	- 1.38	1.45	10		0.0	0			23	NE	20	13	7	11	4.8	59
NORFOLK	22	1015.9	1016.8	84	69	76.2	- 1.3	91	9	58	23	4	0	67	76	5.28	- 0.69	3.05	9	3	0.0	0	1.8	17	28	SW	5	12	4	15	5.5	67
RICHMOND	164	1011.2	1017.0	85	65	75.1	- 0.9	91	17	54	28	6	0	67	81	9.31	3.77	2.69	10	5	0.0	0	1.0	20	27	NW	9	12	6	13	5.2	62
ROANOKE	1149	976.0	1017.3	85	62	73.5	- 1.9	90	9+	52	28	2	0	62	72	5.41	0.78	1.76	12	6	0.0	0	0.6	19	21	32	10	14	9	8	4.6	
WALLOPS ISLAND	9			82	68	74.8		90	26	58	21	1	0			4.89		2.39	11		0.0	0			38Y	SSE	18					
WASHINGTON																																
OLYMPIA	195	1009.5	1016.8	75	46	60.6	- 2.8	85	14	34	29	0	0			0.18	- 0.71	0.12	6	0	0.0	0			22	19	24	8	13	10	5.7	
QUILLAYUTE	179	1009.5	1017.1	67	47	56.8	- 2.9	78	31	38	29	0	0	51	83	3.43	1.35	1.19	15	0	0.0	0	1.7	25	27	SE	24	4	10	17	7.3	47
SEATTLE TACOMA	400	1000.7	1016.8	73	55	64.0	- 0.1	84	14	48	29	0	0	50	65	0.45	- 0.50	0.21	7	0	0.0	0	1.7	27	21	SW	4	8	10	13	6.0	66
SPOKANE	2356	930.2	1012.6	83	52	67.1	- 0.9	99	23	39	29	4	0	36	35	T	- 0.41	T	0	0	0.0	0	5.7	21	26	SW	4	22	9	0	2.1	87
STAMPEDE PASS R	3958	880.5		62	45	53.3	- 2.3	83	23	36	16	0	0			1.19	- 0.85	0.67	10		0.0	0						12	7	12	5.5	
WALLA WALLA U	949			85	59	71.6	- 2.2	97	23	48	29	9	0			0.00	- 0.30	0.00	0		0.0	0			22	W	4	24	7	0	1.8	91
YAKIMA	1052	975.3	1013.2	83	49	66.2	- 2.4	94	23	39	29	4	0	42	43	0.01	- 0.19	0.01	1	0	0.0	0	4.2	30	29	22	24	24	7	0	1.6	
WEST INDIES																																
SAN JUAN P.R.	13	1012.9	1015.1	87	76	81.1	0.2	90	1	72	12	1	0	72	74	6.89	- 0.24	2.28	15	8	0.0	0	6.6	9	26	E	6+	5	18	8	5.7	73
SWAN ISLAND	28			87	78	82.6	- 0.5	89	31+	73	23	0	0			5.98	2.32	1.19	17		0.0	0						3	6	22	7.8	
WEST VIRGINIA																																
BECKLEY	2504	930.9	1017.4	78	58	67.8	- 1.9	82	30+	50	11	0	0	60	78	4.66	0.67	2.12	9	6	0.0	0	1.5	17	23	25	10	12	8	11	5.5	
CHARLESTON	939	983.1	1016.7	83	62	72.1	- 1.7	88	31+	53	22	0	0	64	82	8.20	4.25	3.07	10	6	0.0	0	0.8	9	35	34	9	9	11	11	5.8	
ELKINS	1970	947.9		80	55	67.2	- 1.6	86	15	47	22+	0	0			5.60	1.37	3.21	10		0.0	0						4	15	12	6.6	
HUNTINGTON	827	987.5	1016.9	86	64	75.0	1.0	91	17	55	23	6	0	63	72	3.93	1.11	2.32	6	4	0.0	0	0.8	13	18	26	9+	8	15	8	5.3	
PARKERSBURG U	615			84	63	73.4	- 1.0	90	31+	53	21	2	0			4.08	0.30	3.26	8		0.0	0			28	N	9					65
WISCONSIN																																
GREEN BAY	682	989.8	1014.8	84	57	70.4	1.5	93	30	44	20	2	0	58	66	1.19	- 1.56	0.82	5	2	0.0	0	3.7	22	37	S	13	17	11	3	3.5	75
LA CROSSE	651	991.2	1015.1	87	61	73.9	2.3	94	30+	51	22	8	0	61	70	2.16	- 1.47		4	1	0.0		3.3	19								
MADISON	858	984.4	1015.5	83	58	70.3	0.8	90	30	43	21	1	0	61	73	0.96	- 2.41	0.40	6	3	0.0	0	2.8	23	26	SW	7	13	14	4	4.1	78
MILWAUKEE	672	990.9	1015.7	81	61	70.9	3.1	92	30	45	22	3	0	60	71	0.53	- 2.53	0.32	4	3	0.0	0	3.8	22	37	SW	7	17	11	3	3.5	73
WYOMING																																
CASPER	5338	838.1	1011.1	90	54	71.8	1.7	99	10	44	7	23	0	41	38	0.78	0.06	0.58	5	6	0.0	0	3.1	24	31	30	16	16	11	4	3.4	
CHEYENNE	6126	814.8	1013.1	86	55	70.7	3.0	96	10+	48	10+	7	0	45	48	0.99	- 0.45	0.47	7	5	0.0	0	2.8	23	43	NW	16	12	14	5	4.5	72
LANDER	5563	830.0	1011.0	89	57	73.1	4.3	96	10	49	31+	16	0	40	32	T	- 0.47	T	0	4	0.0	0	2.6	25	50	SW	2	15	13	3	3.7	88
SHERIDAN	3964	877.8	1011.4	88	53	70.7	1.2	98	25+	43	9	17	0	43	39	0.24	- 0.66	0.13	4	3	0.0	0	0.7	29	38	NW	8	20	8	3	2.8	86

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb	C	C	C.	C	C		C.				C	%
ALABAMA															
BIRMINGHAM	189	993.6	1015.5	31.7	19.4	25.4	-1.8	35.0	27+	14.4	25+	16	0	19.4	73
HUNTSVILLE	190	993.2	1015.8	31.7	19.4	25.4	-1.3	36.7	9	14.4	24+	14	0	18.3	69
MOBILE	64	1006.4	1014.2	31.7	22.2	27.0	-0.8	35.6	10	18.3	26	15	0	21.7	78
MONTGOMERY	56	1008.1	1015.3	31.1	20.0	25.6	-2.1	33.9	21+	15.0	25	13	0	[illegible]	76
ALASKA															
ANCHORAGE	35	1003.4	1008.4	16.7	7.8	12.3	-0.9	22.8	4	0.6	14	2	0	5.0	[illegible]
ANNETTE	34	1008.1	1012.0	17.2	11.7	14.4	-0.2	23.9	4	7.8	12	4	0	10.0	78
BARROW	9	1009.1	1009.8	1.7	-2.2	-0.1	-3.4	13.9	31	-4.4	13+	0	30	-1.1	95
BARTER ISLAND	[illegible]	[illegible]	[illegible]	3.3	-1.7	0.8	-3.6	11.1	4+	-3.9	12+	0	29	-0.6	92
BETHEL	38	1006.4	1012.1	13.3	5.6	9.4	-1.8	18.3	26	1.1	23	0	0	[illegible]	82
BETTLES	196	983.7	1009.1	12.8	2.2	7.3		18.3	29	-3.3	10	0	17	1.7	[illegible]
BIG DELTA	386	962.8	1009.6	14.4	3.9	9.1		23.3	4	-3.3	14	1	5	[illegible]	[illegible]
COLD BAY	29	1013.5	1017.1	15.0	8.9	11.9	1.2	[illegible]	5	3.3	25	1	0	[illegible]	92
FAIRBANKS	133	992.2	1009.3	16.1	3.9	9.9	-2.5	24.4	13	-0.6	10	4	5	[illegible]	64
GULKANA	479	951.6	1008.4	15.6	1.7	8.8		24.4	4	-4.4	15	2	13	1.1	61
HOMER	20			15.6	5.6	10.4		19.4	10+	0.6	20+	0	0		
ILIAMNA	57			15.6	7.2	11.3		20.6	6	1.7	22	0	0		
JUNEAU	4	1008.8	1009.7	13.9	6.7	10.2	-2.1	20.6	2	-0.6	24	0	1	8.4	92
KING SALMON	15	1008.5	1010.4	15.0	6.1	10.5	-2.1	20.0	26	0.6	19+	0	0	[illegible]	71
KOTZEBUE	3	1009.8	1010.2	10.6	4.4	7.4	-2.9	17.2	27	1.1	10+	0	0	[illegible]	77
McGRATH	105	997.6	1010.3	14.4	3.9	9.1	-3.2	20.6	27	-2.8	14	0	8	[illegible]	64
NOME	4	1009.8	1010.8	11.7	2.8	7.3	-2.1	16.7	27	-2.2	22+	0	7	[illegible]	71
ST. PAUL ISLAND	7	1014.6	1015.4	12.2	7.2	9.9	1.3	15.6	7	2.2	18	0	0	8.9	90
SHEMYA	37	1008.5	1012.1	12.2	8.9	10.4	0.6	14.4	29	7.2	31+	0	0	[illegible]	96
SUMMIT	732	923.5	1009.2	11.7	1.7	6.7		16.1	24+	-2.8	12	0	14	[illegible]	66
TALKEETNA	105	995.6	1008.9	17.2	3.3	10.3	-2.3	23.3	3	-2.8	14	3	9	4.4	69
UNALAKLEET	5	1009.8	1010.6	12.2	3.9	8.1		18.9	27	-1.1	23+	0	6	4.4	78
YAKUTAT	9	1007.5	1008.6	13.9	4.4	9.2	-2.9	17.2	24	-1.1	25	0	4	7.2	89
ARIZONA															
FLAGSTAFF	2135	790.7	1014.8	26.1	10.6	18.4	0.7	30.0	9+	5.6	20	0	0	11.1	67
PHOENIX	340	968.5	1005.9	41.1	28.3	34.7	3.8	45.6	5	23.3	14	31	0	16.1	35
TUCSON	788	922.1	1007.4	37.2	23.3	30.2	1.8	41.1	5	21.1	18	31	0	16.1	49
WINSLOW	1492	851.3	1010.8	33.9	18.3	26.1	0.6	37.8	9+	13.9	31+	22	0	12.8	49
YUMA	59	998.0	1005.0	42.2	28.9	35.5	2.4	46.1	22+	23.9	20	31	0	17.8	38
ARKANSAS															
FORT SMITH	136	998.0	1014.1	33.3	20.0	26.7	-1.3	41.1	9	16.7	31	24	0	18.3	64
LITTLE ROCK	78	1005.4	1014.7	32.8	19.4	26.1	-1.3	38.9	9	14.4	13	19	0	19.4	71
CALIFORNIA															
BAKERSFIELD	145	991.5	1008.6	38.3	22.2	30.1	2.5	41.7	3	17.2	26	31	0	9.4	29
BISHOP	1252	871.7		36.7	12.8	24.9	1.4	39.4	9+	8.3	30	31	0		
BLUE CANYON	1609			27.2	16.7	21.9	2.7	30.6	22+	12.2	28	0	0		
EUREKA C	13			15.6	10.6	13.2	-0.5	20.0	31	9.4	30+	0	0		
FRESNO	100	997.0	1008.6	36.7	16.1	26.5	0.4	39.4	21	11.7	29	30	0	12.8	47
LONG BEACH	10	1008.5	1010.0	30.0	17.8	24.0	1.0	35.6	22	16.1	23+	9	0	16.1	69
LOS ANGELES	30	1005.8	1009.4	25.0	18.3	21.7	1.1	30.0	10	15.6	23	0	0	17.2	79
LOS ANGELES C	82			30.6	19.4	25.0	2.2	36.1	22	16.1	19	13	0		
MT SHASTA R	1080			29.4	10.0	19.9	0.6	33.9	31	5.0	26	8	0		
OAKLAND	2	1010.8	1011.2	22.2	12.8	17.4	-0.4	28.3	13	10.6	14	0	0	11.7	74
RED BLUFF	104	996.6	1009.1	38.3	18.3	28.4	1.2	43.3	2+	13.9	24	31	0	4.4	25
SACRAMENTO	5	1008.5	1009.2	36.7	14.4	25.5	2.1	41.1	3	11.1	24+	28	0	11.1	49
SANDBERG R	1377	861.5		31.1	18.3	24.7	1.7	33.9	15+	14.4	29+	12	0	2.8	28
SAN DIEGO	4	1008.5	1009.4	26.1	19.4	22.7	0.6	31.7	22	17.8	29+	0	0	17.2	75
SAN FRANCISCO	2	1010.8	1011.4	22.8	11.7	17.2	0.1	27.2	29+	9.4	14	0	0	10.0	72
SAN FRANCISCO C	16			18.9	11.7	15.2	0.0	23.3	29	8.9	14	0	0		
SANTA MARIA	72			22.8	10.6	16.9	0.0	28.3	4	7.8	27+	0	0		
STOCKTON	7	1008.5	1009.6	36.1	16.1	26.2	1.6	40.0	3+	12.8	24	29	0	10.0	41

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
ALABAMA																	
BIRMINGHAM	45	78	[illegible]	11	6	[illegible]	[illegible]	1.3	11	12.[illegible]	[illegible]	18	10	12	9	5.6	[illegible]
HUNTSVILLE	86	2	28	9	6	0		1.0	[illegible]	11.2	13	18	16	9	6	4.4	
MOBILE	306	142	168	12	9			1.3	8	28.2	14	18	4	19	8	[illegible]	
MONTGOMERY	129	24	48	13	8	0	0	0.8	11	10.7	N	3	10	8	13	6.8	[illegible]
ALASKA																	
ANCHORAGE	8	-57	3	6	0	0		1.1	20	10.3	17	5+	6	7	18	7.1	61
ANNETTE	286	95	67	23	0	0	0	2.7	14	13.0	[illegible]	16+	2	3	26	8.7	
BARROW	22	-1	11	11	0	102	51	1.9	31	11.6	34	16+	[illegible]	3	28	9.2	
BARTER ISLAND	38	11	[illegible]	15	0	188	76	1.7	28	19.7	27	17	1	3	27	[illegible]	
BETHEL	83	-24	34	15	0			1.1	29	14.3	[illegible]	4	2	4	25	[illegible]	
BETTLES	57		16	11	0	66	51	0.8	30	[illegible]	36	[illegible]	[illegible]	4	25	[illegible]	
BIG DELTA	18		5	10	0	T	0	1.0	25	[illegible]	29	28+	2	13	16	7.2	
COLD BAY	128	20	49	17	0	0	0	4.2	29	17.0	27	16	[illegible]	4	27	9.0	
FAIRBANKS	52	-4	[illegible]	12	1	T	0	1.0	23	12.1	25	7+	3	12	16	7.2	
GULKANA	15		9	6	0	T		0.8	[illegible]	11.2	20	9	2	15	14	6.9	
HOMER	25	47	[illegible]	[illegible]	1	0							5	[illegible]	14	6.5	
ILIAMNA	117		30	16	0	0	0						6	7	16	6.6	
JUNEAU	192	64	38	23	0	0	0	1.7	[illegible]	15.6	12	[illegible]	3	4	24	8.7	29
KING SALMON	87	T	21	17	0	0	0	1.9	26	13.0	18	29	1	7	23	8.2	
KOTZEBUE	34	-21	18	10	0	T	0	3.8	32	21.9	30	6	5	8	18	7.2	
McGRATH	68	28	13	15	0	0	0	1.0	28	9.4	21	4	8	6	17	7.0	
NOME	58	[illegible]	32	11	0	0	0	1.5	31	13.0	23	4	[illegible]	9	17	7.1	[illegible]
ST. PAUL ISLAND	102	18	24	18	0	0		1.4	26	13.0	29	29	1	1	29	9.5	
SHEMYA	181	127	40	24	0	0		1.8	15	15.6	36	31	0	2	29	9.5	
SUMMIT	40		24	11	0	5	0	0.4	30	10.3	23	29+	2	7	21	8.1	
TALKEETNA	49	-87	27	11	0	0	0	0.3	31	9.4	3	13+	7	5	19	6.6	
UNALAKLEET	77		21	13	1	0		1.5	30	18.3	24	2	4	8	19	7.2	
YAKUTAT	154	[illegible]	43	17	0	0		0.8	12	9.8	11	[illegible]	3	[illegible]	25	8.5	
ARIZONA																	
FLAGSTAFF	48	-24	9	15	22	0	0	0.4	23	10.3	23	11+	5	16	10	6.2	
PHOENIX	4	-25	1	6	13	0	0	0.4	14	20.6Y	ENE	7	17	9	5	[illegible]	[illegible]
TUCSON	65	-8	21	11	16	0	0	1.6	18	24.1	NE	7	12	14	5	4.3	84
WINSLOW	21	-15	6	11	11	0	0	1.0	22	13.0	24	26+	11	13	7	5.0	
YUMA	T	-13	1	0	1	0	0	2.5	17	15.6	[illegible]	6	23	4	4	[illegible]	91
ARKANSAS																	
FORT SMITH	60	-14	47	5	5	0	0	1.8	10	11.2	SW	21	19	5	7	3.6	77
LITTLE ROCK	69	-2	46	7	4	0	0	1.1	11	12.5	NE	2	14	7	10	4.2	76
CALIFORNIA																	
BAKERSFIELD	T	0	T	0	0	0	0	1.4	33	8.0	31	24	28	2	1	1.0	
BISHOP	1	-2	1	2		0	0						23	7	1	1.6	
BLUE CANYON	0	-2	0	0		0	0			7.6	19	28	27	3	1	1.0	
EUREKA C	T	-3	T	0		0	0			11.2	NW	4	9	18	4	4.6	71
FRESNO	0	-T	0	0	0	0	0	1.4	29	9.4	NW	4	25	4	2	1.3	96
LONG BEACH	T	-1	T	0	0	0	0	1.0	26	8.0	28	22	18	12	1	3.3	
LOS ANGELES	0	-1	0	0	0	0	0	2.8	25	10.3Y	W	21	14	10	7	4.3	
LOS ANGELES C	0	-1	0	0		0	0			6.3	SW	18	26	5	0	1.9	92
MT SHASTA R	0	-5	0	0		0	0										
OAKLAND	0	-1	0	0	0	0	0	3.2	30	9.4	31	10	24	6	1	1.8	
RED BLUFF	0	-2	0	0	0	0	0	0.6	32	10.7	N	5	27	3	1	0.8	98
SACRAMENTO	0	-1	0	0	0	0	0	1.8	22	8.9	W	17	27	3	1	1.0	100
SANDBERG R	T	-2	T	0		0	0	1.1	24	13.4	34	5+	26	4	1	1.1	
SAN DIEGO	T	-2	T	1	0	0	0	1.9	28	9.4	NW	22	18	8	5	3.7	78
SAN FRANCISCO	T	-1	T	0	0	0	0	6.2	30	14.3	27	28	27	3	1	1.3	
SAN FRANCISCO C	T	-1	T	0		0	0			12.1	W	22+					90
SANTA MARIA	T	-1	T	0		0	0						22	9	0	2.7	
STOCKTON	0	0	0	0	0	0	0	2.7	30	8.0	29	24	26	5	0	0.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temp.: Average maximum	Temp.: Average minimum	Temp.: Average	Temp.: Departure from normal	Temp.: Highest	Date	Temp.: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity
	M	Mb	Mb	C	C	C	C	C		C				C.	%
COLORADO															
ALAMOSA	2297	776.[illegible]		[illegible]	[illegible]	18.8	1.6	31.7	[illegible]	6.1	21	0	0		
COLORADO SPRINGS	1873	814.[illegible]	1013.7	[illegible]	13.9	[illegible]	0.6	35.6	8	11.1	14+	6	0	10.6	55
DENVER	161[illegible]	837.8	[illegible]	31.7	15.0	23.3	1.3	37.8	8	12.2	26	15	0	10.0	50
GRAND JUNCTION	1476	852.[illegible]	1010.0	[illegible]	[illegible]	26.4	2.2	39.4	6	13.9	31+	24	0	7.8	36
PUEBLO	[illegible]	856.[illegible]	[illegible]	[illegible]	18.9	[illegible]	[illegible]	40.0	8+	13.3	[illegible]	21	0	[illegible]	47
CONNECTICUT															
BRIDGEPORT	2	[illegible]	1015.8	[illegible]	17.6	[illegible]	[illegible]	33.9	[illegible]	8.9	22	1	[illegible]	17.8	74
HARTFORD	52	[illegible]	1014.8	[illegible]	16.1	[illegible]	[illegible]	34.4	24	6.7	22	4	[illegible]	16.7	72
DELAWARE															
WILMINGTON	[illegible]	[illegible]	1016.5	28.9	18.9	24.1	[illegible]	32.8	25	12.2	21	1	0	17.8	71
DIST. OF COLUMBIA															
WASH NATL AP	[illegible]	1014.6	1016.9	[illegible]	19.4	24.6	[illegible]	33.[illegible]	[illegible]	14.4	28+	4	0	18.3	69
FLORIDA															
APALACHICOLA	4			30.6	23.3	26.8	0.[illegible]	33.3	[illegible]	20.6	30	2	0		
DAYTONA BEACH	9	1014.6	[illegible]	31.1	22.8	[illegible]	[illegible]	34.4	[illegible]	20.0	27	11	0	22.2	81
FORT MYERS	5	[illegible]	1014.9	[illegible]	23.9	[illegible]	- 0.3	33.3	22+	21.7	[illegible]	[illegible]	0	23.3	[illegible]
JACKSONVILLE	6	1014.6	[illegible]	[illegible]	22.8	[illegible]	[illegible]	36.1	2	18.9	[illegible]	15	0	22.8	81
KEY WEST	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29.4	0.7	32.8	8	23.9	26+	[illegible]	0	24.4	76
LAKELAND	65			31.7	22.8	[illegible]	[illegible]	33.9	21+	[illegible]	12	17	0		
MIAMI	2	[illegible]	1014.5	[illegible]	[illegible]	[illegible]	0.7	[illegible]	[illegible]	22.8	[illegible]	21	0	[illegible]	[illegible]
ORLANDO	33	[illegible]	[illegible]	[illegible]	22.8	[illegible]	[illegible]	[illegible]	[illegible]	20.6	[illegible]	[illegible]	0	[illegible]	[illegible]
TALLAHASSEE	17	[illegible]	1015.1	[illegible]	21.7	26.8	[illegible]	35.6	21+	16.1	27	21	0	22.8	82
TAMPA	6	[illegible]	1014.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28+	[illegible]	27	18	0	21.7	[illegible]
WEST PALM BEACH	5	[illegible]	1014.8	[illegible]	[illegible]	27.4	[illegible]	34.4	[illegible]	[illegible]	21	[illegible]	0	[illegible]	[illegible]
GEORGIA															
ATHENS	[illegible]	987.8	1016.3	[illegible]	18.9	[illegible]	[illegible]	[illegible]	9	14.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ATLANTA	[illegible]	[illegible]	[illegible]	[illegible]	19.4	[illegible]	[illegible]	32.8	9	14.4	22	[illegible]	[illegible]	19.4	[illegible]
AUGUSTA	[illegible]	[illegible]	1016.0	[illegible]	19.4	24.6	[illegible]	[illegible]	9	12.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLUMBUS	117	[illegible]		[illegible]	20.6	[illegible]	- 1.5	33.9	27+	14.4	25	9	[illegible]	[illegible]	[illegible]
MACON	[illegible]	[illegible]	[illegible]	31.1	19.4	[illegible]	- 2.3	34.4	[illegible]	13.3	25	12	[illegible]	[illegible]	[illegible]
ROME	[illegible]			[illegible]	17.8	[illegible]	[illegible]	34.4	9	12.8	[illegible]	6	[illegible]		
SAVANNAH	14	[illegible]	[illegible]	[illegible]	22.2	26.1	- 1.2	33.9	19+	18.9	26+	8	[illegible]	21.7	[illegible]
HAWAII															
HILO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	19.4	9	[illegible]	[illegible]	[illegible]	84
HONOLULU	[illegible]	[illegible]	[illegible]	[illegible]	24.4	[illegible]	[illegible]	33.3	27+	[illegible]	29+	28	[illegible]	19.4	[illegible]
KAHULUI	[illegible]	[illegible]	[illegible]	31.1	21.7	26.4	[illegible]	33.3	8	[illegible]	[illegible]	[illegible]	[illegible]	19.4	[illegible]
LIHUE	[illegible]	[illegible]	[illegible]	29.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26+	[illegible]	[illegible]	21.1	[illegible]
IDAHO															
BOISE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41.7	[illegible]	6.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LEWISTON	[illegible]			30.6	13.3	[illegible]	[illegible]	39.4	[illegible]	6.7	[illegible]	13	[illegible]		
POCATELLO	[illegible]	[illegible]	[illegible]	[illegible]	11.1	[illegible]	[illegible]	40.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ILLINOIS															
CAIRO	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	36.7	[illegible]	[illegible]	4	14	[illegible]		
CHICAGO O'HARE	[illegible]	[illegible]	[illegible]	[illegible]	17.8	[illegible]	[illegible]	32.2	[illegible]	[illegible]	[illegible]	1	[illegible]	15.6	[illegible]
CHICAGO MIDWAY	[illegible]	[illegible]	[illegible]	[illegible]	18.9	[illegible]	[illegible]	[illegible]	[illegible]	14.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MOLINE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32.8	31+	11.1	[illegible]	4	[illegible]	[illegible]	[illegible]
PEORIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
ROCKFORD	[illegible]	[illegible]	[illegible]	[illegible]	16.1	21.1	[illegible]	32.2	31+	8.9	[illegible]	[illegible]	[illegible]	16.1	[illegible]
SPRINGFIELD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32.2	31+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INDIANA															
EVANSVILLE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]

State and Station	Precip.: Total	Precip.: Departure from normal	Precip.: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	Mm	Mm	Mm			Mm	Mm	M p.s.		M.p.s.							%
COLORADO																	
ALAMOSA	33	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLORADO SPRINGS	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DENVER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GRAND JUNCTION	22	- 5	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PUEBLO	[illegible]	- 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CONNECTICUT																	
BRIDGEPORT	[illegible]	- 71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HARTFORD	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DELAWARE																	
WILMINGTON	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DIST. OF COLUMBIA																	
WASH NATL AP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FLORIDA																	
APALACHICOLA	[illegible]	[illegible]	[illegible]	17	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAYTONA BEACH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FORT MYERS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JACKSONVILLE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KEY WEST	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LAKELAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MIAMI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ORLANDO	[illegible]	6	[illegible]	[illegible]	17	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TALLAHASSEE	[illegible]	[illegible]	43	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TAMPA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WEST PALM BEACH	[illegible]	26	61	[illegible]	[illegible]	0	[illegible]	1.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GEORGIA																	
ATHENS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ATLANTA	[illegible]	64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUGUSTA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLUMBUS	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MACON	[illegible]	[illegible]	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROME	87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAVANNAH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HAWAII																	
HILO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HONOLULU	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KAHULUI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LIHUE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IDAHO																	
BOISE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LEWISTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
POCATELLO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ILLINOIS																	
CAIRO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CHICAGO O'HARE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CHICAGO MIDWAY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MOLINE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PEORIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROCKFORD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SPRINGFIELD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INDIANA																	
EVANSVILLE	[illegible]	[illegible]	0	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb.	C.	C.	C.	C	C.		C.				C	%	Mm	Mm	Mm			Mm	Mm	M p.s		M p.s							%
INDIANA																																
FORT WAYNE	241	987.5	1017.0	30.0	16.1	23.2	0.7	33.9	30	10.0	21	11	0	15.6	64	11	- 67	9	2	1	0	0	1.1	24	[illegible]	W	7	19	7	5	3.7	85
INDIANAPOLIS	241	987.8	1016.3	28.9	16.1	22.6	- 0.6	31.7	15	11.7	22	0	0	17.2	74	76	- 1	60	2	3	0	0	2.2	16	12.5	W	9	18	10	3	3.4	77
SOUTH BEND	236	988.8	1016.2	28.9	16.7	22.8	0.6	32.2	30+	11.1	23+	2	0	16.7	71	11	- 79	7	0	3	0	0	1.3	[illegible]	9.4	[illegible]	[illegible]	[illegible]	8	4	3.8	
IOWA																																
BURLINGTON	211			28.9	17.2	22.9	- 0.8	31.7	31+	12.8	22	0	0	17.2	69	77	5		3	5	0		0.9	18	[illegible]	[illegible]	9	15	9	7	4.5	
DES MOINES	286	981.7	1015.8	29.4	18.3	23.7	0.3	33.3	6	14.4	23+	6	0	16.7	66	46	- 47	20	7	4	0	0	1.7	16	[illegible]	NW	8	15	12	4	4.0	76
DUBUQUE	322	977.7		28.3	15.6	22.1	0.7	32.8	29	11.1	2	2	0			2	- 93	2	1		0	0						15	9	7	4.4	
SIOUX CITY	334	975.3	1014.2	28.9	17.2	23.1	- 0.8	33.3	6	13.9	14	3	0	18.9	78	150	83	55	6	5	0	0	1.5	15	10.1	W	6	16	10	5	3.9	73
WATERLOO	265	984.4	1015.7	28.3	14.4	21.4	- 0.6	33.3	6	7.2	23	3	0	15.6	72	14	- 73	6	6	8	0	0	1.5	21	11.2	[illegible]	6	16	9	6	4.4	
KANSAS																																
CONCORDIA	448	961.7	1013.3	30.6	18.3	24.4	- 1.7	38.3	8	15.6	3+	10	0	17.8	71	86	6	37	10	4	0	0	2.6	15	13.0	[illegible]	29	11	10	10	5.2	61
DODGE CITY	787	923.8	1012.3	32.2	20.0	26.1	- 0.2	41.1	12+	16.1	16	17	0	16.7	63	107	47	30	11	9	0	0	3.3	16	14.8	[illegible]	29	9	10	12	5.6	60
GOODLAND	1114	888.3	1011.7	30.6	17.2	23.9	0.2	40.6	12+	12.2	15	12	0	13.9	60	45	- 13	18	10	7	0	0	3.1	15	14.9	18	29	14	7	10	4.3	
TOPEKA	267	983.1	1014.4	30.0	18.3	24.2	- 1.6	37.2	8	12.8	1	7	0	18.3	71	22	- 87	10	5	4	0	0	1.5	13	10.7	N	9	10	10	11	5.5	61
WICHITA	403	966.8	1013.3	32.2	20.0	26.1	- 1.1	40.6	13	15.6	10	16	0	17.2	61	27	- 46	22	7	4	0	0	2.5	15	13.0	S	6	14	9	8	4.4	68
KENTUCKY																																
COVINGTON	265	985.8	1016.9	29.4	17.2	23.3	- 0.1	33.3	31	12.8	23	3	0	16.7	69	55	- 11	38	7	4	0	0	[illegible]	7	12.5	31	[illegible]	12	13	6	4.5	
LEXINGTON	294	982.1	1016.9	29.4	17.8	23.7	- 0.7	32.8	9+	13.9	11	3	0	16.1	65	151	70	75	6	4	0	0	0.5	[illegible]	11.2	12	19	16	9	6	4.1	
LOUISVILLE	145	998.6	1015.9	29.4	17.8	23.7	- 0.8	33.9	9	14.4	22+	4	0	17.2	71	93	17	44	8	3	0	0	0.2	7	14.8	NW	9	17	10	4	3.8	80
LOUISIANA																																
BATON ROUGE	20	1011.2	1013.8	32.2	22.2	27.2	- 0.8	35.0	10	18.9	30	20	0	22.2	80	95	- 9	56	11	7	0	0	0.8	7	[illegible]	32	17	9	14	8	5.0	
LAKE CHARLES	3	1012.2	1013.3	32.8	22.8	27.7	- 0.2	35.0	17+	18.9	30	27	0	22.2	77	[illegible]	- 72	37	7	7	0	0	1.1	10	8.0	18	11	10	15	6	5.3	
NEW ORLEANS	1	1013.2	1014.0	31.7	21.7	26.7	- 1.0	34.4	10	18.9	30+	14	0	22.8	81	198	62	78	11	6	0	0	0.5	9	18.8	33	17	11	13	7	5.0	
SHREVEPORT	77	1004.4	1013.4	35.6	22.2	29.1	0.3	40.6	10	19.4	4	29	0	18.3	57	13	- 52	7	4	3	0	0	1.6	11	8.9	22	16	15	10	6	4.2	66
MAINE																																
CARIBOU	190	989.5		23.3	12.2	17.8	0.8	30.6	31	4.4	22+	0	0			[illegible]	9	31	15		0	0						2	14	15	7.3	
PORTLAND	14	1011.5	1013.7	27.2	16.7	21.8	2.5	33.3	31+	7.8	22	4	0	16.7	74	56	- 6	29	10	3	0	0	1.2	24	11.6	NW	19	9	12	10	5.5	61
MARYLAND																																
BALTIMORE	45	1011.5	1016.9	30.6	18.9	24.7	0.8	34.4	30	12.8	28	10	0	17.2	67	97	- 35	54	10	6	0	0	1.1	25	13.0	W	18	13	8	10	5.0	62
MASSACHUSETTS																																
BLUE HILL OBS R	192			27.8	16.7	22.3	1.6	32.8	31	8.9	27	2	0			58	- 44	19	7		0	0			15.6	SW	5					73
BOSTON	5	1013.5	1014.4	28.3	18.9	23.5	1.4	33.9	25+	12.2	27	4	0	16.1	66	48	- 45	12	8	3	0	0	2.6	24	13.9	NW	19	10	16	5	4.8	77
NANTUCKET	13			25.0	16.7	20.7	0.6	28.9	25	7.8	22	0	0			41	- 52	13	8	6	0	0			10.3	SE	10	8	9	14	6.2	64
WORCESTER	301	979.7	1015.9	26.7	16.1	21.3	1.2	30.0	31+	8.9	27	0	0	16.1	73	85	- 23	40	12	8	0	0	2.6	26	11.2	30	21+	8	18	5	4.9	
MICHIGAN																																
ALPENA	210	990.2	1015.0	27.2	12.8	[illegible]	2.1	32.8	23	5.6	20	3	0	14.4	73	64	- 13	24	9	8	0	0	1.4	25	8.0	SW	5	15	12	4	4.0	75
DETROIT	189			28.3	17.8	23.3	0.6	32.8	30+	10.0	21	2	0	15.0	62	62	- 10	27	5	4	0		1.2	25	13.9	28	8					
DETROIT M WAYNE CO	193	992.2	1015.8	28.9	16.7	22.8	1.3	33.3	24	10.0	21	3	0	15.6	67	27	- 45	11	5	5	0	0	1.5	25	11.2	SW	17+	16	11	4	3.6	79
FLINT	235	988.5	1015.8	27.8	15.0	21.2	0.3	32.2	30	6.7	21	1	0	15.0	71	11	- 69	7	6	3	0	0	1.7	24	11.2	26	8	20	7	4	3.1	
GRAND RAPIDS	239	987.1	1015.9	29.4	15.0	22.3	0.9	33.3	30	7.8	22+	8	0	13.9	63	4	- 65	2	2	0	0	0	2.0	23	14.3	W	7	18	10	3	3.5	77
HOUGHTON LAKE	350	974.6	1016.0	27.2	13.3	20.2	1.0	31.1	24+	4.4	21	0	0	15.0	72	22	- 46	11	4	6	0	0	1.9	25	11.6	24	7	17	10	4	3.7	
LANSING	256	984.8	1016.1	30.6	15.0	22.7	1.4	35.0	30	5.6	21	10	0	15.6	68	4	- 73	4	2	2	0	0	2.0	24	11.6	W	8+	18	8	5	3.6	74
MARQUETTE U	206			27.2	16.1	21.6	2.8	35.0	30	9.4	21	6	0			13	- 64	5	7		0	0			12.5	SW	7	13	13	5	4.2	76
MUSKEGON	191	992.9	1015.6	27.8	16.1	22.1	0.8	30.6	30	10.0	21	0	0	15.6	70	3	- 71	3	2	1	0	0	2.0	24	10.3	22	7	21	8	2	2.6	
SAULT STE MARIE	220	987.8	1014.0	25.6	12.2	18.7	0.9	31.7	17	3.9	20	0	0	13.3	72	55	- 18	33	10	6	0	0	1.7	27	12.1	SW	7	13	10	8	4.7	71
MINNESOTA																																
DULUTH	435	963.4	1014.2	27.2	13.3	20.3	2.6	32.2	28	5.6	21	1	0	12.2	62	55	- 41	25	5	5	0	0	2.1	23	17.9	W	7	13	13	5	4.1	80
INTERNATIONAL FALLS	359	969.5	1011.9	26.7	12.8	19.8	2.5	32.2	11	6.1	18	1	0	13.3	69	55	- 37	29	10	9	0	0	1.5	22	11.2	28	7	13	10	8	4.6	
MINNEAPOLIS	254	984.4	1014.3	30.6	16.7	23.6	2.4	35.6	29	12.2	14+	7	0	15.0	61	25	- 56	18	3	2	0	0	2.4	22	15.6	W	6	20	9	2	3.3	85
ROCHESTER	395	968.5	1015.4	27.2	14.4	20.7	- 0.3	31.7	30	10.6	31+	0	0	14.4	71	85	- 11	60	4	2	0	0	2.4	21	14.3	30	18	16	10	5	4.0	
ST CLOUD	315	976.6	1013.8	30.0	15.0	22.6	2.2	34.4	29+	9.4	1	8	0		63	55	- 40	40	2		0	0						23	6	2	2.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C.	C.	C.	C	C		C				C	%	Mm.	Mm	Mm.			Mm	Mm	M.p.s		M.p.s							%
MISSISSIPPI																																
JACKSON	94	1002.7	1014.3	33.3	20.0	26.4	- 1.3	36.1	9	15.6	12	23	0	20.6	74	85	1	74	5	5	0	0	1.2	9	17.9	NE	18	[illegible]	[illegible]	8	[illegible]	[illegible]
MERIDIAN	88	1003.7	1014.7	32.2	19.4	25.6	- 1.7	35.0	10	15.0	26+	19	0	20.0	74	100	10	55	6	6	0	0	0.7	10	12.5	14	13	[illegible]	[illegible]	9	[illegible]	
MISSOURI																																
COLUMBIA	237	987.5	1015.1	30.6	18.9	24.9	- 0.2	35.6	8	15.0	22	10	0	16.7	65	49	- 47	25	3	3	0	0	1.3	13	13.4	NW	9	[illegible]	[illegible]	12	6.5	74
KANSAS CITY	226	988.2	1014.6	31.1	21.1	26.1	- 0.5	36.7	8	17.2	24	14	0	18.9	66	221	125	189	7		0	0	1.6	14	11.6	SW	[illegible]	14	8	9	4.6	64
ST JOSEPH	247			31.1	18.9	24.9	- 0.4	33.9	13+	13.9	23+	11	0	17.8	73	70	- 37		6	4	0		1.1	15	9.4	16	13	11	12	7	[illegible]	
ST LOUIS	165	996.3	1016.2	31.1	18.9	25.0	0.1	34.4	29	13.3	22	14	0	17.8	67	13	- 64	9	4	[illegible]	0	0	0.9	14	10.7	W	[illegible]	12	12	7	4.8	70
SPRINGFIELD	386	970.9	1015.3	31.7	17.8	24.8	- 0.8	36.7	10+	13.3	24	17	0	16.7	66	67	18	50	6	4	0	0	1.8	15	11.6	NW	21	17	6	[illegible]	3.8	73
MONTANA																																
BILLINGS	1087	889.6	1010.4	31.7	14.4	22.9	1.7	37.8	24	7.8	30	18	0	5.[illegible]	34	11	- 12	10	3	[illegible]	0	0	0.7	23	13.4	NW	6	21	7	3	2.5	89
GLASGOW	696	929.9	1009.8	32.2	13.9	23.[illegible]	3.1	38.9	24+	6.7	30	18	0	5.6	36	1	- 37	1	3	4	0	0	0.8	10	14.3	[illegible]	6	[illegible]	5	[illegible]	2.5	
GREAT FALLS	1116	886.9	1010.4	31.7	12.8	22.3	2.9	41.1	24	5.0	30	16	0	1.7	27	1	31	1	3	3	0	0	2.1	24	18.3	SW	18	24	5	2	2.5	92
HAVRE	788	920.1	1009.9	32.8	10.0	21.5	1.1	43.3	24	2.2	30	18	0	1.7	30	T	- 28	T	1	[illegible]	0	0	1.8	26	19.2	NW	[illegible]	[illegible]	5	3	2.8	83
HELENA	1167	879.6	1011.9	31.7	10.6	21.2	2.2	40.6	24	3.9	30	16	0	3.9	36	10	- 13	10	1	3	0	0	1.3	27	16.5	W	5	[illegible]	8	[illegible]	2.6	80
KALISPELL	904	909.9	1013.1	29.4	5.0	17.2	- 0.1	39.4	24	- [illegible].6	29	11	3	3.9	45	2	- 25	1	3	4	0	0	1.1	21	11.2	[illegible]	5	19	11	1	2.7	
MILES CITY	801	918.7	1009.3	33.9	16.7	25.3	2.7	40.0	10	12.2	18+	21	0	7.8	36	4	- 27		1	2	0		0.3	13								
MISSOULA	972	903.5	1013.3	31.1	8.3	19.4	1.2	39.4	23	2.2	6	14	0	3.3	38	1	- 17	1	1	3	0	0	1.3	31	15.2	W	4	23	6	2	2.5	70
NEBRASKA																																
GRAND ISLAND	561	948.9	1013.6	31.1	17.8	24.4	0.4	36.1	12	13.3	16	13	0	16.7	67	[illegible]	36	56	5	[illegible]	0	0	[illegible]	17	13.0	19	29	12	11	8	4.9	
LINCOLN	351			30.[illegible]	19.4	24.9	- 0.5	36.1	6	16.1	31+	12	0			54	- 33	28	6		0	0			17.9	[illegible]	[illegible]	13	9	9	[illegible]	66
NORFOLK	471			30.[illegible]	17.2	23.4	- 0.6	34.4	11+	12.2	31+	10	0			94	27	48	6			0						15	8	8	4.4	
NORTH PLATTE	846	917.0	1012.5	31.1	15.0	23.1	- 0.5	38.3	8	7.2	15	13	0	15.0	65	41	- 13	20	5	6	0	0	2.6	14	13.4	NW	8	[illegible]	[illegible]	7	4.8	72
OMAHA	298	979.7	1014.2	30.[illegible]	18.3	24.2	- 0.3	34.4	11+	14.4	1	10	0	17.8	70	129	27	71	7	5	0	0	1.9	16	15.2	NW	7	14	7	10	4.9	[illegible]
SCOTTSBLUFF	1206	879.4	1011.7	32.8	15.0	23.9	1.4	39.4	11+	10.0	9	17	0	12.8	57	32	6	13	7	3	0	0	2.5	12	13.0	24	29+	19	[illegible]	[illegible]	3.5	
VALENTINE	789			32.8	15.6	24.[illegible]	1.5	41.1	8	6.7	31	19	0			9	49	6	3		0	0			15.2	[illegible]	[illegible]	19	[illegible]	2	[illegible]	[illegible]
NEVADA																																
ELY	[illegible]	810.4	1010.4	31.7	10.0	20.9	1.9	35.0	8	2.8	30	14	0	3.9	37	9	4	4	2	6	0	0	2.5	20	13.4	NE	17+	[illegible]	14	4	[illegible]	[illegible]
LAS VEGAS	659	933.[illegible]	1006.7	41.7	25.6	33.4	2.8	45.0	5+	20.6	19	31	0	9.4	27	8	- 4	5	4	5	0		1.8	21	14.[illegible]	SE	8	[illegible]	[illegible]	0	[illegible]	[illegible]
RENO	1342	864.9	1011.3	34.4	6.7	20.4	1.8	39.4	9	2.2	28+	27	0	1.7	31	T	4	T	0	1	0	0	1.1	29	13.4	W	4	26	4	1	[illegible]	98
WINNEMUCCA	1311	866.6	1011.0	35.0	6.7	20.9	1.2	39.4	[illegible]	[illegible].6	[illegible]	25	0	- 5.0	18	[illegible]	- 4	0	0	0	0	0	0.7	27	[illegible].1	[illegible]	[illegible]	24	[illegible]	1	[illegible]	94
NEW HAMPSHIRE																																
CONCORD	104	1002.4	1014.8	27.2	13.9	20.5	0.8	31.7	31+	2.8	27+	0	0	16.1	77	72	- 3	52	9	4	0	0	[illegible]	27	12.1	W	19	12	15	4	4.8	[illegible]
MT WASHINGTON	1909			11.7	5.6	8.7	0.[illegible]	17.2	16	- 3.3	[illegible]	0	5			191	22	43	16	7	0	0			43.4*	W	[illegible]	1	4	26	[illegible]	[illegible]
NEW JERSEY																																
ATLANTIC CITY	[illegible]	1013.9	1015.4	28.9	17.2	22.9	- 0.2	34.4	25	6.1	[illegible]	8	0	17.8	76	65	- 59	21	9	5	[illegible]	[illegible]	[illegible]	[illegible]	9.4	W	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
ATLANTIC CITY	3			27.8	20.6	24.1	0.9	33.3	25	14.4	22+	3	0			105	- 25	41	9						13.4	W	[illegible]					
NEWARK	[illegible]	1014.6	1015.7	30.[illegible]	20.6	25.2	1.6	33.3	25	15.0	27+	6	0	17.2	63	57	- 56	18	13	4	[illegible]	[illegible]	2.1	23	9.4	34	[illegible]	12	[illegible]	7	4.8	
TRENTON	17			28.9	19.4	24.3	1.1	32.8	25	12.8	27+	3	0			85	- 37	27	13		[illegible]	[illegible]			12.1	NW	[illegible]	[illegible]	12	[illegible]	[illegible]	[illegible]
NEW MEXICO																																
ALBUQUERQUE	1619	[illegible]	1011.0	33.[illegible]	18.9	26.1	1.6	37.2	[illegible]	16.1	25	25	0	11.1	45	24	[illegible]	14	8	11	[illegible]	0	0.[illegible]	12	[illegible]	E	[illegible]	15	[illegible]	[illegible]	[illegible]	[illegible]
CLAYTON	1515			30.6	16.1	23.3	0.[illegible]	36.1	11	12.2	15	13	0			131	78	68	10		[illegible]	0						11	13	7	[illegible]	
ROSWELL	[illegible]			35.6	19.4	27.4	2.7	40.6	17	16.7	16	26	0			18	- 23	8	8		[illegible]	0			12.5	SW	18					69
NEW YORK																																
ALBANY	84	1004.7	1015.3	28.3	14.4	21.4	0.3	33.3	24	5.0	27	2	0	15.6	74	55	- 23	15	8	4	0	[illegible]	[illegible]	23	16.1	W	8	12	[illegible]	11	5.7	64
BINGHAMTON	489	959.[illegible]	1017.0	25.0	14.4	19.8	0.6	29.4	31+	6.7	27+	0	0	15.6	78	50	- 4[illegible]	16	8	6	0	[illegible]	1.8	26	11.[illegible]	W	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]
BUFFALO	215	990.5	1015.9	26.7	16.7	21.8	1.6	30.6	15	7.8	27	0	0	15.0	68	65	- 14	58	3	4	0	[illegible]	2.9	24	13.[illegible]	W	8	[illegible]	[illegible]	8	[illegible]	[illegible]
NEW YORK J.F. KENNEDY	4	1015.2	1015.9	31.[illegible]	20.6	25.2	1.6	36.1	25	14.4	22	5	0	17.8	68	61	- 66	36	11	5	0	[illegible]	[illegible]	22	11.2	20	17	[illegible]	[illegible]	4	4.9	
NEW YORK	40	1012.[illegible]	1015.4	30.0	20.6	25.2	1.3	34.4	25	14.4	22+	5	0	16.7	64	64	- 49	20	10	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	NE	[illegible]					[illegible]
NEW YORK LA GUARDIA	[illegible]	1014.2	1015.9	28.3	20.6	24.4	0.3	32.2	25+	13.9	27	2	0	15.6	61	67	- 62	22	12	[illegible]	0	[illegible]	[illegible]	26	[illegible]	SW	8	[illegible]	13	9	[illegible]	
ROCHESTER	167	996.6	1016.4	28.3	16.1	22.2	1.[illegible]	33.3	31	7.8	27	3	0	15.6	70	46	- 23	23	5	[illegible]	0	[illegible]	[illegible]	25	13.[illegible]	W	8	13	[illegible]	8	[illegible]	71
SYRACUSE	125	1000.7	1015.4	28.3	15.6	21.8	[illegible]	32.8	31	5.6	27	2	0	14.4	[illegible]	45	- 38	23	8	4	0	[illegible]	[illegible]	25	[illegible].1	SW	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NORTH CAROLINA																																
ASHEVILLE	652	942.8	1017.6	27.8	15.0	21.5	0.4	32.2	9+	7.2	23	2	0	17.2	83	164	59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M.	Mb	Mb	C	C.	C	C	C.		C.				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
NORTH CAROLINA																																
CAPE HATTERAS R	2	1016.9	1017.3	28.3	21.1	24.9	-0.4	31.1	19	15.6	25	0	0	21.1	81	172	9	69	14	4	[illegible]	[illegible]	0.5	17	15.2	W	9	[illegible]	[illegible]	[illegible]	[illegible]	74
CHARLOTTE	224	989.8	1016.7	28.9	19.4	24.2	-1.7	32.8	26	14.4	29+	5	0	18.3	72	151	23	62	9	[illegible]	0	0	0.5	9	8.5	SW	[illegible]	[illegible]	[illegible]	15	[illegible]	68
GREENSBORO	271	986.1	1017.4	29.4	19.4	24.3	-0.3	33.3	9	11.1	28	5	0	19.4	77	[illegible]	-17	45	11	5	0	[illegible]	[illegible]	[illegible]	9.8	SW	[illegible]	[illegible]	5	15	[illegible]	62
RALEIGH	132	1001.4	1016.8	28.9	17.8	23.2	1.7	31.7	9+	11.1	28	0	0	18.9	81	163	28	43	11	5	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	7	13	[illegible]	65
WILMINGTON	9	1015.6	1017.0	30.0	20.0	24.9	1.4	33.3	19	15.6	24+	6	[illegible]	[illegible]	79	115	-35	28	11	8	[illegible]	[illegible]	[illegible]	[illegible]	14.8	SW	4	6	10	15	6.2	69
NORTH DAKOTA																																
BISMARCK	502	952.9	1011.1	32.2	14.4	23.2	2.5	38.3	28+	6.7	18	16	0	12.8	55	23	-21	13	5	6	[illegible]	[illegible]	1.3	16	17.[illegible]	SE	3	16	14	1	3.2	85
FARGO	273	979.3	1011.5	30.0	15.0	22.4	1.6	35.0	16+	7.2	18	8	0	15.0	65	10	65	9	3	2	0	[illegible]	2.6	19	15.2	[illegible]	12	22	7	2	2.7	91
WILLISTON	579	943.1	1010.0	32.2	13.3	22.7	2.6	39.4	22	3.3	18	18	0	10.0	48	14	-24	5	5	8	0	0	0.0	16	18.[illegible]	NW	6	21	7	3	2.8	92
OHIO																																
AKRON	368	973.[illegible]	1017.[illegible]	27.8	15.0	21.2	-0.7	31.1	15	7.8	21	0	0	15.[illegible]	71	43	-36	[illegible]	[illegible]	6	[illegible]	0	0.8	24	8.[illegible]	22	8	13	11	7	4.6	
CINCINNATI OBS	232			29.4	17.2	23.3	-0.9	33.9	31	13.3	23+	6	0			67	-17	27	6		[illegible]	0			7.6	NW	9					76
CLEVELAND	237	988.2	1017.0	28.3	15.6	22.1	0.8	32.8	31	8.9	23+	5	0	15.6	66	13	-70	6	5	2	0	0	1.1	23	11.6	SW	7	16	11	4	4.1	73
COLUMBUS	247	987.8	1017.3	28.3	15.6	21.8	-1.1	31.7	7	8.9	21	0	0	16.7	74	65	1[illegible]	47	5	3	0	0	0.3	11	[illegible]	SW	8	12	[illegible]	6	4.4	74
DAYTON	305	981.4	1016.9	28.9	16.7	22.8	-0.4	33.9	31	10.0	21	3	0	15.6	66	86	13	76	7	3	0	0	0.3	27	11.2	SW	9	14	12	5	4.2	76
MANSFIELD	395			28.9	16.7	22.8	1.6	32.2	15	11.7	22+	1	0	15.0	66	60	-22	42	5	5	0	0	1.2	23	8.9	24	8	13	14	4	4.4	
TOLEDO	204	992.2	1017.0	28.9	15.0	21.9	0.3	32.8	15+	8.3	21	4	0	15.0	69	29	-55	26	[illegible]	[illegible]	0	0	1.1	25	9.8	W	8	20	5	5	3.5	75
YOUNGSTOWN	359	974.9	1017.3	27.2	13.9	20.6	-0.5	31.7	29	6.1	27+	0	0	15.0	73	13	-76	8	5	[illegible]	0	0	0.7	24	8.9	35	10	15	8	8	4.4	
OKLAHOMA																																
OKLAHOMA CITY	392	967.8	1013.1	32.8	20.6	26.8	-1.4	40.6	13	17.8	31+	18	0	18.3	64	6[illegible]	-4	26	7	6	[illegible]	[illegible]	2.6	14	13.4	SE	15	17	7	7	4.0	79
TULSA	198	990.2	1013.8	33.3	20.6	27.1	-0.4	41.1	9	17.8	11+	19	0	18.3	62	82	5	61	[illegible]	[illegible]	[illegible]	0	1.8	16	10.3	SW	14+	17	9	5	3.6	72
OREGON																																
ASTORIA	2	1016.6	1017.3	20.0	9.4	14.8	-1.3	24.4	23	5.6	29	0	0	10.6	77	16	-22	7	12	0	0	0	1.6	27	10.7	18	24	8	9	14	5.9	
BURNS U	1265	872.7	1012.8	29.4	9.4	19.4	-0.1	36.1	23	2.8	5	7	0	0.6	31	T	-7	T	0		0	0	1.5	31				28	1	1	1.0	
EUGENE	109	1002.7	1016.2	27.2	9.4	18.1	-0.7	32.2	23+	3.3	29	2	0	9.4	62	T	-10	T	0	0	0	0	1.2	32	10.3	21	24	16	12	3	3.7	
MEACHAM	1234	877.1	1013.7	23.3	8.9	16.1	-0.4	33.3	23	2.8	29+	1	0			0	-13	0	0		0	0			9.4	28	4	27	4	0	1.1	
MEDFORD	396	967.2	1014.2	31.7	10.6	21.1	-0.4	36.7	22+	5.0	25	14	0	7.2	48		-5		0	0	0	0	1.3	32	10.3	30	23	27	4	0	1.0	
PENDLETON	452	961.1	1014.0	30.0	12.2	21.2	-1.0	37.8	23	7.2	29+	11	0	5.0	38	0	-7	0	0	0	0	0	2.1	27	13.4	28	11	25	6	0	1.6	
PORTLAND	6	1014.9	1016.1	25.6	12.2	18.9	-0.3	31.1	31+	7.8	29	0	0	10.6	62	1	-15	1	1	1	0	0	2.0	32	10.3	SW	24	14	9	8	4.5	75
SALEM	60	1009.1	1016.4	26.7	8.3	17.5	-1.4	32.8	23	3.3	29	3	0	9.4	63	1	-10	1	1	0	0	0	1.2	33	10.7	29	17	14	12	5	3.8	
SEXTON SUMMIT R	1169	884.5	1014.1	23.3	10.0	16.6	-0.8	30.6	31	5.6	5+	0	0			0	-6	0	0		0	0			12.5	34	29	29	2	0	0.9	
PACIFIC AREA																																
JOHNSTON	2	1012.9	1013.3	30.0	25.0	27.5	0.0	31.1	8	22.2	5	0	0	22.2	75	33	-25	9	12	0	0	0	6.7	8	13.4	E	26	9	14	8	5.4	74
KOROR R	29	1007.1	1010.7	31.1	24.4	27.7	0.5	32.2	27	22.2	5	1	0	24.4	84	315	-86	106	24	4	0	0	0.5	21	11.6	NE	19	0	7	24	8.3	50
KWAJALEIN	2	1009.5	1010.1	31.1	25.6	28.3	0.6	32.8	15+	23.3	22	3	0	23.9	79	146	-98	41	24	0	0	0	3.0	8	13.0	12	22	0	3	28	9.4	
MAJURO	3	1010.2	1010.3	30.6	24.4	27.6	0.8	32.8	7+	22.2	14	3	0	23.9	79	260	-37	64	22	3	0	0	1.7	7	10.7	E	9	0	15	16	7.4	62
PAGO PAGO	4	1013.2	1013.4	27.8	23.3	25.7		30.6	21	21.1	20	0	0	21.7	80	187		67	20	1	0	0	6.5	12	11.6	SE	25+	1	8	22	8.1	47
PONAPE R	37	1004.7	1010.2	31.1	21.7	26.4	0.1	32.2	30+	20.6	26+	3	0	23.3	87	337	-77	54	28	1	0	0	0.8	15	6.3	NW	9	0	9	22	8.1	58
TAGUAC GUAM R	110	998.0	1010.6	30.0	22.2	26.1	-0.2	31.7	20+	20.6	9+	0	0	23.3	87	236	-90	39	24	6	0	0	2.2	10	8.5	SE	29+	0	8	23	8.7	59
TRUK MOEN ISLAND	2	1009.5	1010.0	30.6	23.9	27.2	0.3	31.7	23+	22.8	5+	0	0	23.9	83	363	38	105	24	2	0	0	1.0	8	13.4	NE	11	0	7	24	8.7	80
WAKE	3	1012.5	1012.6	32.8	26.1	29.3	1.3	33.3	30+	23.3	15+	31	0	23.3	74	41	-138	16	15	0	0	0	3.7	10	11.6	NE	11	9	17	5	5.1	83
YAP R	13	1008.1	1010.0	30.0	23.3	26.9	-0.5	31.7	31	22.2	16+	0	0	23.9	85	294	-79	95	25	1	0	0	0.1	17	10.7	SW	1	0	11	20	8.1	56
PENNSYLVANIA																																
ALLENTOWN	118	1002.4	1016.3	28.3	16.1	22.2	0.0	32.8	25	8.3	27	1	0	16.7	74	85	-29	38	11	10	0	0	1.5	25	14.3	27	19	15	7	9	4.6	
ERIE	223	990.2	1016.7	26.1	15.6	20.9	-0.1	30.0	15+	8.9	27+	0	0	15.6	73	44	-31	20	8	5	0	0	1.8	22	9.4	20	8+	17	9	5	3.9	
HARRISBURG	103	1003.7	1016.5	28.9	17.2	23.0	-0.4	32.8	25	10.0	22	2	0	17.2	72	53	-40	18	9	5	0	0	1.2	27	15.2	NW	17	13	8	10	4.8	70
PHILADELPHIA	2	1014.9	1015.9	28.9	18.9	24.0	0.9	32.8	25	11.7	28	1	0	18.3	74	68	-50	40	11	3	0	0	1.6	25	9.4	SW	15	10	10	11	5.2	65
PITTSBURGH	347	973.6	1017.0	26.7	15.0	20.9	-0.6	30.0	25+	7.8	21	0	0	15.0	69	75	-9	36	8	4	0	0	0.7	27	9.4	24	8	12	10	9	5.0	56
SCRANTON	283	983.4	1017.1	26.7	15.6	21.1	-0.1	30.6	31	7.8	27	0	0	15.6	73	114	23	62	12	6	0	0	0.7	22	12.1	NW	17	13	6	12	4.8	75
WILLIAMSPORT	160	998.0	1016.9	27.8	15.6	21.7	-0.3	32.2	25	8.3	27	1	0	17.2	82	78	-13	21	13	7	0	0	0.9	27	9.4	32	17+	12	8	11	5.5	
RHODE ISLAND																																
BLOCK ISLAND	34			25.0	18.9	21.9	1.0	28.3	25	11.7	22	0	0			75	-23	33	9		0	0										
PROVIDENCE	16	1012.9	1015.3	29.4	17.8	23.5	2.1	33.3	25+	7.8	22	3	0	16.1	67	66	-35	29	9	6	0	0	2.6	25	11.2	33	9	10	13	8	5.1	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb.	Mb.	C	C.	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	Mps		Mps							%
[illegible]																																
[illegible]	[illegible]	1014.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33.3	[illegible]	17.8	28+	4	[illegible]	21.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	33.3	[illegible]	[illegible]	24+	3				353	199	56	[illegible]		[illegible]	[illegible]			[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33.3	[illegible]	11.7	24	[illegible]		[illegible]	[illegible]	74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	983.[illegible]	1017.[illegible]	[illegible]	18.[illegible]	[illegible]	[illegible]	33.3	[illegible]	13.9	29+	[illegible]		18.[illegible]	[illegible]	166	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]
[illegible]																																
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.4	[illegible]	[illegible]	37.[illegible]	[illegible]	7.2	31+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.4	[illegible]	[illegible]	35.[illegible]	[illegible]	[illegible]	31+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.4	[illegible]	[illegible]	38.3	11	[illegible]	14+	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17.[illegible]	13+	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17.4	[illegible]	[illegible]	36.[illegible]	[illegible]	16.1	15+	[illegible]	[illegible]	18.[illegible]	[illegible]	98	15	45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	14.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	276			[illegible]	17.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4				[illegible]	11	36	11						16.1Y		15	[illegible]	[illegible]	[illegible]	[illegible]	
TEXAS																																
ABILENE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41.[illegible]	[illegible]	[illegible]	31	[illegible]	0	[illegible]	[illegible]	[illegible]	171	79	[illegible]	[illegible]	0	[illegible]	3.2	16	18.[illegible]	[illegible]	4	17	[illegible]	[illegible]	[illegible]	[illegible]
AMARILLO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	38.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUSTIN	189	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	18.9	31	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BROWNSVILLE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	36.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	197	126	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CORPUS CHRISTI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.[illegible]	18+	22.[illegible]	[illegible]	25	0	22.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	42.8	[illegible]	14.4	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EL PASO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17+	[illegible]	[illegible]	28	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FORT WORTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	39.[illegible]	[illegible]	[illegible]	31	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GALVESTON	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	35.[illegible]	[illegible]	22.8	[illegible]	[illegible]	0			[illegible]	[illegible]	[illegible]	[illegible]		0				18.[illegible]	[illegible]	[illegible]					[illegible]
HOUSTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	38.3	[illegible]	[illegible]	31	27	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.4	[illegible]	[illegible]	38.[illegible]	17	17.[illegible]	[illegible]	24	0	15.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MIDLAND	[illegible]	[illegible]	1010.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41.1	17	17.8	27	24	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PORT ARTHUR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.9	[illegible]	36.7	18+	20.6	[illegible]	23	0	23.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	1.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN ANGELO	[illegible]	[illegible]	[illegible]	[illegible]	21.7	[illegible]	[illegible]	41.7	14+	16.7	31	28	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN ANTONIO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17+	[illegible]	31	28	0	[illegible]	[illegible]	[illegible]	46	44	[illegible]	[illegible]	0	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VICTORIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	38.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WACO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44.4	11	21.7	31+	29	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WICHITA FALLS	[illegible]	976.[illegible]	[illegible]	36.1	[illegible]	[illegible]	[illegible]	44.4	[illegible]	19.4	29+	[illegible]	0	19.4	[illegible]	[illegible]	55	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
UTAH																																
[illegible]	[illegible]	[illegible]		[illegible]	15.6	[illegible]	[illegible]	37.2	[illegible]	[illegible]	31	28	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]									[illegible]	[illegible]	[illegible]	[illegible]	
SALT LAKE CITY	[illegible]	[illegible]	[illegible]	[illegible]	16.7	[illegible]	[illegible]	37.2	24+	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.2	[illegible]	[illegible]	[illegible]	23	[illegible]			[illegible]	[illegible]															
VERMONT																																
[illegible]	[illegible]	[illegible]	1014.4	26.1	14.4	[illegible]	[illegible]	[illegible]	[illegible]	4.4	[illegible]	0	0	15.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VIRGINIA																																
[illegible]	[illegible]		[illegible]	[illegible]	16.[illegible]	[illegible]	[illegible]	32.8	[illegible]	12.2	[illegible]	[illegible]	[illegible]			77	35	37	[illegible]		[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20.6	[illegible]	[illegible]	32.8	[illegible]	14.4	[illegible]	[illegible]	[illegible]	19.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.4	[illegible]	[illegible]	76	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	976.[illegible]	[illegible]	[illegible]	16.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	14.4	[illegible]	[illegible]				144		[illegible]	[illegible]						17.[illegible]Y	[illegible]	[illegible]					
WASHINGTON																																
[illegible]	14	[illegible]	1016.8	[illegible]	7.8	[illegible]	[illegible]	29.4	[illegible]	1.1	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEATTLE TACOMA	122	[illegible]	[illegible]	[illegible]	12.8	[illegible]	[illegible]	28.9	[illegible]	8.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	718	[illegible]	[illegible]	[illegible]	11.1	[illegible]	[illegible]	37.[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity
	M	Mb	Mb	C	C	C	C	C		C.				C	%
WASHINGTON															
STAMPEDE PASS R	1206	880.[illegible]		16.7	7.2	11.8	- 1.3	28.3	23	2.2	16	0	0		
WALLA WALLA U	289			29.4	15.0	22.0	1.2	36.1	23	8.9	29	9	0		
YAKIMA	321	975.[illegible]	1013.2	28.3	9.4	19.0	- 1.3	34.4	23	3.9	29	4	0	5.6	4[illegible]
WEST INDIES															
SAN JUAN P.R.	4	1012.9	1015.1	30.6	24.4	27.3	0.1	32.2	1	22.2	12	1	0	22.2	74
SWAN ISLAND	9			30.6	25.6	28.1	- 0.3	31.7	31+	22.8	23	0	0		
WEST VIRGINIA															
BECKLEY	765	920.9	1017.4	25.6	14.4	19.9	- 1.1	27.8	30+	10.0	11	0	0	15.6	78
CHARLESTON	286	983.1	1016.7	28.[illegible]	16.7	22.3	- 0.9	31.1	31+	11.7	22	0	0	17.8	82
ELKINS	600	947.9		26.7	12.8	19.6	- [illegible].9	3[illegible].0	15	8.3	2[illegible]+	0	0		
HUNTINGTON	252	987.5	1016.9	30.0	17.8	23.9	0.6	32.8	17	12.8	23	6	0	17.2	72
PARKERSBURG	187			28.9	17.2	23.[illegible]	0.6	32.2	31+	11.7	21	2	0		
WISCONSIN															
GREEN BAY	2[illegible]8	989.6	1014.8	2[illegible].9	13.9	21.3	0.8	33.9	3[illegible]	6.7	2[illegible]	2	0	14.4	66
LA CROSSE	198	991.[illegible]	1015.1	3[illegible].6	16.1	23.3	1.3	34.4	30+	10.6	22	8	0	16.1	7[illegible]
MADISON	26[illegible]	984.4	1015.5	29.3	14.4	21.3	0.4	32.2	3[illegible]	6.1	21	1	0	16.1	73
MILWAUKEE	[illegible]	990.9	1015.7	27.[illegible]	16.1	21.6	1.7	33.3	3[illegible]	7.2	2[illegible]	3	0	15.6	71
WYOMING															
CASPER	1627	838.1	1011.1	[illegible]	12.2	2[illegible].1	0.9	37.2	1[illegible]	6.7	7	23	0	5.[illegible]	38
CHEYENNE	1867	814.8	1013.1	30.[illegible]	12.8	21.5	1.7	35.6	1[illegible]+	8.9	10+	7	0	7.2	48
LANDER	1696	830.0	1011.0	31.7	13.9	22.8	2.4	35.6	10	9.4	31+	16	0	4.4	3[illegible]
SHERIDAN	1208	877.8	101[illegible].4	31.1	11.7	21.5	0.7	36.7	25+	6.1	9	17	0	6.1	39

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm	Mm			Mm	Mm	M.p.s		M p.s							%
WASHINGTON																	
STAMPEDE PASS R	30	- 22	17	10		0							12	[illegible]	12	5.5	
WALLA WALLA U	0	- 8	0	0			0			9.8	W	4	24	7	0	1.8	91
YAKIMA	T	5	1	1	0	0	0	1.9	30	13.0	22	24	24	7	0	1.0	
WEST INDIES																	
SAN JUAN P.R.	175	- 6	58	15	8	0	0	3.0	9	11.6	E	6+	5	18	8	5.7	73
SWAN ISLAND	152	59	30	17		0	0						3	6	22	7.8	
WEST VIRGINIA																	
BECKLEY	118	17	54	9	6	0	0	0.7	17	16.3	25	1[illegible]	12	8	11	5.5	
CHARLESTON	208	108	78	10	6	0	0	0.4	9	15.6	34	9	9	11	11	5.8	
ELKINS	142	35	82	1[illegible]		0	0						4	15	12	6.6	
HUNTINGTON	100	28	59	6	4	0	0	0.4	13	8.[illegible]	26	9+	8	15	8	5.3	
PARKERSBURG	104	8	83	8		0	0			12.5	N	9					65
WISCONSIN																	
GREEN BAY	3[illegible]	- 40	21	5	2	0		1.7	22	16.[illegible]		13	17	11	3	3.5	75
LA CROSSE	55	- 37		4	1	0		1.5	19								
MADISON	24	- 51	10	6	3	0	0	1.3	23	11.6	SW	7	13	14	4	4.1	78
MILWAUKEE	13	- 64	8	4	3	0	0	1.7	22	16.5	SW	7	17	11	3	3.5	73
WYOMING																	
CASPER	2[illegible]	2	15	5	5		0	1.4	24	13.9	30	16	16	11	4	[illegible].4	
CHEYENNE	25	- 11	12	7	5	0	0	1.3	23	19.2	NW	16	12	14	5	4.5	7[illegible]
LANDER	T	- 12	1	0	4	0	0	1.2	25	2[illegible].4	SW	[illegible]	15	13	3	3.7	88
SHERIDAN	6	- 17	3	4	3	0	0	0.3	29	17.0	NW	8	20	8	3	2.8	86

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

AUGUST 1969

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	0	0	0
HUNTSVILLE	0	0	0
MOBILE	0	0	0
MONTGOMERY	0	0	0
ALASKA			
ANCHORAGE	330	498	493
ANNETTE	211	392	450
BARROW	1023	1958	1643
BARTER ISLAND	969	1776	1510
BETHEL	486	829	713
BETTLES	608	871	
BIG DELTA	509	743	
COLD BAY	352	714	899
FAIRBANKS	467	637	[illegible]
GULKANA	528	797	
HOMER	439	794	
ILIAMNA	384	674	
JUNEAU	448	791	639
KING SALMON	428	751	635
KOTZEBUE	603	1005	827
MC GRATH	505	775	546
NOME	607	1058	977
ST. PAUL ISLAND	459	971	1144
SHEMYA	436	963	1052
SUMMIT	643	1071	
TALKEETNA	441	668	539
UNALAKLEET	567	937	
YAKUTAT	506	902	685
ARIZONA			
FLAGSTAFF	37	58	114
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	0	0	0
YUMA	0	0	0
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	0	0
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	0	0	0
BLUE CANYON	2	7	84
EUREKA U	282	566	527
FRESNO	0	0	0
LONG BEACH	0	0	0
LOS ANGELES	0	0	35
LOS ANGELES U	0	0	0
MT SHASTA R	14	28	59
OAKLAND	60	145	[illegible]
RED BLUFF	0	0	0
SACRAMENTO	0	0	0
SANDBERG R	0	10	0
SAN DIEGO	0	0	6
SAN FRANCISCO	70	156	159
SAN FRANCISCO U	171	392	366
SANTA MARIA	78	144	192
STOCKTON	0	0	0
COLORADO			
ALAMOSA	25	34	164
COLORADO SPRINGS	8	9	34
DENVER	0	2	15
GRAND JUNCTION	0	0	0
PUEBLO	0	0	0
CONNECTICUT			
BRIDGEPORT	4	5	0
HARTFORD	7	15	6
DELAWARE			
WILMINGTON	0	0	0
DIST.OF COLUMBIA			
WASH NATL AP	0	0	0
FLORIDA			
APALACHICOLA U	0	0	0
DAYTONA BEACH	0	0	
FORT MYERS	0		0
JACKSONVILLE	0	0	0
KEY WEST	0	0	0
LAKELAND U		0	0
MIAMI	0	0	0
ORLANDO	0	0	0
TALLAHASSEE	0	0	0
TAMPA		0	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	0	0	
ATLANTA	0	0	0
AUGUSTA	0	0	0
COLUMBUS	0	0	0
MACON		0	0
ROME	0	0	0
SAVANNAH	0	0	0
IDAHO			
BOISE	13	16	0
LEWISTON	10	10	0
POCATELLO	17	41	0
ILLINOIS			
CAIRO U	0	0	0
CHICAGO O HARE	0	4	12
CHICAGO MIDWAY	0	2	0
MOLINE	0	0	9
PEORIA	0	0	6
ROCKFORD	1	5	15
SPRINGFIELD	0	0	0
INDIANA			
EVANSVILLE	0	0	
FORT WAYNE	0	0	9
INDIANAPOLIS	0	0	0
SOUTH BEND	0	0	6
IOWA			
BURLINGTON	0	0	0
DES MOINES	0	0	9
DUBUQUE	0	7	43
SIOUX CITY	0	0	9
WATERLOO	4	13	31
KANSAS			
CONCORDIA	0	0	0
DODGE CITY	0	0	0
GOODLAND	0	0	6
TOPEKA	0	0	0
WICHITA	0	0	0
KENTUCKY			
COVINGTON	0	0	0
LEXINGTON	0	0	0
LOUISVILLE	0	0	0
LOUISIANA			
BATON ROUGE	0	0	0
LAKE CHARLES	0	0	0
NEW ORLEANS	0	0	0
SHREVEPORT	0	0	0
MAINE			
CARIBOU	86	195	193
PORTLAND	7	37	65
MARYLAND			
BALTIMORE	0	0	0
MASSACHUSETTS			
BLUE HILL OBS R	13	36	22
BOSTON	3	5	9
NANTUCKET	23	37	44
WORCESTER	15	34	40
MICHIGAN			
ALPENA	32	95	173
DETROIT	1	1	0
DETROIT M WAYNE CO	0	0	11
FLINT	11	27	33
GRAND RAPIDS	2	5	35
HOUGHTON LAKE	28	66	138
LANSING	6	15	28
MARQUETTE U	21	114	140
MUSKEGON	1	6	[illegible]
SAULT STE MARIE	55	147	201
MINNESOTA			
DULUTH	[illegible]	119	180
INTERNATIONAL FALLS	33	109	183
MINNEAPOLIS	0	5	53
ROCHESTER	12	22	59
ST CLOUD	2	24	75
MISSISSIPPI			
JACKSON	0	0	0
MERIDIAN	0	0	0
MISSOURI			
COLUMBIA	0	0	0
KANSAS CITY	0	0	0
ST JOSEPH	0		6
ST LOUIS	0	0	0
SPRINGFIELD	0	0	0
MONTANA			
BILLINGS	4	21	21
GLASGOW	7	46	78
GREAT FALLS	8	35	81
HAVRE	15	41	81
HELENA	14	49	90
KALISPELL	[illegible]	211	149
MILES CITY	0	0	12
MISSOULA	46	115	[illegible]
NEBRASKA			
GRAND ISLAND	0	0	6
LINCOLN U		0	6
NORFOLK	3	3	9
NORTH PLATTE	0	1	6
OMAHA	0	0	6
SCOTTSBLUFF	0	0	0
VALENTINE	8	8	21
NEVADA			
ELY	7	33	71
LAS VEGAS	0	0	0
RENO	12	17	130
WINNEMUCCA	9	25	34
NEW HAMPSHIRE			
CONCORD	40	104	56
MT WASHINGTON OBS	527	1067	1029
NEW JERSEY			
ATLANTIC CITY	16	20	0
ATLANTIC CITY U	0	0	0
NEWARK	0	0	0
TRENTON U	0	0	0
NEW MEXICO			
ALBUQUERQUE	0	0	0
CLAYTON	0	0	6
ROSWELL	0	0	0
NEW YORK			
ALBANY	22	35	19
BINGHAMTON	40	70	87
BUFFALO	16	29	56
J.F. KENNEDY	0	0	0
NEW YORK U	0	0	0
NEW YORK LA GUARDIA	0		0
ROCHESTER	10	28	40
SYRACUSE	20	42	34
NORTH CAROLINA			
ASHEVILLE	8	8	0
CAPE HATTERAS R	0	0	0
CHARLOTTE	0	0	0
GREENSBORO	0	0	0
RALEIGH	0	0	0
WILMINGTON	0	0	0
NORTH DAKOTA			
BISMARCK	3	9	62
FARGO	10	30	65
WILLISTON	10	35	74
OHIO			
AKRON	6	7	9
CINCINNATI OBS	0	0	0
CLEVELAND	7	8	21
COLUMBUS	2	2	6
DAYTON	1	1	6
MANSFIELD	0	0	31
TOLEDO	7	10	16
YOUNGSTOWN	17	30	[illegible]
OKLAHOMA			
OKLAHOMA CITY	0	0	0
TULSA	0	0	0
OREGON			
ASTORIA	188	381	276
BURNS U	38	67	49
EUGENE	44	61	68
MEACHAM	148	274	[illegible]
MEDFORD	9	9	0
PENDLETON	11	11	0
PORTLAND	22	39	53
SALEM	70	115	68
SEXTON SUMMIT R	132	262	162
PENNSYLVANIA			
ALLENTOWN	5	8	0
ERIE	20	40	25
HARRISBURG	0	0	0
PHILADELPHIA	0	0	0
PITTSBURGH	8	8	9
PITTSBURGH U	0	0	6
SCRANTON	15	21	19
WILLIAMSPORT	5	7	9
RHODE ISLAND			
BLOCK ISLAND	3	8	16
PROVIDENCE	4	6	16
SOUTH CAROLINA			
CHARLESTON	0		0
CHARLESTON U	0	0	0
COLUMBIA	0	0	0
GNVLE-SPARTANBURG	0	0	0
SOUTH DAKOTA			
ABERDEEN	4	11	[illegible]
HURON	6	6	21
RAPID CITY	0	0	34
SIOUX FALLS	2	4	44
TENNESSEE			
BRISTOL	0	0	
CHATTANOOGA	0	0	0
KNOXVILLE	0	0	0
MEMPHIS	0		
NASHVILLE	0	0	0
OAK RIDGE R	0	0	0
TEXAS			
ABILENE	0		0
AMARILLO	0	0	0
AUSTIN	0	0	0
BROWNSVILLE	0	0	0
CORPUS CHRISTI	0	0	0
DALLAS	0	0	0
DEL RIO	0	0	0
EL PASO	0	0	0
FORT WORTH	0	0	0
GALVESTON U	0	0	0
HOUSTON	0	0	0
LUBBOCK	0	0	0
MIDLAND	0	0	0
PORT ARTHUR		0	0
SAN ANGELO	0	0	0
SAN ANTONIO	0		
VICTORIA	0	0	0
WACO	0	0	0
WICHITA FALLS	0	0	0
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	0	1	0
WENDOVER	0	3	0
VERMONT			
BURLINGTON	41	82	93
VIRGINIA			
LYNCHBURG	0	0	0
NORFOLK	0	0	0
RICHMOND	0	0	0
ROANOKE	0	0	0
WALLOPS ISLAND	0	0	
WASHINGTON			
OLYMPIA	137	232	139
QUILLAYUTE	248	456	334
SEATTLE TACOMA	49	98	118
SPOKANE	44	84	34
STAMPEDE PASS R	360	688	564
WALLA WALLA U	6	6	0
YAKIMA	39	59	12
WEST VIRGINIA			
BECKLEY	4	4	34
CHARLESTON	0	0	0
ELKINS	8	8	34
HUNTINGTON	0	0	0
PARKERSBURG U	0	0	0
WISCONSIN			
GREEN BAY	[illegible]	49	78
LA CROSSE	1	6	31
MADISON	[illegible]	22	65
MILWAUKEE	5	39	90
WYOMING			
CASPER	3	6	22
CHEYENNE	3	6	50
LANDER	0	8	25
SHERIDAN	6	26	56

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	402	1460	
HUNTSVILLE	[illegible]	1651	
MOBILE	[illegible]	[illegible]	
MONTGOMERY	[illegible]	1712	
ALASKA			
ANCHORAGE	[illegible]	8	
ANNETTE	[illegible]	56	
BARROW	0	[illegible]	
BARTER ISLAND	[illegible]	[illegible]	
BETHEL	[illegible]	[illegible]	
BETTLES	0	49	
BIG DELTA	[illegible]	58	
COLD BAY	[illegible]	0	
FAIRBANKS	[illegible]	85	
GULKANA	[illegible]	21	
HOMER	[illegible]	[illegible]	
ILIAMNA	[illegible]	3	
JUNEAU	[illegible]	[illegible]	
KING SALMON	[illegible]	[illegible]	
KOTZEBUE	[illegible]	[illegible]	
MC GRATH	[illegible]	7	
NOME	[illegible]	0	
ST. PAUL ISLAND	0	[illegible]	
SHEMYA	[illegible]	[illegible]	
SUMMIT	[illegible]	1	
TALKEETNA	[illegible]	12	
UNALAKLEET	[illegible]	0	
YAKUTAT			
ARIZONA			
FLAGSTAFF	48	113	
PHOENIX	918	2956	
TUCSON	667	[illegible]	
WINSLOW	441	1225	
YUMA	963	3170	
ARKANSAS			
FORT SMITH	472	1662	
LITTLE ROCK	439	1648	
CALIFORNIA			
BAKERSFIELD	663	2073	
BISHOP	372	952	
BLUE CANYON	[illegible]	398	
EUREKA U	[illegible]	0	
FRESNO	462	1428	
LONG BEACH	323	695	
LOS ANGELES	196	392	
LOS ANGELES U	377	895	
MT SHASTA R	[illegible]	272	
OAKLAND	17	27	
RED BLUFF	567	1671	
SACRAMENTO	409	1015	
SANDBERG R	358	686	
SAN DIEGO	247	440	
SAN FRANCISCO	15	29	
SAN FRANCISCO U	0	7	
SANTA MARIA	4	16	
STOCKTON	445	1171	
COLORADO			
ALAMOSA	58	117	
COLORADO SPRINGS	[illegible]	431	
DENVER	284	675	
GRAND JUNCTION	458	1170	
PUEBLO	[illegible]	1129	
CONNECTICUT			
BRIDGEPORT	269	618	
HARTFORD	273	632	
DELAWARE			
WILMINGTON	[illegible]	[illegible]	
DIST.OF COLUMBIA			
WASH NATL AP	[illegible]	[illegible]	
FLORIDA			
APALACHICOLA U	484	1934	
DAYTONA BEACH	[illegible]	2016	
FORT MYERS	541	2425	
JACKSONVILLE	513	2113	
KEY WEST	[illegible]	3085	
LAKELAND U	497	2215	
MIAMI	581	[illegible]	
ORLANDO	[illegible]	2354	
TALLAHASSEE	479	1956	
TAMPA	498	2188	
WEST PALM BEACH	515	2401	
GEORGIA			
ATHENS	[illegible]	1503	
ATLANTA	348	1415	
AUGUSTA	357	1554	
COLUMBUS	[illegible]	1685	
MACON	[illegible]	1639	
ROME	332	759	
SAVANNAH	438	1719	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
HAWAII			
HILO	351	[illegible]	
HONOLULU	572	2821	
KAHULUI	457	2493	
LIHUE	472	2263	
IDAHO			
BOISE	251	660	
LEWISTON	228	[illegible]	
POCATELLO	195	410	
ILLINOIS			
CAIRO U	419	1530	
CHICAGO O'HARE	[illegible]	718	
CHICAGO MIDWAY	329	859	
MOLINE	276	804	
PEORIA	[illegible]	783	
ROCKFORD	213	584	
SPRINGFIELD	288	1017	
INDIANA			
EVANSVILLE	307	1148	
FORT WAYNE	279	[illegible]	
INDIANAPOLIS	245	862	
SOUTH BEND	256	681	
IOWA			
BURLINGTON	262	802	
DES MOINES	308	885	
DUBUQUE	217	557	
SIOUX CITY	276	782	
WATERLOO	185	523	
KANSAS			
CONCORDIA	345	1014	
DODGE CITY	438	[illegible]	
GOODLAND	318	847	
TOPEKA	[illegible]	1055	
WICHITA	437	1299	
KENTUCKY			
COVINGTON	285	1015	
LEXINGTON	309	1077	
LOUISVILLE	308	1131	
LOUISIANA			
BATON ROUGE	[illegible]	2059	
LAKE CHARLES	531	1949	
NEW ORLEANS	474	1918	
SHREVEPORT	604	2062	
MAINE			
CARIBOU	62	155	
PORTLAND	211	388	
MARYLAND			
BALTIMORE	364	1169	
MASSACHUSETTS			
BLUE HILL OBS R	242	509	
BOSTON	297	671	
NANTUCKET	161	304	
WORCESTER	192	443	
MICHIGAN			
ALPENA	137	271	
DETROIT	281	647	
DETROIT M WAYNE CO	259	646	
FLINT	173	384	
GRAND RAPIDS	229	513	
HOUGHTON LAKE	138	286	
LANSING	256	557	
MARQUETTE U	210	368	
MUSKEGON	217	489	
SAULT STE MARIE	84	140	
MINNESOTA			
DULUTH	135	226	
INTERNATIONAL FALLS	120	223	
MINNEAPOLIS	298	699	
ROCHESTER	146	374	
ST CLOUD	247	501	
MISSISSIPPI			
JACKSON	460	1815	
MERIDIAN	415	1642	
MISSOURI			
COLUMBIA	372	1167	
KANSAS CITY	435	1266	
ST JOSEPH	374	[illegible]	
ST LOUIS	381	1235	
SPRINGFIELD	365	1179	
MONTANA			
BILLINGS	266	495	
GLASGOW	276	401	
GREAT FALLS	235	420	
HAVRE	199	379	
HELENA	178	325	
KALISPELL	44	77	
MILES CITY	394	718	
MISSOULA	117	198	
NEBRASKA			
GRAND ISLAND	348	913	
LINCOLN U	372	1098	
NORFOLK	296	799	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
NEBRASKA			
NORTH PLATTE	276	654	
OMAHA	338	[illegible]	
SCOTTSBLUFF	[illegible]	728	
VALENTINE	343	785	
NEVADA			
ELY	154	305	
LAS VEGAS	852	2589	
RENO	136	350	
WINNEMUCCA	162	423	
NEW HAMPSHIRE			
CONCORD	168	319	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	282	798	
ATLANTIC CITY U	327	868	
NEWARK	[illegible]	1021	
TRENTON U	339	942	
NEW MEXICO			
ALBUQUERQUE	442	1316	
CLAYTON	282	755	
ROSWELL	516	1643	
NEW YORK			
ALBANY	203	488	
BINGHAMTON	127	329	
BUFFALO	212	493	
J.F. KENNEDY	390	944	
NEW YORK U	392	[illegible]	
NEW YORK LA GUARDIA	346	853	
ROCHESTER	233	547	
SYRACUSE	222	521	
NORTH CAROLINA			
ASHEVILLE	196	[illegible]	
CAPE HATTERAS R	371	1233	
CHARLOTTE	336	1372	
GREENSBORO	339	1313	
RALEIGH	283	1108	
WILMINGTON	377	1459	
NORTH DAKOTA			
BISMARCK	282	511	
FARGO	249	424	
WILLISTON	258	414	
OHIO			
AKRON	179	558	
CINCINNATI OBS	286	1031	
CLEVELAND	223	631	
COLUMBUS	203	706	
DAYTON	254	805	
MANSFIELD	255	779	
TOLEDO	215	586	
YOUNGSTOWN	151	449	
OKLAHOMA			
OKLAHOMA CITY	477	1537	
TULSA	496	1678	
OREGON			
ASTORIA	0	5	
BURNS U	107	294	
EUGENE	37	181	
MEACHAM	31	101	
MEDFORD	168	592	
PENDLETON	177	643	
PORTLAND	65	254	
SALEM	28	156	
SEXTON SUMMIT R	37	141	
PACIFIC AREA			
JOHNSTON	517	3422	
KOROR R	529	4116	
KWAJALEIN	564	4212	
MAJURO	520	3933	
PAGO PAGO	416	3745	
PONAPE R	460	3743	
TAGUAC GUAM R	442	3422	
TRUK MOEN ISLAND	504	3949	
WAKE	616	3825	
YAP R	480	3885	
PENNSYLVANIA			
ALLENTOWN	[illegible]	697	
ERIE	170	415	
HARRISBURG	267	903	
PHILADELPHIA	323	987	
PITTSBURGH	162	621	
PITTSBURGH U	248	836	
SCRANTON	178	553	
WILLIAMSPORT	201	634	
RHODE ISLAND			
BLOCK ISLAND	209	405	
PROVIDENCE	299	658	
SOUTH CAROLINA			
CHARLESTON	394	1626	
CHARLESTON U	428	1771	
COLUMBIA	392	1645	
GNVLE-SPARTANBURG	305	1294	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
SOUTH DAKOTA			
ABERDEEN	265	500	
HURON	219	500	
RAPID CITY	280	537	
SIOUX FALLS	265	636	
TENNESSEE			
BRISTOL	255	939	
CHATTANOOGA	298	1190	
KNOXVILLE	304	1176	
MEMPHIS	449	1786	
NASHVILLE	416	1546	
OAK RIDGE R	311	1206	
TEXAS			
ABILENE	644	2033	
AMARILLO	478	1469	
AUSTIN	620	[illegible]	
BROWNSVILLE	624	2927	
CORPUS CHRISTI	636	2435	
DALLAS	661	2341	
DEL RIO	660	2559	
EL PASO	647	2097	
FORT WORTH	602	2074	
GALVESTON U	609	2200	
HOUSTON	569	2187	
LUBBOCK	461	1602	
MIDLAND	559	1794	
PORT ARTHUR	569	2155	
SAN ANGELO	620	2165	
SAN ANTONIO	652	2259	
VICTORIA	659	2418	
WACO	723	2507	
WICHITA FALLS	591	2034	
UTAH			
MILFORD	383	746	
SALT LAKE CITY	398	886	
WENDOVER	471	1159	
VERMONT			
BURLINGTON	160	382	
VIRGINIA			
LYNCHBURG	247	944	
NORFOLK	357	1339	
RICHMOND	321	1177	
ROANOKE	272	963	
WALLOPS ISLAND	312	974	
WASHINGTON			
OLYMPIA	6	77	
QUILLAYUTE	1	21	
SEATTLE TACOMA	25	143	
SPOKANE	112	339	
STAMPEDE PASS R	6	32	
WALLA WALLA U	217	787	
YAKIMA	81	387	
WEST INDIES			
SAN JUAN P.R.	506	3483	
SWAN ISLAND	552	4061	
WEST VIRGINIA			
BECKLEY	100	483	
CHARLESTON	227	958	
ELKINS	83	407	
HUNTINGTON	316	1057	
PARKERSBURG U	269	942	
WISCONSIN			
GREEN BAY	184	360	
LA CROSSE	284	630	
MADISON	179	404	
MILWAUKEE	197	385	
WYOMING			
CASPER	222	465	
CHEYENNE	185	422	
LANDER	258	502	
SHERIDAN	191	330	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

HURRICANE CAMILLE, August 5–22

Richard M. DeAngelis
Environmental Data Service, ESSA
and
Elmer R. Nelson
Office of Hydrology, Weather Bureau, ESSA

DEVELOPMENT

Camille was spawned by a tropical wave that had moved off the African coast on the 5th of August. This inverted "V" cloud pattern travelled westward and was recognized as a tropical disturbance on the 9th, about 480 mi. east of the northern Leeward Islands. The following day the disturbance, still showing no circulation, moved through the Leewards causing rains throughout the Islands. Then each succeeding day, satellite pictures revealed increased curvature and banding. On the 14th reconnaissance aircraft flew into the disturbance, which they found south of Cuba. The penetration disclosed a 999-mb. pressure center and 55-m.p.h. surface winds -- tropical storm Camille was christened.

INTENSIFICATION

The storm moved northwestward at 9 m.p.h.; pressure fell to 991 mb. late on the 14th, and to 964 mb. with 115-m.p.h. winds the following day. At this time Camille was a full-blown hurricane located 60 mi. southeast of Cape San Antonio, Cuba. Havana's weather radar tracked the hurricane across the western tip of Cuba on the evening of the 15th. Camille generated 92-m.p.h. winds at Guane, and spread 10-in. rains over the western sections of the Island. Three persons were reported killed.

Once into the Gulf of Mexico, the small, powerful hurricane intensified rapidly; by the early afternoon of the 16th (fig. 1), central pressure had dropped to 908 mb. The severe storm plodded north-northwestward at 14 m.p.h. A hurricane watch had been put in effect from Biloxi, Miss., to St. Marks, Fla. By late afternoon an Air Force reconnaissance team measured a 905-mb. pressure and recorded flight level (700 mb.) winds of 160 m.p.h.

Early on the 17th, with Camille 250 mi. south of Mobile and hurricane warnings extending westward to New Orleans, Mississippi coastal residents were boarding up homes and businesses and heading inland. As the day wore on inland moving traffic increased as did the hurricane threat to low-lying areas. Radio and television stations carried ESSA warnings every few minutes, while Police and Civil Defense officials went into isolated areas to urge people to evacuate.

One last reconnaissance flight was made early Sunday afternoon (17th), and Air Force pilot Marvin A. Little and his crew found a central pressure of 901 mb. (26.61 in.) and maximum surface winds at more than 200 m.p.h. (175 kt.) near the center. Due to engine trouble this was the last penetration made. Hurricane force winds extended out to 60 mi.; Camille was a small but extremely intense hurricane located less than 100 mi. from the mouth of the Mississippi River. The storm was at its peak and was under surveillance of the New Orleans radar.

As Camille brushed southeastern Louisiana easterly winds ahead of the center and northerly winds to its west pushed a massive storm surge through the marshes of this area. Because of the shape of bays and inlets, surge heights varied at different locations; water levels reached 9 ft. above m.s.l. near the mouth of the Mississippi, at Garden Island. In several places from the Empire Canal southward to Buras, Boothville, and Venice the surge poured over both the east and west bank Mississippi River levees and was trapped by the back levee, leaving the built-up areas between the levees severely flooded.

LANDFALL

The center of Camille made landfall on the now nearly-deserted Mississippi coast at about 10:30 p.m. c.s.t. on the 17th; she passed over Clermont Harbor, Waveland, and Bay St. Louis. There were no records of winds near the center and estimates ranged up to 200 m.p.h. The storm surge reached a devastating 24.2 ft. above m.s.l. at Pass Christian and was near 10 ft. above m.s.l. as far east as the Mississippi-Alabama border. At the west end of the Bay St. Louis Bridge there was a pressure report of 26.85 in. (909.3 mb.).

Camille weakened as she moved northward through Mississippi, passing close to Columbia, Prentis, Jackson, Canton, and Greenwood. Jackson's winds gusted to 67 m.p.h. as the storm center passed 10 mi. to the east. The radar at Jackson, which had picked up Camille's eye in the Gulf, followed the identifiable circulation to southern Quitman County. The storm was only identifiable as a depression when it reached the northern Mississippi border.

OVERLAND

The depression stages of Camille were tracked northeastward through western Tennessee, east-northeastward through central Kentucky, and eastward through extreme southern West Virginia and southern Virginia. Late on the 19th, a combination of factors interacted to produce several areas of concentrated, torrential rainfall that caused devastating flash floods and landslides along the eastern slopes of the Blue Ridge Mountains and record flooding along the James River system

The remnants of Camille's dying circulation moved into an area already occupied by a large, moist maritime-tropical air mass, with some existing rain areas. To the northwest of the area of maximum rainfall a narrow valley surrounded by steep ridges suggested that orographic effects on the cyclonic flow aided in producing the heavy precipitation. Thunderstorm activity ahead of a slowly approaching cold front may also have accentuated the heavy rain. In combination these meteorological factors (and perhaps others not yet ascertained) produced torrential rains which rank with other record rainfalls throughout the world. Several amounts of more than 25 in. were found on post examination, and amounts in excess of 4 in. fell over an area 30-40 mi. wide and 120 mi. long -- most of it occurring in a period of 8 hr.

Camille regained tropical storm intensity when she moved into the North Atlantic. However, on the 22d, she was absorbed by a cold front about 175 mi. southeast of Cape Race, Newfoundland.

WINDS

Accurate wind measurements are almost impossible to obtain in a hurricane of Camille's intensity. Based on reconnaissance flight level winds and measured surface pressure, maximum surface winds were calculated at 175 kt. (201.5 m.p.h.), close to the center, early on the afternoon of the 17th. This calculation represents the maximum winds ever observed in a hurricane and based on something other than pure estimation. The Labor Day Hurricane of 1935 may have had more severe winds but there is just no way of telling.

Figure 1. ESSA 9 satellite spots Camille on the afternoon of the 16th, near the time the 905-mb pressure was recorded.

The highest actual measurement on a wind instrument was found on an Easterline Angus wind speed recorder which had been left running on a Transworld Drilling Co. rig located east of Boothville (Maine Pass Block 29) (fig. 2). The recorder had been switched to double scale before evacuation and recorded an extreme gust of 172 m.p.h. before the paper jammed and the trace was lost. An Air National Guard Weather Flight stationed at Gulfport Municipal Airport, estimated sustained winds in excess of 100 m.p.h. and gusts of 150-175 m.p.h. Other less reliable reports from the Gulfport-Bay St. Louis area indicated winds of 150-200 m.p.h. At Boothville, La., 107-m.p.h. gusts were recorded before a power failure; at Pilottown, La., the SS CRISTOBAL estimated winds at 160 m.p.h.

Winds at Biloxi (Keesler AFB) were measured at 81 m.p.h. with gusts to 129 m.p.h. late on the 17th. At Ingalls Shipyard in Pascagoula the highest sustained wind reached 81 m.p.h. while a local radio station reported 104-m.p.h. winds before power failure.

West of the storm center hurricane force winds reached only the eastern edge of New Orleans; brief gusts of 60-85 m.p.h. extended over most of the city. Eastern sections of St. Tammany and Washington Parishes were swept by intense winds estimated up to 160 m.p.h. in gusts at Slidell and up to 130 m.p.h. in gusts at Bogalusa and Angie.

Hurricane force winds were confined close to the storm's center as it moved inland. These winds extended from east of New Orleans to Pascagoula, while gusts of hurricane force winds extended along the coast from New Orleans to just west of Mobile Bay and inland to just south of Jackson.

PRESSURE

Camille's lowest pressure of 901 mb. (26.61 in.) was second only to that of the Labor Day Hurricane of 1935, in which a 26.35-in. (892 mb.) pressure was recorded in the Florida Keys. This stands as the lowest pressure in the North Atlantic; the world record low pressure was recorded in typhoon Ida on September 24, 1958 -- 877 mb. (25.90 in.).

The 908-mb. pressure recorded on the afternoon of August 16 marked the lowest ever recorded by reconnaissance aircraft in the North Atlantic; however, this was soon broken by the 905-mb. reading later in the day and the historic 901-mb. pressure the following day.

The lowest land pressure was observed by Mr. Charles A. Breath, Jr. of Bay St. Louis, in his home a few blocks from the west end of Bay St. Louis Bridge. He made the reading of 26.85 in. on his aneroid barometer as the eastern edge of Camille's eye passed overhead. His barometer was later checked and found to be accurate by the New Orleans Weather Bureau Office. Other low pressures included a 27.80-in. reading at Garden Island, La., and a 27.90 in. at St. Stanislaus School in Bay St. Louis.

STORM SURGE

The storm surge generated by Camille flooded coastal areas from lower Plaquemines Parish in Louisiana to Perido Pass, Ala. Flooding was most severe in the Pass Christian - Long Beach, Miss., area where tides up to 24.2 ft. above m.s.l. were measured. In the St. Louis Bay maximum tides ran 18 ft. above m.s.l., while in the Back Bay of Biloxi they were about 15 ft. above m.s.l.

A chart of the storm surge measurements and flooded areas is shown in figure 3. This chart is based on a series of 15 maps of scale 1 in. to 2,000 ft., extending from near the mouth of the Pearl River to Bayou La Batre, Ala., and indicates in detail the areas flooded and surge measurements. These maps are available from the U. S. Geological Survey, Washington, D. C. 20242. Additional information for this summary was obtained from the nearly completed preliminary data of the Mobile District Corps of Engineers. Their final report is due around May 1, 1970.

Maximum tides of 10 ft. or more above m.s.l. extended from the Pearlington area to near the Mississippi - Alabama line. Maximum tides 15 ft. or more above m.s.l. extended from Clermont Harbor to Ocean Springs. Maximum tides of 20 ft. or more above m.s.l. were concentrated in an area from Bay St. Louis eastward to Edgewater Park. The highest measured surge of 24.2 ft. above m.s.l. was measured within the city limits of Pass Christian; other measurements of 22.6 ft. and 22.5 ft. were also found at Pass Christian. Tides within the preceding ranges were lower in some areas. Flooding was also prevalent along rivers and bayous in Mississippi. Tides ran 13-17 ft. above m.s.l. from the Jordan River (Waveland) to Old Fort Bayou (Ocean Springs).

Offshore surges were put at 15-16 ft. above m.s.l. based on the flood marks measured at Ship and Cat Islands. The Coast Guard reported every buoy between New Orleans and Mobile was off station and that almost all of the navigational aids had been lost. In the Mobile Bay area tides ran about 7 ft. above m.s.l.

The Louisiana storm surge that swept from Empire southward, flooded Boothville with 15 ft. (above m.s.l.) of water (fig. 4). Water levels reached 9 ft. near the mouth of the Mississippi, at Garden Island. The tidal surge also flooded some parts of lower St. Bernard Parish and eastern sections of Orleans Parish. Tide heights reached 7.97 ft. above m.s.l. at Alluvial City, 8.73 ft. at Chef Menteur Pass, 11.06 ft. at Shell Beach, and 9.00 ft. at the Rigolets. Tides on Lake Pontchartrain reached 4.0 ft. above m.s.l. at Manderville, 4.6 ft. at Frenier, 5.2 ft. at Slidell, and 5.5 ft. at Madisonville.

DEATHS AND DAMAGES

Hurricane Camille ranks high as one of the most destructive killer storms ever to hit the U. S. Total damage has been estimated at $1.42 billion with 258 deaths and 68 additional persons missing -- this includes the Gulf Coast and the Virginias. In round figures the damage equals the destruction caused by hurricane Betsy, in a much more concentrated area, in September of 1965. Betsy and Camille stand together as the two most destructive storms to ever ravage the U. S.

While most of Betsy's damage was incurred by Louisiana, Camille spent most of her wrath in Mississippi; the total figure there is estimated at $950 million; Louisiana suffered $350 million mostly in lower Plaquemines Parish. Table 1 gives a complete breakdown of damages and deaths.

The total U. S. deaths figure was 258 with three persons reported dead in Cuba. The U. S. figure is the highest in a hurricane since 390 persons died during hurricane Audrey, which moved over western Louisiana in June 1957; most of these deaths, like those in Camille, were drownings.

Camille ripped a swath of destruction along the entire length of the Mississippi coast up to three or four blocks inland. She also destroyed some inland areas such as residential sections of West Gulfport and the Biloxi suburb of D'Iberville. In low areas

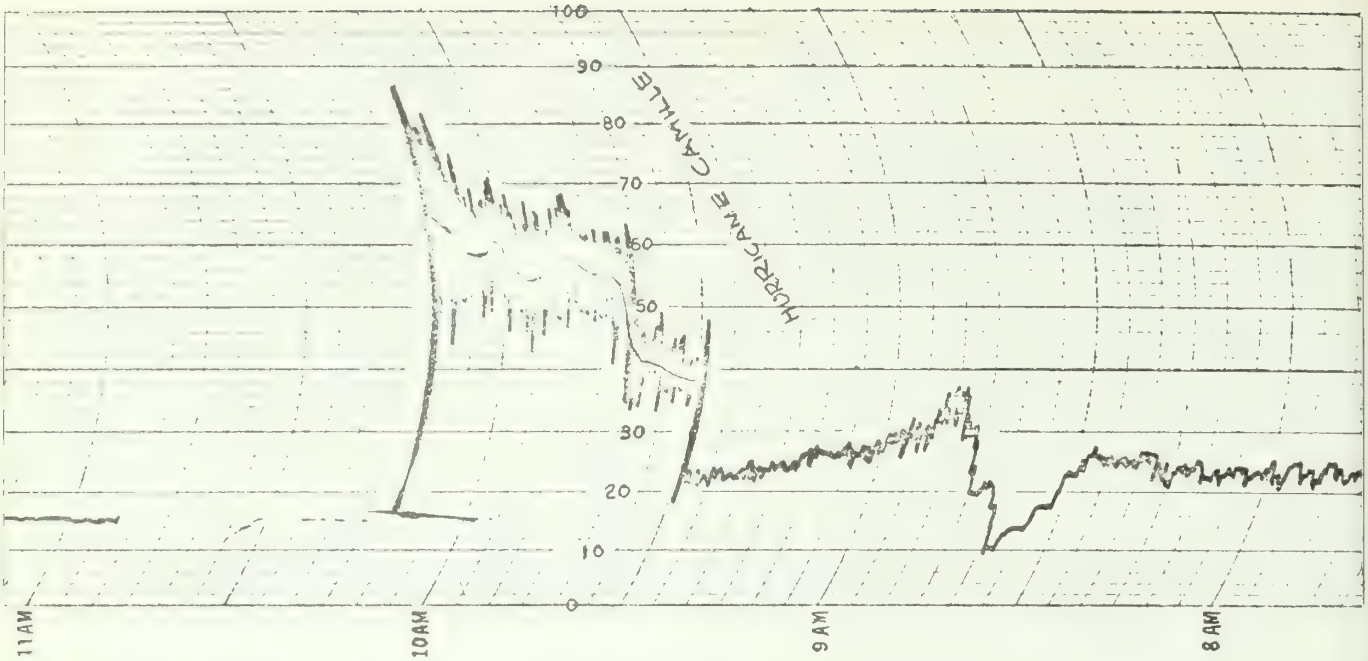


Figure 2. This wind chart from Transworld Drilling Company's RIG 50 was set on double scale, and the recorder was left running after the crew evacuated.

Figure 4. The flooded Weather Bureau Observatory at Boothville, La., shortly after Camille devastated the area. Notice the telephone pole at the lower left.

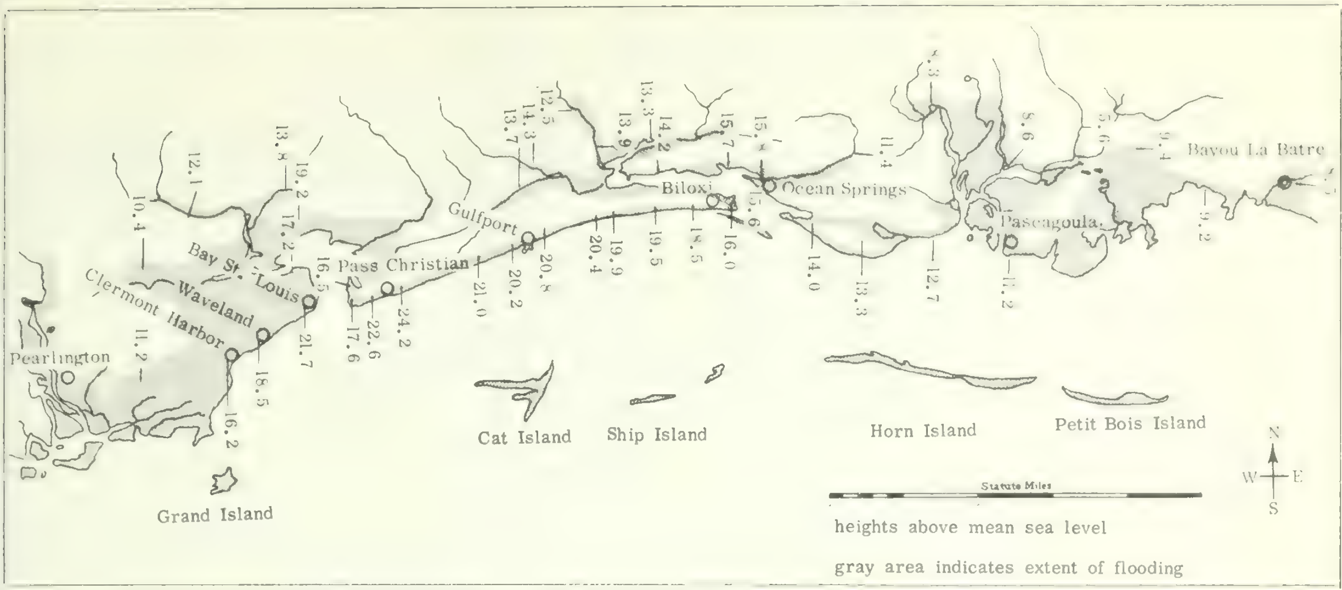


Figure 3. These are the results of the storm surge generated by hurricane Camille on the Gulf Coast from the Pearl River to Bayou La Batre; based on charts prepared by the U. S. Geological Survey.

The data below was furnished by the Red Cross, except for the dollar damage figures, which are preliminary estimates developed by OEP field offices based on information from Federal, State and local sources.

Prepared by:
Office of Emergency Preparedness
Field Operations Office

Table 1

IMPACT OF HURRICANE CAMILLE ON PEOPLE AND PROPERTY

	Mississippi	Louisiana	Alabama	Virginia	West Virginia	Total
Dead	135	9		112	2	258
Missing	27	0		41	0	68
Total Families suffering loss	63,665	9,442	750	3,765	363	77,985
Dwellings Destroyed	3,881	1,771	10	313	36	6,011
Dwellings, major damage	12,112	1,753	50	415	84	14,414
Dwellings, minor damage	29,736	3,697	500	1,870	218	36,021
Trailers Destroyed	406	664	12	71	12	1,165
Trailers, major damage	325	290	6	65	6	692
Farm Buildings destroyed	645	114	5	430	300	1,494
Farm Buildings major damage	2,002	97	5	520	15	2,639
Small Businesses, destroyed or major damage	569	110	14	91	5	789
DOLLAR:						
Public Damage	$200,000,000	$ 10,000,000	$ 500,000	$ 10,000,000	$250,000	$ 220,750,000
Private Damage	750,000,000	312,000,000	7,500,000	130,000,000	500,000	1,200,000,000
Total Damage	$950,000,000	$322,000,000	$8,000,000	$140,000,000	$750,000	$1,420,750,000

the rows of houses stopped a block or two from the beach and beyond a row of debris were bare foundations along the beach front. From Pascagoula to Pass Christian, and to a lesser degree farther east and west, piles of lumber, building materials and trees were thrown together by the surge. In some cases piles of debris extended for more than a block square. Highway 90, the main coastal thoroughfare, was covered with sand in many sections and completely washed away in other sections. About one-third of the Bay St. Louis Bridge and one-half of the Biloxi-Ocean Springs Bridge were damaged when tides lifted the spans off their supports. The Army Corps of Engineers indicated that to make some 530 mi. of roads passable, about 100,000 tons of debris had to be cleared away. Mr. M. James Stevens, Vice-President of the Mississippi Restaurant Association, reported that the Coast's resort industry suffered the worst disaster of any similar recreation area in the world. Along U. S. 90 in the Biloxi area some 60 resort properties suffered damage with about one-half of them destroyed. Buildings on high knolls of about 20 ft. or more were able to weather the high winds and survive the storm surge. Many buildings at the 10-ft. level were crushed.

At Clermont Harbor the destruction was total and eastward to Bay St. Louis many hundreds of beach homes were destroyed. Henderson Point in the Pass Christian area was completely destroyed except for an old building that was formerly a maritime academy. In the Gulfport harbor damage was severe. Three large cargo ships, the ALAMO VICTORY, the HULDA, and the SILVER HAWK were badly damaged and washed high aground at the north end of the harbor (fig. 4). At the banana wharf all the sheet metal was stripped from the structures, but most of the framework was intact. On the west side of the harbor most of the damage was to the lower walls of the buildings where the battering-ram effect of floating cargo carried the sides away. A large diesel fuel barge was lifted out of the harbor, carried ashore, and deposited on the medial strip of U. S. 90. Farther up the beach was a large oil storage tank that had floated several miles from its original position.

The beautiful, modern marina fronting the Broadwater Beach Hotel at Biloxi appeared to be intact, but at close inspection the molded concrete covers over the boat slips had corners and pieces broken off by floating debris in the high water. Buildings along the waterfront were demolished and most of the boats were either sunk or had been washed away.

At Pascagoula's Ingalls Shipyard the large cargo ship, MORMACSUN, under construction, broke its moorings and was carried by a 12-ft. rise of water onto high ground.

In Hancock County most residents live in low-lying areas. In the hamlets of Lakeshore, Clermont Park, Pearlington, Ansley and the Cedar Point section of Bay St. Louis, destruction was almost complete. Storm surges of 15 ft. and higher and devastating winds turned beach houses into stacks of driftwood. At the Mississippi Test Facility, southeast of Picayune, some 1600 refugees took shelter Sunday night (17th). The high winds and water knocked down some overhead powerlines and flooded the underground lines. Emergency generators were put into use but operations at the facility were suspended until Tuesday.

In Pearl River County there was an estimated $35-40 million loss from damage. The county agent said that about 85 percent of the dairy barns in the county were either severely damaged or were a complete loss. About 35,000 - 40,000 acres of bearing tung trees were destroyed. There was an additional loss in timber and heavy damage was inflicted on the pecan crop. In Poplarville, the county seat, the mayor estimated that about 90 percent of the homes sustained damage in varying degrees.

There was electric power failure throughout 14 counties, from the coast to as far north as Simpson County. In some sections this loss lasted for several days. The South Mississippi Power Co. had to almost completely rebuild their distribution system, and their transmission network was badly damaged. Camille's effects were also devastating on telephone service. Of Mississippi's 765,000 telephones, approximately 15 percent were out of service. In the Gulf Coast area this figure jumped to 67 percent.

The U. S. Forest Service made an aerial survey over a 14 county area of southern Mississippi, an area of 3.8 million acres, which revealed that about 1.9 million acres of commercial forest land in 12 counties received varying degrees of damage. Observations from the air indicated that hardwood forests suffered somewhat heavier damage than pine forests. Some of the hardwood forests were completely defoliated by severe winds. The Forest Service estimates damage to Mississippi sawtimber at 1.8 billion board feet and to pulpwood at 1.4 million cords. Table 2 indicates tree damage in Mississippi.

Damage in Louisiana was confined mainly to southeastern sections with some damage in the eastern part of the state. The storm surge generated by Camille swept the area from Empire southward clean. Most structures in this area, including some that had survived hurricane Betsy, were completely demolished by the combination of wind and water. The tidal surge also flooded some parts of lower St. Bernard Parish and eastern sections of Orleans Parish. Camille's intense winds were unusually small in areal extent, particularly to the west of the center. Damage in these areas was generally minor. However, eastern sections of St. Tammany and Washington Parishes were swept by intense winds and heavy rainfall (4-6 in.) and this heavily forrested area received considerable damage. Extensive property damage resulted from trees falling on homes and businesses, utility lines and roads.

Agricultural and timber losses, including 8,000 head of cattle and 150,000 orange trees in Plaquemines Parish; oyster beds in Plaquemines and St. Bernard Parishes; tung oil trees and timber (mainly pine) in St. Tammany and Washington Parishes, have been estimated by the Louisiana Department of Agriculture at over $40 million.

RAINFALL

A serious drought had plagued Mississippi, Tennessee, and Kentucky for many weeks preceding hurricane Camille. Soil moisture was much below normal, pasture conditions were poor, and crops were suffering; Camille's rains relieved the drought in some areas and eased it in western Tennessee, where it had been severe. Rainfall amounts of 3-5 in. fell over western Tennessee and southern West Virginia. In some sections the rains were a few weeks too late to prevent serious loss of crops; some grains were badly damaged, and most farmers were feeding cattle their winter supply of hay. Table 3 shows heavy amounts and duration of rain in Mississippi, western Tennessee, Kentucky, West Virginia, and Virginia. A detailed breakdown of hourly and daily precipitation amounts at numerous stations may be found for every state, in the EDS publication Hourly Precipitation Data, Daily Totals, available at

Table 2

CAMILLE'S EFFECT ON COMMERCIAL FOREST LAND IN MISSISSIPPI

Area (Sq. Mi.)	Population (1960 Census)	County	Acres Damaged Light	Moderate	Heavy	Total
416	13,637	COVINGTON	65,434	52,710	12,723	130,867
468	52,722	FORREST	127,072	15,249	0	142,321
482	14,039	HANCOCK	0	39,270	91,303	130,573
585	119,489	HARRISON	53,175	53,175	76,483	182,833
736	55,522	JACKSON	109,465	0	0	109,465
414	13,540	JEFF. DAVIS	81,114	13,030	27,038	121,182
702	59,542	JONES	146,170	17,795	0	163,965
500	13,675	LAMAR	20,698	82,790	127,008	230,496
550	23,293	MARION	111,264	84,326	1,952	197,542
828	22,411	PEARL RIVER	110,216	36,883	82,445	229,544
653	8,745	PERRY	25,163	0	0	25,163
448	7,013	STONE	95,519	77,066	17,910	190,495
---	------	Total	945,290	472,294	436,862	1,854,446

NOTE: Light - less than 1/3 of trees damaged; Moderate - 1/3 to 2/3 of trees damaged; Heavy - more than 2/3 of trees damaged.

Table 3
RAINFALL SUMMARY
HURRICANE CAMILLE
AUGUST 5-22

Station	Date	Rainfall (inches)	Time Began	Time Ended
MISSISSIPPI				
Columbia (rte 4)	17	5.01	1600	18/1000
Hattiesburg	17	10.6	1900	18/0900
McHenry	17	6.10	0900	18/0800
Pascagoula	17	5.5	1100	18/0500
Poplarville	17	5.25	2000	18/0430
Saucier	17	7.01	0845	18/0345
Sumrall	17	5.86	2000	18/1330
Wiggins	17	6.34	1000	18/0500
LOUISIANA				
Bogalusa	17	4.10	1200	18/0900
Bush	17	5.22	0600	18/0600
Grand Isle	17	2.80	0400	18/0030
Slidell	17	5.03	1600	18/1600
TENNESSEE				
Bolivar	18	4.7	1600	20/----
Covington	18	2.59	1400	19/0900
Johnsonville (Steam Plant)	18	3.22	1800	2300
Lexington	18	2.58	1630	19/1130
Martin	18	2.52	1830	19/0700
Memphis (Airport)	18	2.99	0800	19/0400
Moscow	18	3.80	1230	19/0600
Oak Grove	18	2.92	1600	19/0800
Paris (5e)	18	3.73	1800	19/0900
Selmer	18	2.75	1500	19/0730
Sugar Hill	18	3.57	1800	19/1300
KENTUCKY				
Bardstown	19	3.16	0300	1630
Danville	19	3.04	0430	2000
Davella	19	4.27	0800	20/0700
Dewey Dam	19	3.10	0600	20/2300
Little Hickman	19	3.07	0500	1800
Loglick	19	3.07	0600	2000
Mt. Sterling	19	3.11	0230	2000
Salyersville	19	3.29	0000	2200
Tomahawk	19	3.92	1300	2300
WEST VIRGINIA				
Alderson	19	4.65	0600	19/0600
Bluestone Dam	19	3.94	1700	20/0300
Flat Top	19	3.24	1530	20/0600
Logan	19	4.00	1200	20/0400
McRoss	19	3.37	1600	20/0630
Renick	19	3.95	1800	20/0200
VIRGINIA				
Balcony Falls	19	6.37	1815	20/1000
Charlottesville	19	4.68	1730	20/0840
Clifton Forge	19	10.12	1600	20/0500
Corbin	19	5.98	0530	20/0745
Gordonsville	19	5.80	1830	20/0400
Goshen	19	6.14	1800	20/0800
Louisa	19	11.18	2030	20/0600
Palmyra	19	8.85	1830	20/0500
Rockfish	19	12.48	1830	20/0400
Warsaw	19	6.44	2145	20/1115

the National Weather Records Center, Asheville, N. C.

As the weak and seemingly innocuous low pressure center associated with Camille crossed the Blue Ridge Mountains into southwestern Virginia, rainfall reached catastrophic proportions in that area. Results of a bucket survey conducted by the Weather Bureau (table 4) showed that 12-14 in. totals were common in Nelson County and the southern part of Albermarle County. The poststorm survey showed a 27-in total near Massies Mill and an unconfirmed report of 31 in. near Tye River, Va. Figure 7 shows the storm rainfall analysis as made by the Office of Hydrology's Hydrometeorological Branch.

The 27-in. rainfall total in Nelson County, Va., which fell within about 8 hr., represents one of the all-time meteorological anomalies in the United States. A study made by the Weather Bureau in 1956 for the Corps of Engineers concluded that the probable maximum rainfall possible in this area was 28 in. in 6 hours and 31 in. in 12 hr. The previous record rainfall in Virginia was 8.4 in. in 12 hr at Big Meadows on the Skyline Drive, associated with a hurricane in 1942. For purposes of comparison, this catastrophic rainfall from Camille may be compared with the following records:

12 in. in 42 min. at Holt, Mo., in 1947
19 in. in 2 hr., 10 min., at Rockport, W. Va., in 1889
22 in. in 2 hr., 45 min. at D'Hanis, Tex., in 1935
31 in. in 4 hr., 30 min., at Smethport, Pa., in 1942
34 in. in 12 hr. at Smethport, Pa., in 1942.

The Virginia part of Camille was one of nature's rare events. It is estimated that the maximum rainfall associated with this storm has a return period well in excess of 1,000 yr. Another measure of the rarity of this rainfall is that the maximum amount of 31 in. (unconfirmed) approaches the probable maximum rainfall that meteorologists have computed to be theoretically possible in Virginia at this time of the year. The U. S. Geological Survey estimates that the return period of the crest discharge for the James River at Cartersville, Va., is 200 yr. Even longer return periods are estimated for crest discharges at upstream stations.

Camille's remnants dumped heavy rain over southern Maryland, including the southern Eastern Shore late on the 19th. Rainfall was heaviest over the southern Maryland counties of Worcester, Somerset, Wicomico, Dorchester, St. Marys, and Calvert and over Sussex County in Delaware; amounts ranged from 3 to near 6 in. in these sections. Flooding was mainly restricted to basements; several families living in trailers at Great Mills were evacuated. In this area of St. Marys County some bridges and secondary roads were washed out. There were no deaths or injuries in the two-state area.

FLOODS

The torrential rains associated with the remnants of hurricane Camille caused one of the worst flood disasters to strike the State of Virginia.

Extensive severe flash flooding occurred in the following counties: Albemarle, Allegheny, Amherst, Bath, Botetourt, Buckingham, Cumberland, Fluvanna, Goochland, Nelson, Orange, Powhattan and Rockbridge (fig. 8). Hardest hit by the flash flooding were the Tye River and Rockfish River Basins, which lie mostly within Nelson County. Flash flooding also reached disaster proportions in Rockbridge, Amherst, Albemarle, and Fluvanna Counties. Devastating and extreme flash flooding occurred in the Maury and Hardware Basins and in portions of the Rivanna Basin.

Most of the residents of the mountain hollows, hamlets, and towns were asleep during the fatal hours of the storm. Rapidly rising streams and landslides caused by the unprecedented rainfall destroyed homes as the occupants slept. Large trees were uprooted and hurled down the mountain. They acted as battering rams, crashing through houses, overturning automobiles, sparing nothing in their paths. Entire families were swept away in the raging waters. Whole sections of the mountainside slid down in the form of mud, heaping tons of silt on houses and their inhabitants. Many houses at higher elevations were damaged by mountain water runoff. Glasgow, at the junction of the Maury and James Rivers had its entire downtown area inundated by water over 14 ft. deep, flooding about 75 percent of its homes. Minor flooding occurred in Clifton Forge, Selma, Lowmoor, Rich Patch and Eagle Rock.

Record stages were reached on the Maury and Rivanna Rivers and on the James River in the reach from Holcombs Rock, Va., to Richmond, Va. (except at Lynchburg and Scottsville). See hydrographs and Tables 5 and 6. Crests along the James River exceeded all records of the 1936 flood, except at Lick Run and Buchanan (Table 5). The James exceeded all old flood marks and set new high stage records at Holcombs Rock, Bremo Bluff, Columbia, Cartersville and Richmond (Westham). In Lynchburg, water rose to its highest crest since 1870. Scottsville, located on a bend in the James River was described as a disaster area with water up to 12 ft. deep in its downtown district. At Bremo Bluff, low-lying houses and businesses were covered with water.

The heavy rains caused record flooding in the extreme headwaters of the Shenandoah River Basin on the South River near Waynesboro, Va. The Geological Survey reported that the crest of 15.3 ft. on the 20th was 0.5 ft. higher than the previous maximum stage recorded in 1942 (Table 5).

The remnants of Camille, as it moved through extreme southern West Virginia, produced 3 to nearly 5 in. of rain over the southern counties of that state. Nicholas, Greenbrier, and Summers Counties were hardest hit with flash flooding along the Greenbrier, Meadow and Cherry Rivers. The Greenbrier River at Alderson, W. Va., crested at 17.1 ft. early on the 20th; 3.1 ft. above flood stage. High water from Spring Creek, a small tributary entering the Greenbrier near Renick, W. Va., resulted in the deaths of two elderly women. Total damage in West Virginia was estimated at $750,000.

FLOOD DAMAGES

The Virginia Civil Defense Headquarters estimated the total flood damages in Virginia at $140 million. The total number of deaths in Virginia by drowning and mudslides was placed at 112 with an additional 41 persons missing and presumed dead (Table 1). The State was declared a disaster area by the President. One million dollars in federal aid was made available immediately for repair and replacement of roads, bridges and other public facilities.

The maximum number of fatalities and heaviest flood damage in Virginia occurred just east of the Blue Ridge Mountains in Nelson County. Of the 313 houses destroyed, 250 were located in Nelson County. Of the 415 houses suffering major damage, 225 of these were located in this county. Of the 153 people reported dead or missing in Virginia, 126 were residents of Nelson County -- a little more than 1 percent of the County's population; fifty-four persons were killed along a 4-mile stretch of Davis Creek and Huffman's Hollow. The

Table 4
SUPPLEMENTARY PRECIPITATION DATA

Storm of August 19-20, 1969
(Remnants of Hurricane Camille)

The following data were obtained by Weather Bureau personnel traveling through the James River Basin during the several days immediately following the disastrous flooding. Most of the rain fell during the 8-hour period beginning about 7 p.m. on the 19th. Wide publicity was given to a report of 31 inches near Tye River, Va. Attempts to verify this measurement were unsuccessful.

County	Latitude	Longitude	24-Hour Total	Type of Gage	Accuracy	Remarks
Nelson	37° 49'	79° 00'	27"	Trash barrel	Good	Barrel had been emptied afternoon before rain began.
Nelson	37° 45'	78° 56'	25"	Barrel	Good	
Nelson	37° 40'	78° 58'	23"	Street trash container	Good	On R. 29 between Amherst and Lovingston Container was 14" dia., 28" deep
Fluvanna	37° 56'	78° 18'	21" +	Plastic trash basket	Good	Container overflowed
Nelson	37° 41'	78° 58'	20.4" +	Plastic garbage container	Good	Container overflowed was 17.5" dia. at top and 15.5" dia. at bottom, 23" deep
Nelson	37° 48'	78° 59'	16"	---	Fair	2 miles NE of Massies Mill
Nelson	37° 51'	78° 49'	14" +	Comm. rain gage	Good	At foot of Davis Creek Gage overflowed
Nelson	37° 42'	78° 52'	14"	---	---	
Nelson	37° 46'	78° 59'	13" +	13" cylindrical bucket	Good	Bucket overflowed
Nelson	37° 43'	79° 00'	13" +	Ice cream freezer	Good	On R. 158 Freezer was filled to overflow hole
Fluvanna	37° 55'	78° 21'	13" +	Paint bucket	Good	Bucket overflowed
Albemarle	37° 58'	78° 24'	13" +	Paint bucket	Good	Bucket overflowed
Albemarle	37° 54'	78° 40'	13"	Cylindrical bucket	Good	Bucket did not overflow
Fluvanna	37° 54'	78° 15'	12.5" +	5" fence post gage	Good	Gage was emptied several times during night--but it had already overflowed before it was emptied first time
Albemarle	38° 00'	78° 43'	12" +	Cement cistern pipe	Fair	Pipe 24" diameter and 24" deep was about half full before rain and it overflowed

Table 5.-Flood Stage and Comparative Crest Stage Data - Virginia Floods

River and station	Flood stage	Above flood stages-dates		Crest August 1969		Previous maximum crest of record		Previous second highest crest of record	
		From-	To-	Stage	Date	Stage	Date	Stage	Date
	Ft.			Ft.		Ft.		Ft.	
South:									
Waynesboro (nr), Va.	B5	20	20	15.3	20	H14.8	Oct. 15, 1942	13.95	Aug. 18, 1955
Jackson:									
Covington, Va.	9	20	20	14.5	20	H21.5	Mar. 1913	H17.5	Mar. 1936
Maury:									
Buena Vista, Va.	17	20	21	31.23	20	H22	Mar. 18, 1936	16.2 16.2	Sept. 10, 1950 Oct. 21, 1961
Rivanna:									
Palmyra, Va.	15	20	21	39.85	20	37.4	Oct. 16, 1942	33.4	Apr. 26, 1937
James:									
Lick Run, Va.	10	20	21	25.5	20	H33	Nov. 1877	30.4	Mar. 12-13, 1913
Buchanan, Va.	17	20	21	23.37	20	H34.9	Nov. 29, 1877	31.0	Mar. 27, 1913
Holcombs Rock, Va.	22	20	21	35.6	20	H31.3	Mar. 28, 1913	30.78	Mar. 18, 1936
Lynchburg, Va.	18	20	21	28.0	20	H30	May 26, 1771	29.4	Sept. 30, 1870
Scottsville, Va.	20	20	21	30.0	20	H30.7	Oct. 1870	H27.9	Nov. 1877
Bremo Bluff, Va.	19	20	23	39.1	20	H37.4	Sept. 30, 1870	H34.8	Nov. 18, 1877
Columbia, Va.	18	20	23	41.3	20	H39.0	Sept. 30, 1870	37.4	Sept. 19-20, 1944
Cartersville, Va.	20	20	23	33.75	21	H30.4	Nov. 1877	29.60	Sept. 20, 1944
Richmond (Westham), Va.	12	20	23	24.96	21-22	23.42	Mar. 19, 1936	22.65	Apr. 27, 1937
Richmond (14th St. Bridge), Va.	8	20	24	27.6	22	H29.0	May 27, 1771	H28.4	Nov. 26, 1877
Richmond (City Locks), Va.	9	20	24	28.6	22	H30.0	May 27, 1771	H29.4	Nov. 26, 1877

B Bankfull stage

__ Exceeded previous maximum crest of record

H High water mark

Table 6.--Major Floods in Order of Magnitude

James River Basin

Jackson River

Covington, Va.
Zero of gage - 1,217.93 feet, MSL (1959 adj.)
Drainage area - 440 square miles
Flood stage - 9 feet
Period of record - 1908-1969

Crest Stage Feet	Date
21.5 a,b	Mar. 1913
17.5 b	Mar.18,1936
14.5	Aug.20,1969
13.4	Mar.7,1967
13.2 b	Mar.12,1963
12.2 b	Apr.14,1949
11.8 b	Dec.8,1950
11.2	Mar.15,1967
10.8 b	Feb.21,1953
10.0 b	Mar.6,1955

Maury River

Buena Vista, Va.
Zero of gage - 846.58 feet, MSL (1929 adj.)
Drainage area - 649 square miles
Flood stage - 17 feet
Period of record - 1936-1969

Crest Stage Feet	Date
31.2	Aug.20,1969
22 a	Mar.18,1936
16.2	Sept.10,1950
16.2	Oct.21,1961
16.0	May 22,1942
14.4	May 16,1942
13.8	Dec.4,1948
13.8	Dec.8,1950
13.8	Mar.1,1954
13.7	Mar.7,1967
13.7	Mar.12,1963

Rivanna River

Palmyra, Va.
Zero of gage - 210.39 feet, MSL (1943 adj.)
Drainage area - 675 square miles
Flood stage - 17 feet
Period of record - 1934-1969

Crest Stage Feet	Date
39.9	Aug.20,1969
37.4 b	Oct.16,1942
33.4 b	Apr.26,1937
30.5	Sept.19,1944
29.3 b	Mar.18,1936
29.0	Aug.19,1955
26.8	Dec.4,1948
26.3 b	Sept.6,1935
24.8 b	Sept.17,1934
24.3	Oct.21,1961

James River

Lick Run, Va.
Zero of gage - 978.30 feet, MSL
Drainage area - 1,369 square miles
Flood stage - 10 feet
Period of record - 1877-1969

Crest Stage Feet	Date
33 a	Nov.1877
30.4 a	Mar.12-13,1913
25.7	Mar.18,1936
25.5	Aug.20,1969
24.6	May 1924
23.0	Jan.23,1935
22.6	Mar.12,1963
22.3	Mar.8,1967
21.1	May 17,1942
20.6	Feb.22,1953

James River (cont'd)

Buchanan, Va.
Zero of gage - 802.90 feet, MSL (1936 adj.)
Drainage area - 2,084 square miles
Flood stage - 17 feet
Period of record - 1877-1969

Crest Stage Feet	Date
34.9 a	Nov.29,1877
31.0	Mar.27,1913
27 a	Apr.1886
27 a	Mar. 1889
26.8	Mar.18,1936
25.0	Mar.1,1902
23.8	Jan.23,1935
23.4	Aug.20,1969
22.3	Mar.13,1963
21.5	May 12,1924

Holcombs Rock, Va.
Zero of gage - 548.53 feet, MSL (1929 adj.)
Drainage area - 3,250 square miles
Flood stage - 22 feet
Period of record - 1900-1969

Crest Stage Feet	Date
35.6	Aug.20,1969
31.3 b	Mar.28,1913
30.8	Mar.18,1936
26.6	Jan.23,1935
24.8	Mar.13,1963
24.7	Dec.1,1934
24.6	May 22,1942
24.3	Aug.16,1940
24.0	Sept.10,1950
23.3	Mar.6,1955

Lynchburg, Va.
Zero of gage - 499.06 feet, MSL (1929 adj.)
Drainage area - 3,305 square miles
Flood stage - 18 feet
Period of record - 1771-1969

Crest Stage Feet	Date
30 a	May 26,1771
29.4 a	Sept.30,1870
28.0	Aug.20,1969
28.0	Nov.24,1877
24.7	Mar.18,1936
24.6	Mar.28,1913
24.4 a	June 1,1889
23.9	Jan.25,1920
23.4 a	Apr.1,1886
22.0	Jan.23,1935

Bremo Bluff, Va.
Zero of gage - 191.44 feet, MSL (1929 adj.)
Drainage area - 5,040 square miles
Flood stage - 19 feet
Period of record - 1848-1969

Crest Stage Feet	Date
39.1	Aug.20,1969
37.4 a	Sept.30,1870
34.8 a	Nov.18,1877
34.5	Sept.19,1944
33.5	Aug.17,1940
32.8 a	Mar. 1936
32.6 a	Mar. 1899
32.6 a	Sept. 1935
31.8 a	1889
30.8 a	May 1924

Cartersville, Va.
Zero of gage - 161.57 feet, MSL (1929 adj.)
Drainage area - 6,242 feet square miles
Flood stage - 20 feet
Period of record - 1877-1969

Crest Stage Feet	Date
33.8	Aug.21,1969
30.4 a	Nov. 1877
29.6	Sept.20,1944
28.8	Mar.19,1936
28.3	Aug.17,1940
27.8	Sept.6,1935
27.7	Apr.26,1937
27.1	Oct.16,1942
27.0	May 23,1901
27.0	Dec.5,1948

Scottsville, Va.
Zero of gage - 253.18 feet, MSL (1936 adj.)
Drainage area - 4,571 square miles
Flood stage - 20 feet
Period of record - 1870-1969

Crest Stage Feet	Date
30.7 a	Oct.1870
30.0	Aug.20,1969
27.9 a	Nov.1877
26.0	Sept.19,1944
25.8	Aug.16,1940
25.5	Mar.19,1936
25.2	Mar. 1913
23.1	Sept.6,1935
23.0	Oct.16,1942
22.6	Dec.2,1934

Columbia, Va.
Zero of gage - 173.04 feet, MSL (1929 adj.)
Drainage area - 5,744 square miles
Flood stage - 18 feet
Period of record - 1870-1969

Crest Stage Feet	Date
41.3	Aug.20,1969
39.0 a	Sept.30,1870
37.4	Sept.19-20,1944
35.8	Mar.19,1936
35.4	Sept.6,1935
35.4	Aug.17,1940
35.2	Oct.16,1942
34.4	Apr.26,1937
33.5	Dec.5,1948
31.5	Oct.21,1906

Richmond (City Locks), Va.
Zero of gage - 0.0 feet, MSL (1929 adj.)
Drainage area - 6,792 square miles
Flood stage - 9 feet
Period of record - 1771-1969

Crest Stage Feet	Date
30.0 a,b	May 27,1771
29.4 a,b	Mar.26,1877
28.6	Aug.22,1969
27.5 b	Mar.20,1936
27.3 a,b	Oct.1,1870
26.2 b	Apr.27,1937
25.2 a,b	June 2,1889
24.6 b	Sept.7,1935
24.2 a,b	Apr.2,1886
24.2 b	Aug.18,1940

a From high water mark
b Stage referred to present gage datum and site

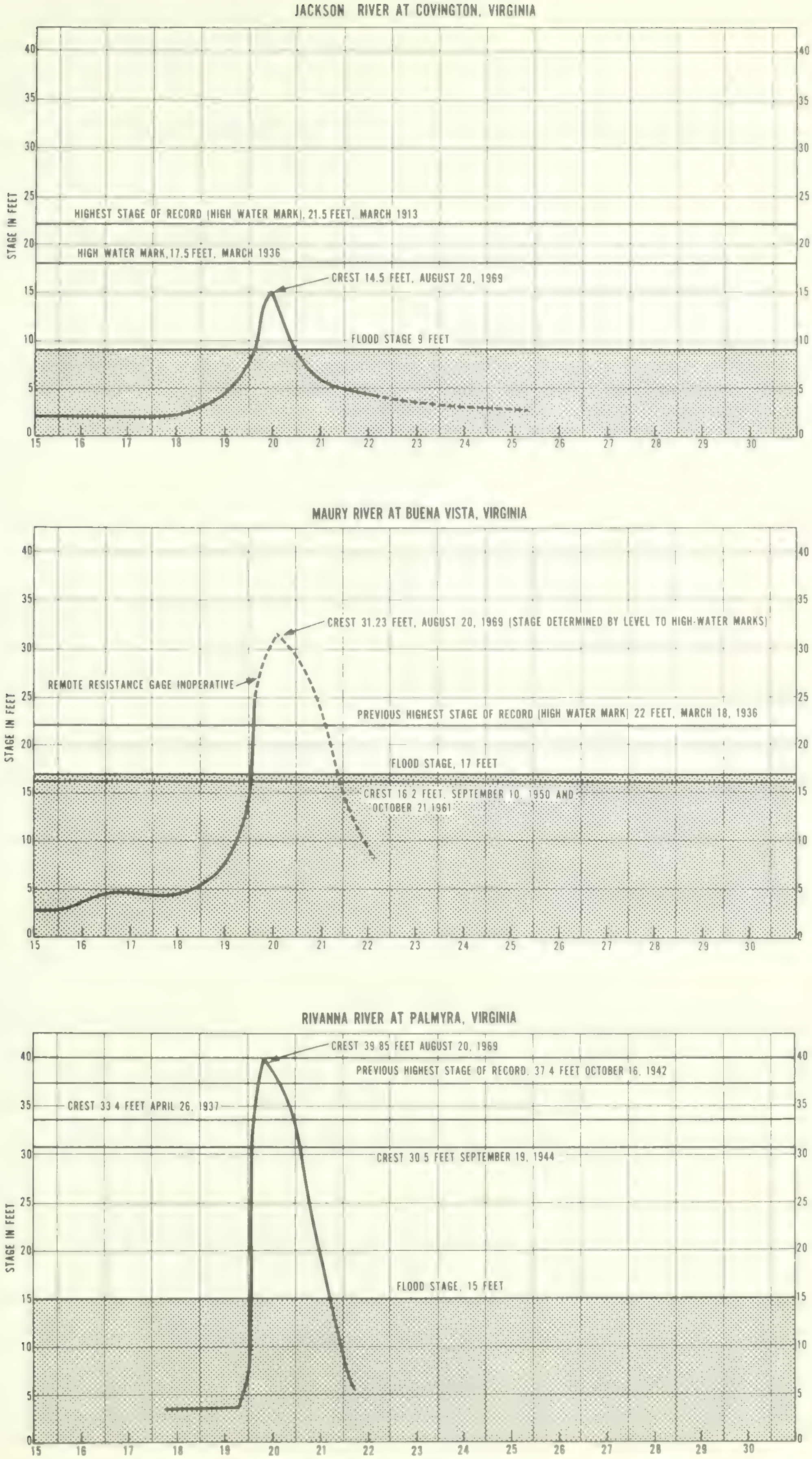


Figure 4A August 1969 river stage hydrographs Jackson, Maury and Rivanna Rivers

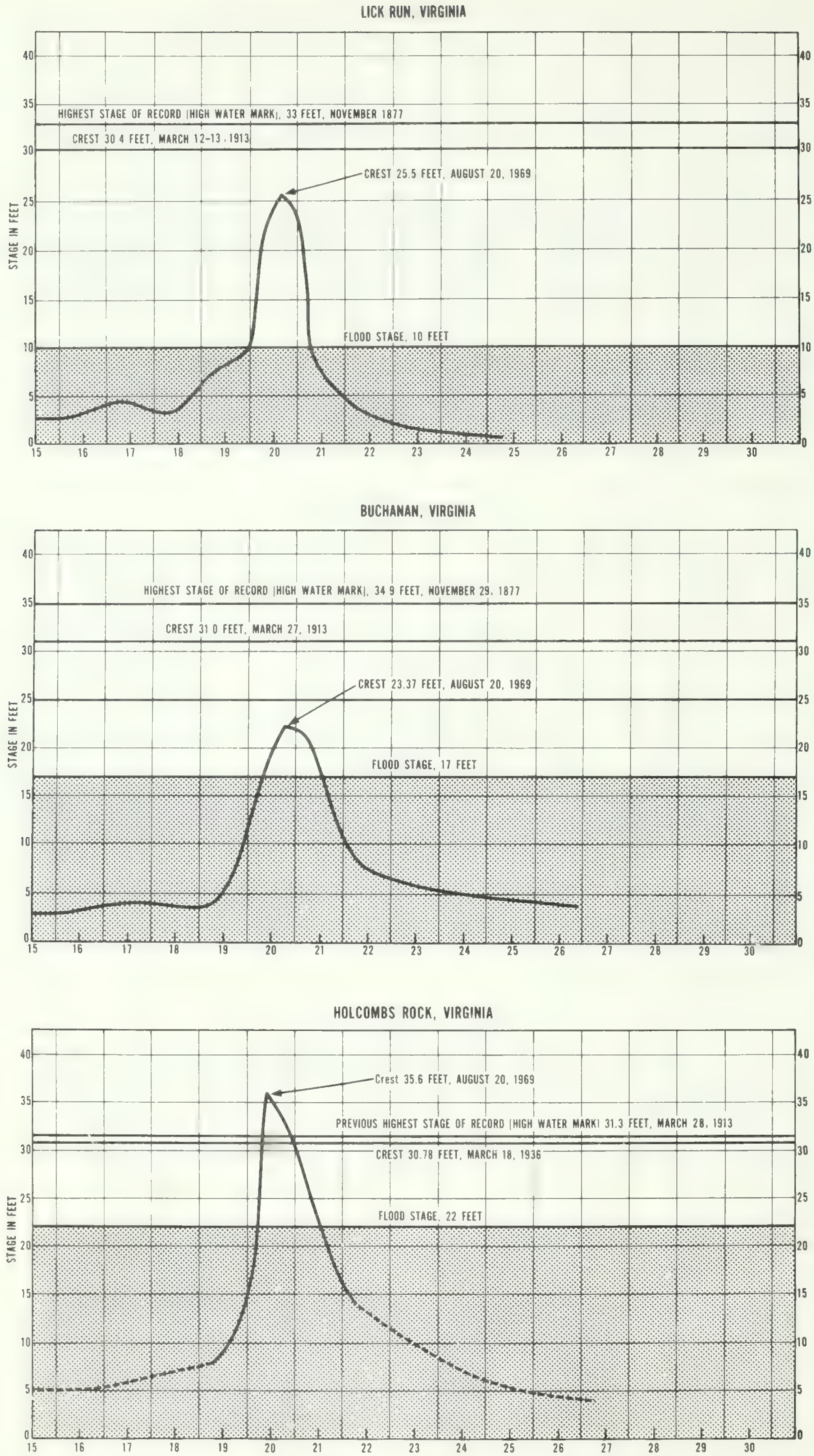


Figure 4B - August 1969 River Stage Hydrographs - James River at Buchanan, Lick Run and Holcombs Rock, Virginia

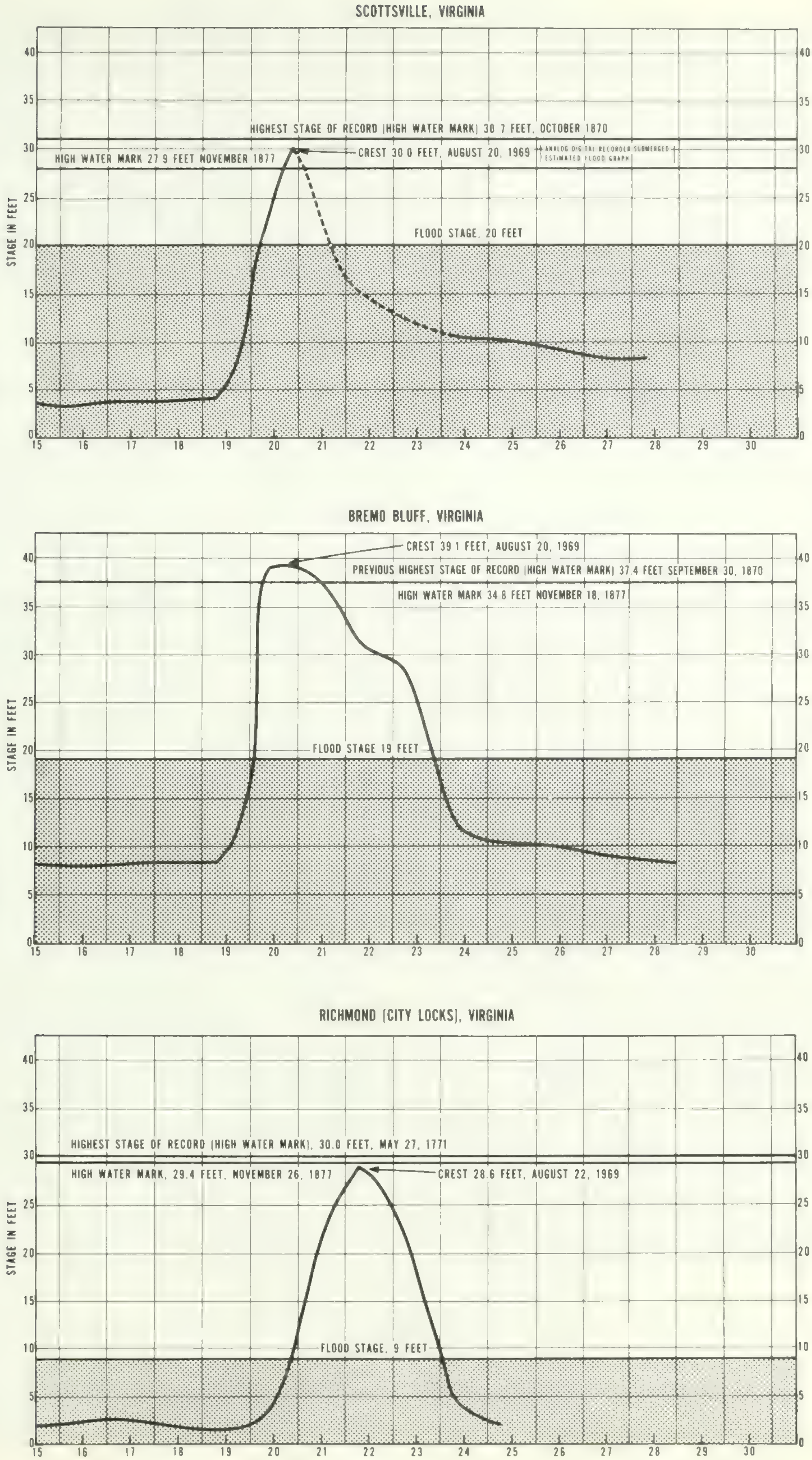
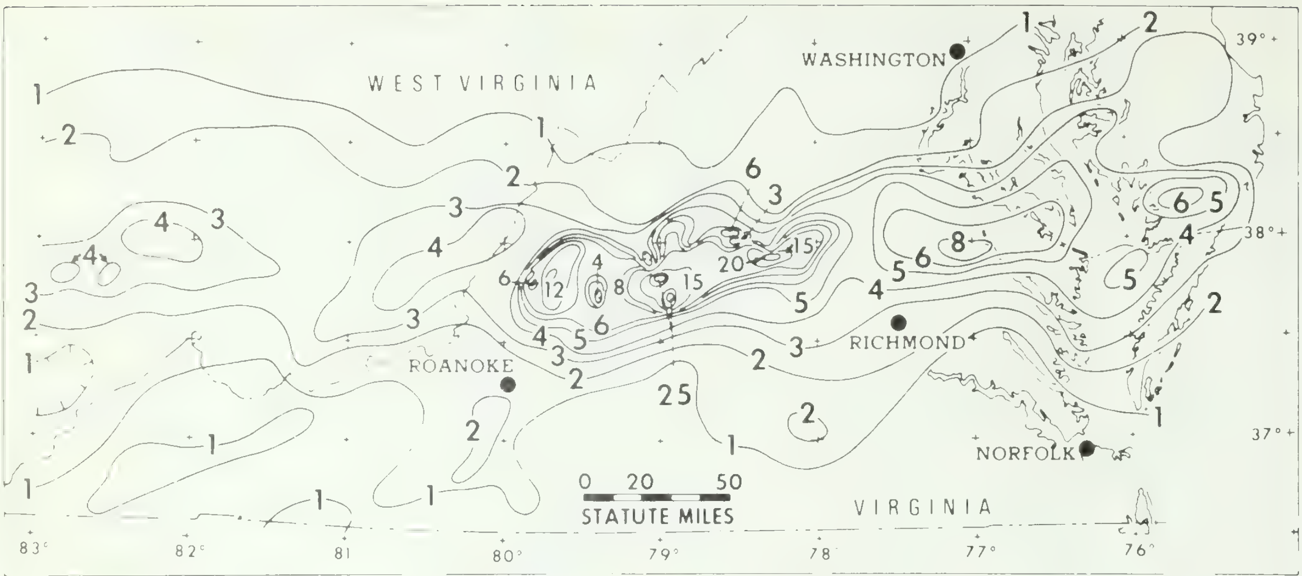


Figure 4C August 1969 River Stage Hydrographs James River at Scottsville, Bremo Bluff and Richmond (City Locks), Virginia

Figure 5. Aerial view of a portion of the Gulfport, Miss., harbor taken August 19, 1969, showing the ALAMO VICTORY, the HULDA, and the SILVER HAWK beached at the left-center of the photo. Coast and Geodetic Survey Photo.

Figure 6. The fishing trawler WAYDE KLEIN came to rest in the front yard of a private residence in Biloxi, Miss. Coast and Geodetic Survey Photo.

Fig. 7



CAMILLE RAINFALL IN.
AUG. 19TH NOON TO AUG. 20TH MIDNIGHT 1969

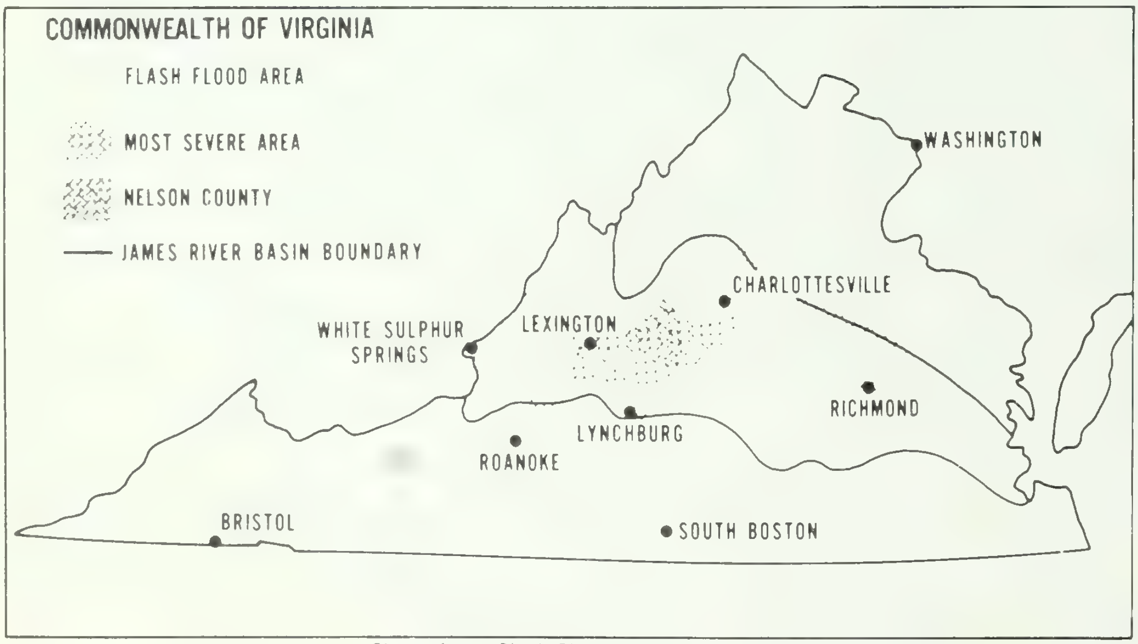


Fig. 8 Areas Flash Flooded August 19-20, 1969

hamlets of Tyro, Massies Mill and Roseland on the Tye River were virtually destroyed. Woods Mill on the Rockfish River was partially or completely destroyed along with highways, bridges, utilities, railroads, and other properties. The villages of Rockfish, and Schuyler were severely damaged. Norwood, a small residential section along the James also suffered heavy damage. The water which was 5.5 ft. deep in the business district of Buena Vista caused severe damage to 60 businesses and major damage to 80 percent of the industries.

Some 200 miles of primary and secondary roads were washed out and 133 bridges were damaged or destroyed. Of these, 92 bridges were in Nelson County, 36 of them were classified as "major" structures. Two bridges over the James River were washed out: one at Columbia and one at Howardsville. The worst damage occurred to Route 29 between Amherst and Charlottesville with five major washouts and 30 landslides. At one time, only one highway crossing Virginia was open for its entire length. The damages to highways and bridges totaled an estimated $19 million.

The four major railroads in the State were among the hardest hit industries with several bridges destroyed and much track washed out. Most passenger service was maintained although delayed and rerouted over other track.

The tributaries of the York River also flooded with one fatality and serious property and crop damage. The major counties affected were Louisa, Caroline, Hanover, and King William. Several dams in the area broke; the largest was the one at the 300-acre Lake Louisa in Blue Ridge Shores.

FLOOD WARNINGS ISSUED BY ESSA WEATHER BUREAU

Many lives were saved and much property damage prevented by the flood warnings issued by the Weather Bureau for the middle and lower James River Basin in Virginia. Residents worked frantically to evacuate people, move goods and protect property. Damage along the James River was heavy because of the record-breaking nature of the flood, but loss of life was limited. Richmond with a 36-hr. warning, was well-prepared for the flood crest. Low lying areas of the city were flooded when a sewage pumping plant backed up through the sewer lines. Little warning was possible in the headwaterstreams as only one report of excessive rain was received by the Weather Bureau during the night. Rapidly rising streams and landslides caused by the unprecedented rainfall tore out communication lines and roads, preventing inhabitants from being alerted. Two towns, Buena Vista and Covington, alerted by rapidly rising stages, evacuated their citizens with the loss of one life.

ACKNOWLEDGMENTS

1. Edgar J. Saltzman, State Climatologist, Mississippi for a detailed summary of the storm and damages.
2. George W. Cry, State Climatologist, Louisiana for a detailed summary of the storm and damages.
3. John Vaiksnoras, State Climatologist, Tennessee for a detailed summary of the storm rainfall.
4. Robert O. Weedfall, State Climatologist, West Virginia for a detailed summary of the storm rainfall.
5. Curtis W. Crockett, State Climatologist, Virginia for a detailed summary of the flooding and damages in Virginia.
6. W. Joseph Moyer, State Climatologist, Delaware-Maryland for summary of rainfall.
7. National Hurricane Center for preliminary analysis and track of Camille.
8. New Orleans Weather Bureau Office for much original data.
9. M. M. Richards, Chief, Hydrologic Services Division for general guidance in preparation of hydrologic material.
10. Joseph T. Harden, Meteorologist in Charge, Weather Bureau Office, Richmond, Va., for furnishing basic data for preparation of river stage hydrographs, hydrologic tables and report on flooding in Virginia.
11. U. S. Geological Survey, Richmond, Va., for coordination of crest stage data and supplemental gage height information.
12. U. S. Geological Survey, Washington, for storm surge charts.
13. The Virginia Civil Defense Headquarters for flood damage information in Virginia.
14. American Red Cross and Office of Emergency Preparedness for information on total number of lives lost and damages.

REFERENCES

1. DeAngelis, R. M., "Enter Camille," Weatherwise, Vol. 22, No. 5, Oct. 1969, pp. 173-179.
2. EDS, Climatological Data, Virginia, August 1969, Vol. 79, No. 8.
3. EDS, Daily Weather Maps, Weekly Series, August 18-24, 1969.
4. EDS and USDA, Weekly Weather and Crop Bulletin, Vol. 56, No. 35, Sept. 1 and Vol. 56, No. 36, Sept. 8, 1969.
5. ESSA, Atmospheric Science Services Division, "Hurricane Camille -- A Report to the Administrator," Washington, D. C., September 1969.
6. ESSA, Atmospheric Science Services Division, "The Virginia Floods, August 19-22, 1969 -- A Report to the Administrator," Washington, D. C., September 1969.
7. Rohlfs, A. J., "Shipping and Hurricane Camille," Mariners Weather Log, Vol. 13, No. 6, Nov. 1969, pp. 245-251.
8. Thompson, H. J., "The James River Flood of August 1969 in Virginia," Weatherwise, Vol. 22, No. 5, Oct. 1969, pp. 180-183.

James River at Scottsville, Va., August 21, 1969 (Courtesy, Richmond Times Dispatch)

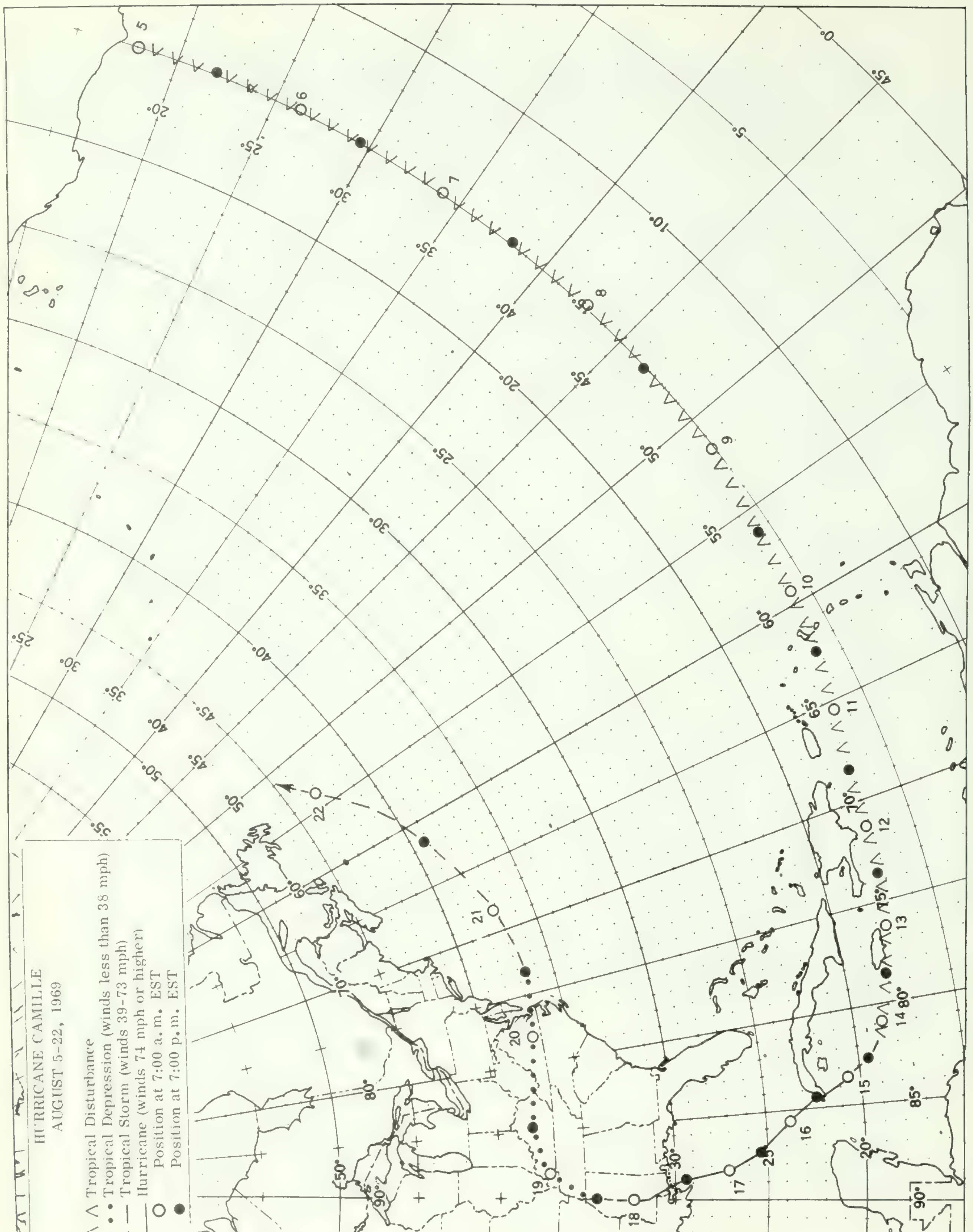
James River near Richmond, Va., Maury Street Exit on Interstate 95, August 23 , 1969
(Courtesy, Richmond Times Dispatch)

James River at Richmond, Va., Main Street Facing West, August 23, 1969 (Courtesy, Richmond Times Dispatch)

TROPICAL CYCLONE DATA
HURRICANE CAMILLE, AUGUST 5-22, 1969

Station	Date	Pressure (inches) Low	Time	Wind (miles per hour) Fastest Mile	Time+	Gusts	Time+	Highest Tide (feet)#	Time	Storm Rainfall (inches)	Remarks
MISSISSIPPI											
Bay St. Louis (west end of bridge)	17	26.85									Lowest measured pressure at surface.
(St. Stanislaus School)	17	27.90	2250*								
Brandon ([illegible])	18			E 70	0600	E 80	0600			2.3	
[illegible] ([illegible])	18	28.29	0208	NE 120	0200	NE/135	0208			4.85	Wind instrument disabled as speed reached 120 and gust to 135 m.p.h.; gusts estimated to 140 m.p.h.
[illegible] AFB	18	29.58	1155	[illegible]	1744	[illegible]	1429			2.40	
[illegible] Airport (FAA)	18	29.13	1155	NE 25	[illegible]	[illegible]	1225			1.98	
[illegible]	18	28.93	[illegible]			NNE 67				2.23	
[illegible] AFB	17	28.94	2315	[illegible]	2255	[illegible]	2155				
[illegible] (FAA)	18	28.68	0100	340°/28	0200	340°/51	0100			1.28	
Ocean Springs (Gulf Coast Res. Lab.)	18							15	0100		
Pascagoula (Ingalls Shipbuilding Corp.)	17	29.26	2245			ESE 81	2245	12	18/0015	5.50	
Picayune (Miss. Test Facility)	17	28.06	2315							10.06	
Poplarville (Civil Defense)	18									5.25	
Saucier (U.S. Forest Service)	18									7.01	
Wiggins (4 mi SE) (Harson Growers Inc.)	18									6.34	
LOUISIANA											
Baton Rouge (WBO)	18	29.44	0055	NW 23		25				0.14	
Bogalusa	18	28.63	0030			NNW 100				4.10	Anemometer failed at 100 m.p.h.
Boothville (WBO)	17	28.34	1840			107		15.0			Power failure made wind equipment inoperative after gusts reached 107 m.p.h.
Callandar Field (NAS)	17	29.15	2058-2158	[illegible]		NW 61				2.60	
Garden Island	[illegible]	27.80	1655					9.0			
Grand Isle (USCG)	17	29.21	1830	45		65				2.80	
Huey Long Bridge	17			56		73					
Lakefront Airport				NW 87		[illegible]					
Moisant (WBO)	17	29.23	2202	NNW 42		[illegible]				1.00	
New Orleans (WBFO)	17	29.14	2115	N 52		N 65				1.69	
Pilottown (SS CRISTOBAL)	17	28.04	1800								
Port Sulphur	17	28.98	1900	60		NW 90		2.6			
Slidell	17	28.56	[illegible]					5.2		5.03	
ALABAMA											
Mobile	17	29.44	2156	SE 44		SE 74		7.4		6.05	
FLORIDA											
Pensacola NAS (Sherman Field)	17	29.58	1755			SE 71				3.55	

* Estimated.
\+ CST
\# above mean sea level


HURRICANE CAMILLE
AUGUST 5-22, 1969
Tropical Disturbance
Tropical Depression (winds less than 38 mph)
Tropical Storm (winds 39-73 mph)
Hurricane (winds 74 mph or higher)
Position at 7:00 a.m. EST
Position at 7:00 p.m. EST

STORM SUMMARY

AUGUST 1969

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
labama	1	1	0	0	1	0	0	3	4	0	0	6	6	0	0	4	0									0	0	6	6
laska *																													
rizona	2	2	0	0	5					0	51	[illegible]	4	1	1	0	0									0	0	4	0
rkansas	1	1	0	0	4									1	0	0	0												
alifornia *																													
olorado	2	1	0	0	0	0	0	5	5					1	1	3	0									2	0	°4	C
onnecticut														0	1	4	0									0	0	6	4
elaware										0	2	4	0																
lorida	8	5	0	0	4					0	0	3	0	3	0	4	0									0	0	°5	C
eorgia	1	1	0	0	5									0	5	5	0									0	0	5	3
awaii *																													
daho										0	0	3	0	0	0	?	?												
llinois	1	1	0	0	3	0	0	4	5	0	0	3	3																
ndiana	6	2	0	6	5					0	0	0	4																
owa	3	1	0	0	5	0	0	4	5	0	0	6	5	0	0	5	0												
ansas						0	0	6	6	0	0	6	6	0	0	4	0									0	0	4	5
entucky						0	0	?	?	0	17	°5	C	1	0	5	0												
ouisiana										0	0	3	0	1	0	0	0									5	?	8	7
aine	1	1	0	0	4	0	0	3	4	0	0	4	0	0	0	4	0												
aryland						0	0	0	4	0	1	5	4	0	0	4	0									2	2	5	0
assachusetts						0	0	2	3	0	0	4	0	0	0	4	0									0	0	5	4
ichigan										1	10	4	0	0	2	0	0									0	3	5	0
innesota	12	1	15	106	7	0	0	5	6	0	0	5	?	0	0	5	0												
ississippi	?	1	?	?	?					132	5572	9	7	2	3	0	0									0	0	?	0
issouri	1	1	0	0	4					0	1	4	0																
ontana						0	0	?	5					0	0	?	?												
ebraska	2	2	0	0	0	0	0	4	6	0	3	5	0																
evada																										0	0	4	0
ew Hampshire	1	1	0	0	4	0	0	3	4					0	0	4	0									0	0	4	2
ew Jersey												4																5	
ew Mexico										0	0	4	0	2	2	0	0									2	0	°4	C
ew York								3	4			5	4		2	5												5	5
orth Carolina	1	1	0	0	4	0	0	0	4	0	0	4	0	0	1	4	0									0	0	4	4
orth Dakota	6	4	0	0	4	0	0	4	5	0	0	4	0	0	0	3	0												
hio	1	1	4	247	7	0	0		3	0	0	5		0	2	5										0	0	5	
klahoma						0	0	?	6	0	2	?	0	0	1	4	0												
regon																										0	0	0	6
acific Area *																													
ennsylvania								5	4			4		1	3		2										19	6	6
uerto Rico *																													
hode Island										0	0	4	0	0	0	3	0												
outh Carolina	2	1	0	0	0																					1	0	4	0
outh Dakota	5	4	0	4	4	0	0	5	6	0	3	5	5																
ennessee										3	1	°5	C																
exas	7	4	0	0	5	0	0	4	4	0	7	5	0	0	1	0	0									1	0	0	0
tah										0	0	3	3	0	0	5	2									0	0	5	3
ermont						0	0	4	4	0	0	4	3	0	0	4	0									0	0	4	2
. S. Virgin Is. *																													
irginia	2	1	0	0	5	0	0	?	0					0	0	4	0									109	102	8	7
ashington *																													
est Virginia	1	1	0	3	5					0	0	5	0	0	0	3	3									2	?	5	?
isconsin	1	1	0	146	5	0	0	4	5	0	0	5	0	0	0	4	0												
yoming *																													

° Includes crop damage
C Crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

\+ Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

AUGUST 1969

Elmer R. Nelson, Office of Hydrology

The most disastrous flooding in the Nation during August, in lives lost and property damage, resulted from the torrential rains associated with tropical depression "Camille" in the James River Basin in Virginia. Record stages were reached on the Maury and Rivanna Rivers and on the James River in the reach at and below Holcombs Rock, Va. The total flood damages were estimated at $140 million and the total lives lost at 112 with an additional 41 persons missing and presumed dead.

ATLANTIC SLOPE DRAINAGE

Heavy rain on the 3d and 4th caused flooding on the Housatonic and Farmington Rivers in Connecticut. Some minor flash flooding was reported in western Massachusetts, western Connecticut, and in isolated sections of New Hampshire and Maine. Rainfall during the first week of August, mainly on the 3d and 4th, ranged from 4 to 6 inches in western Connecticut to isolated amounts of 7 to 10 inches in parts of northern Maine and in some mountainous areas of New Hampshire. The heaviest flood damage occurred in Connecticut and was estimated at $528,000 by the Connecticut State Civil Defense. A state of emergency was declared in New Milford, Torrington, and New Hartford, Conn. The main damage was in the form of road washouts, landslides, cellar flooding and evacuations.

Heavy thunderstorms during the evening of Aug. 1 cuased severe flash flooding in small headwater streams of the Lehigh and Schuylkill Rivers in east central Pennsylvania. Four to 6 inches of rain was recorded in the Tamaqua-Lehighton, Pa., area. Extensive damage resulted to the communities of Tamaqua, Jim Thorpe, and Port Carbon. In Tamaqua, over 6 inches of rain washed silt down the mountains into the Wabash Creek, which joins the Little Schuylkill in Tamaqua. The waters of the Little Wabash which are carried under Tamaqua by a stone archway proved inadequate to handle the large volume of water. Flood waters poured into the town and left deposits of silt along with damage to public and private property. Surrounding sections of Schuylkill County reported damage to both public and private property with total damage estimated slightly over $1 million. About 2,000 residents were evacuated during the flooding. In Jim Thorpe, extensive damage was reported to roads, houses, and storm sewers due to overflow of Mauch Chunk creek. Damage in Jim Thorpe and surrounding Carbon County was estimated at around $260,000. Both Schuylkill and Carbon Counties were granted disaster status by the Federal Government.

Heavy rainfall (1 to 3 inches) on Aug. 3 caused some flash flooding in southeastern Pennsylvania and northern New Jersey. Damage was minor.

Heavy rains during the afternoon of Aug. 4 caused minor flooding on the lower Neshaminy River in southeastern Pennsylvania. Some flash flooding was reported from southern Pennsylvania across New Jersey. The heavy rains along with previous heavy rainfalls raised lake levels in many sections of northern New Jersey. In Passaic County, dams at Lookover and Pinecliff Lakes were spilling. Additional sandbagging and bulldozing were required during the evening of Aug. 4 to prevent major flooding. Around 200 persons were evacuated from the vicinity of west Milford.

Widespread heavy showers and thunderstorms during the afternoon and evening of Aug. 15 caused severe flash flooding in northeastern New Jersey. A state of emergency was declared in Clark, N. J. (3 miles northwest of Rahway) when water reached 6 feet deep in some places. Some people were evacuated by boat from the Oakridge Road area where water was almost 8 feet deep. Another area of heavy rainfall in Passaic and Bergen Counties caused severe flash flooding in the communities of Clifton, Garfield, Passaic, and Lodi, N. J.

Heavy showers in the Washington, D. C., metropolitan area on the night of the 9th caused flash flooding on Sligo Creek in Silver Spring-Takoma Park, Md., area and on Four Mile Run at Arlandria, Va. This was the second consecutive month with flooding on Four Mile Run. The Corps of Engineers estimated the flood damages at $740,000 in Four Mile Run Basin and $200,000 in Sligo Creek Basin. Two lives were lost during rescue attempts on flooded Sligo Creek in Takoma Park, Md.

Cumulative rainfall during the first 6 days of August caused light flooding in streams in eastern North Carolina. A moderate rise along the upper Cape Fear River resulted in rises 4 to 5 feet over bankfull stages in the lower reach. The Neuse River exceeded flood stage by 2 to 4 feet at most gaging points. Crests along the Tar River were 0.3 foot or less above flood stage. No damage was reported.

Nine to 10 inches of rain in 24 hours caused flash flooding of small streams in the City of Dillon, S. C., on the afternoon of the 1st through the 2d. One fatality occurred when a youth was drowned in a drainage ditch. Damage was minor. Moderate flooding occurred on the Lumber River at Lumberton, N. C., from the 2d to the 27th. Flood damage was minor but inconvenience and disruption of activities was major. Approximately 100 houses in low lying areas had water 1 to 2 ft. deep in their yards. Flooding and damage along the Little Pee Dee River at Galivants Ferry, S. C., on the 6-26th was minor.

THE VIRGINIA FLOODS
AUGUST 19-22, 1969

Torrential rains associated with the remnants of Hurricane Camille during the night of Aug. 19-20 caused one of the worst natural disasters to strike the State of Virginia.

After striking the Mississippi coastline late on Aug. 17, Hurricane Camille had moved inland on Aug. 18 and 19, weakening steadily as it passed over Mississippi, Tennessee, and Kentucky, into West Virginia. Rainfall had diminished from nearly 8 inches in southern Mississippi to 1 to 2 inches in eastern Kentucky.

The weak and seemingly innocuous low pressure center during the afternoon of Aug. 19 turned abruptly eastward and crossed the Blue Ridge mountains into southwestern Virginia. Heavy rains associated with thunderstorms began about 7:00 p.m. on Aug. 19 and continued without decrease in intensity for the next 8 hours. The heaviest rainfall occurred in the Tye River Basin in the central part of Nelson County where confirmed amounts of 25 to 27 inches were obtained during a "bucket survey." One unconfirmed amount of 31 inches was obtained near Tye River, Va. Rainfall amounts of 12 to 14 inches were fairly widespread in Nelson County and in the southern part of Albemarle County. Rainfall in excess of 4 inches fell over an area 30 to 40 miles wide and more than 130 miles long.

The torrential rains caused extensive and severe flash flooding in Albemarle, Allegheny, Amherst, Bath, Botetourt, Buckingham, Cumberland, Fluvanna, Gooch-

land, Nelson, Orange, Powhattan, and Rockbridge Counties. The hardest hit by the flash flooding was the Tye River and Rockfish River Basins, most of which lie within Nelson County, Va. Flash flooding reached disaster proportions in Rockbridge, Amherst, Nelson, Albemarle, and Fluvanna Counties. Devastating and extreme flash flooding occurred in the Maury and Hardware Basins and in portions of the Rivanna Basin.

Record stages were reached on the Maury and Rivanna Rivers and on the James River in the reach from Holcombs Rock, Va., to Richmond, Va., (except at Lynchburg and Scottsville). In the Maury Basin, the towns of Buena Vista and Glasgow which were inundated up to 14.2 feet were evacuated without the loss of life. The 31.2-foot crest at Buena Vista was 9.2 ft. higher than the previous record crest recorded in 1936. Along the main stem of the James River, crest stages exceeded all records of the 1936 flood except at Lick Run and Buchanan. At Holcombs Rock, Bremo Bluff, Columbia, Cartersville, and Richmond (Westham), the James River exceeded all old flood marks and set new high records.

Flash flooding occurred in the extreme headwaters of the Shenandoah River Basin where the Geological Survey reported that the South River near Waynesboro, Va., reached a record stage of 15.3 ft. on Aug. 20. This was 0.5 ft. higher than the previous maximum stage of 14.8 ft. recorded on Oct. 15, 1942.

Most of the residents of the mountain hollows, hamlets, and towns were asleep during the fatal hours of the storm. Little warning was possible--only one report of excessive rain was received by the Weather Bureau during the night from a cooperative observer. While it is not presently possible to forecast rainfall in the amounts received during this storm, many lives were saved and much property damage was prevented by the flood warnings issued by the Weather Bureau for the middle and lower James River Basin.

Rapidly rising streams and landslides caused by the unprecedented rainfall not only destroyed homes as the occupants slept, but tore out communication lines and roads, preventing downstream inhabitants from being alerted. Large trees were uprooted and hurled down the mountain. They acted as battering rams, crashing through houses, overturning automobiles, sparing nothing in their paths. Entire families were swept away in the raging waters. Whole sections of the mountainside slid down in the form of mud, heaping tons of silt on houses and their inhabitants. The communities of Massies Mill, Davis Creek, Roseland, Rockfish, and Woods were partially or completely destroyed along with highways, bridges, crops, and buildings.

Communications, including roads, were completely destroyed to many communities within the effects of the flash flooding. At one time, only one highway crossing Virginia was open for its entire length. The damages to highways and bridges alone totaled an estimated \$19 million. Some 133 bridges were destroyed or damaged and 25 miles of primary and 175 miles of secondary roads were washed out or obliterated by the floodwaters.

The Virginia Civil Defense Headquarters estimated the total flood damages in Virginia at \$140 million. The total number of deaths resulting from the Virginia floods were placed at 112 with an additional 41 persons missing and presumed dead. The State was declared a disaster area by the President. One million dollars in federal aid was made available immediately for repair and replacement of roads, bridges, and other public facilities.

EAST GULF OF MEXICO DRAINAGE

Minor flooding occurred on the Etowah River at Canton, Ga., on the 23d. The overflow was due to intense rainfall exceeding 2.5 inches in a few hours with a 36-hour total in excess of 4 inches. Damage was negligible.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The Big Muddy River at Murphysboro, Ill., receded below flood stage on Aug. 4, after being in flood 117 days. The crest on July 17 was 11.25 ft. above flood stage.

Missouri Basin.--The James River at Stratford, S. Dak., receded within its banks on Aug. 29, after being in flood 141 days.

Minor flooding occurred on Thompson Creek at Riverton, Nebr., on the 31st. The South Fork of the Solomon River at Osborne, Kans., exceeded flood stage by 1 foot on Aug. 26. Ladder Creek near Scott City, Kans., reached a near record crest of 16.0 ft. on Aug. 23. This was the highest stage at this point in 36 years when it reached a record crest of 16.1 ft. on Aug. 3, 1933. The crest of 9.3 ft. on the Smoky Hill River at Elkader, Kans., on Aug. 23 was the highest stage in 31 years. Residents in the Russell Springs, Kans., area reported one of the worst floods in its history on the Smoky Hill River Channel on the 22-23. Record flooding occurred in the extreme upper portion of the Little Blue River near Deweese, Nebr. The crest of 17.07 ft. on the 31st was 1.1 ft. higher than the previous record crest of 15.99 ft. on May 22, 1965. Downstream at Hebron, Nebr., residents reported the highest water levels in 40 years. Extensive overflow moved slowly downstream to Fairbury, Nebr., on Sept. 3.

Ohio Basin.--Heavy rains occurred in southern West Virginia as the remnants of Hurricane Camille moved across the State on the 19th and 20th. The Meadow, Cherry and Greenbrier Rivers rose out of their banks on the 20th. Damages on the Meadow River in the Rainelle-Anjean-Rupert, W. Va., area were estimated in excess of \$1 million. Damages on the Cherry River in the Richwood, W. Va., area were estimated at \$77,500. Damages on the lower Greenbrier River were relatively minor and estimated at \$2,500. Spring Creek, a small stream entering the Greenbrier River near Renick, W. Va., flooded the lower floor of one residence, taking the lives of two elderly women who were trapped inside.

Minor flooding occurred on the White River at Anderson, Ind., on the 10th. This flooding was due to 2.5 inches in less than 48 hours. No damage resulted.

Red Basin.--Heavy rains of 2 to 6 inches in the eastern Texas Panhandle and western Oklahoma on the 25-27th caused rises in streams to near flood stage. The Salt Fork of the Red River at Mangum, Tex., rose briefly to near flood stage on the morning of the 28th. The North Fork of the Red River at Headrick, Okla., crested 1.5 ft. below flood stage on the 26th. The Washita River at Clinton, Okla., rose to within a foot of flood stage on the morning of the 27th. The Red River at Burkburnett, Tex., rose to near flood stage on the morning of the 28th. Only minor bottomland flooding resulted.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred on Turkey Creek at Crystal City, Tex., towards the end of August. This flooding was due to 6.5 inches of rain on the 27th. Several highways in Maverick County were closed due to high water. Damages were limited to fences and washing

of highway shoulders.

Great Basin.--Severe thunderstorm with heavy rain at Salt Lake City, Utah, on Aug. 17 caused heavy damage when water impounded in a catchment basin broke through and sent torrents of water, mud and rocks into several homes. At least 15 homes sustained damages estimated at $100,000. Most of the rain fell between 5:45 p.m. and 6:15 p.m. with 2.2 inches reported near the center of the storm.

Flash flood conditions reported elsewhere in the Great Basin were as follows:

1. Monroe Canyon, 10 miles south of Richfield, Utah, on Aug. 3, Damage, $800.
2. Willow Creek, 3-5 miles northwest of Richfield, Utah, on Aug. 11. Damage, estimated at $3,300.
3. San Rafael drainage, west of Orangeville, Utah, on Aug. 18. Damage, estimated at $4,050.
4. Ferron, Utah, on Aug. 29. A dam structure on Ferron Creek was damaged and other damages were reported to irrigation works, crops and Forest Service roads. Damage estimated at $5,055.

PACIFIC SLOPE DRAINAGE

Sacramento-San Joaquin Delta.--Pumping continues on Sherman Island with most of the island now dry. A few deep pools remain. Much of the island has been planted with short term crops. State Highway No. 160 was reopened to traffic on Aug. 21.

Tulare Lake.--The elevation of the lake has decreased to 190.43 ft. m.s.l. as of Sept 1. This is almost one foot lower than on Aug. 4 and almost 2 ft. lower than at its highest elevation. It will probably be 2 to 3 years before the lake is again dry.

FLOOD STAGE DATA

(All dates in August unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	To—	Crest * Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
ousatonic: Gaylordsville, Conn.	8	5	6	8.9	5
Stevenson, Conn.	12	5	6	14.3	5
armington: Simsbury, Conn.	12	5	7	13.5	6
outh: Waynesboro (nr), Va.	B 5	20	20	15.3	20
ackson: Covington, Va.	9	20	20	14.5	20
aury: Buena Vista, Va.	17	20	21	31.23	20
ivanna: Palmyra, Va.	15	20	21	39.85	20
ames: Lick Run, Va.	10	20	21	25.5	20
Buchanan, Va.	17	20	21	23.37	20
Holcombs Rock, Va.	22	20	21	35.6	20
Lynchburg, Va.	18	20	21	28.0	20
Scottsville, Va.	20	20	21	30.0	20
Bremo Bluff, Va.	19	20	23	39.1	20
Columbia, Va.	18	20	23	41.3	20
Cartersville, Va.	20	20	23	33.75	21
Richmond (Westham), Va.	12	20	23	24.96	21-22
Richmond(14th St.Bridge),Va.	8	20	24	27.6	22
Richmond (City Locks), Va.	9	20	24	28.6	22
ishing Creek: Enfield, N. C.	14	6	7	14.7	6-7
ar: Rocky Mount, N. C.	9	7	8	9.3	7
Tarboro, N. C.	19	9	10	19.2	9
Greenville, N. C.	13	10	12	13.2	11
euse: Smithfield, N. C.	13	5	8	17.5	7
Goldsboro, N. C.	14	9	13	16.8	12
Kinston, N. C.	14	12	16	15.8	14
ape Fear: Wm. O. Huske L&D, N.C.	42	5	8	46.7	6
Lock No. 2 Elizabethtown, N. C.	20	5	8	24.4	6

River and station	Flood stage	Above flood stages -dates From—	To—	Crest * Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft			Ft	
Lumber: Lumberton, N. C.	8	2	27	E13.1	14
Little Pee Dee: Galivants Ferry, S. C.	9	6	26	11.1	11
Waccamaw: Conway, S. C.	[illegible]	16	25	7.8	19
Broad: Blair, S. C.	14	5	6	E14.0	[illegible]
EAST GULF OF MEXICO DRAINAGE					
Etowah: Canton, Ga.	17	23	23	18.9	23
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Big Muddy: Murphysboro, Ill.	16	Apr. 10	4	27.25	Jul. 17
Missouri Basin					
James: Stratford, S. Dak.	14	Apr. 11	29	18.2	Apr. 19
Thompson Creek: Riverton, Nebr.	10	31	31	10.3	31
South Fork Solomon: Osborne, Kans.	14	26	26	15.0	26
Ladder Creek: Scott City (nr), Kans.		23	23	16.0	23
Smoky Hill: Elkader, Kans.	8	23	23	9.3	23
Little Blue: Deweese (nr), Nebr.	8	31	Sep. 2	17.1	31
Gilead, Nebr.		D	D	16.4	Sep. 2
Fairbury, Nebr.	10	Sep. 3	Sep. 4	12.8	Sep. 3
Hanover (nr), Kans.	14	Sep. 4	Sep. 4	14.0	Sep. 4
Ohio Basin					
Greenbrier: Alderson, W. Va.	14	20	20	17.1	20
White: Anderson, Ind.	10	10	10	#10.4	10

* Provisional
\# Highest stage observed
__ Exceeded previous highest stage of record
D Data not available
E Estimated
B Bankfull stage

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	86	17.0	15.8	19	.9
1000	31	137			24	.8
950	31	576	17.4	11.7	30	4.0
900	31	1,037	15.3	9.2	30	6.0
850	31	1,521	12.7	5.5	30	7.0
800	31	2,028	10.1	1.0	29	7.3
750	31	2,562	7.6	-3.0	29	8.1
700	31	3,129	4.9	-8.0	28	9.1
650	31	3,725	1.6	-12.8	28	9.4
600	31	4,370	-1.6	-18.6	28	10.4
550	31	5,050	-5.5	-22.5	28	11.8
500	31	5,800	-10.2	-26.9	28	12.9
450	31	6,600	-15.1	-31.9	28	14.0
400	31	7,485	-21.3	-36.9	27	15.4
350	31	8,456	-28.3	-42.9	26	17.0
300	31	9,542	-36.6	-49.0	27	18.2
250	31	10,780	-45.3		27	20.9
200	31	12,246	-52.1		27	21.6
175	31	13,103	-55.6		27	20.6
150	31	14,078	-58.0		28	16.7
125	31	15,223	-59.4		28	13.0
100	31	16,615	-60.3		29	7.0
80	31	18,010	-58.8		31	2.8
70	31	18,851	-57.3		03	1.7
60	31	19,829	-55.8		06	3.0
50	31	20,994	-54.0		08	4.7
40	31	22,434	-51.5		08	7.7
30	30	24,313	-48.7		08	9.4
25	29	25,516	-47.2		08	10.2
20	27	27,002	-45.1		09	12.0
15	26	28,934	-42.0		09	12.6
10	22	31,711	-37.4		09	12.5
7	7	34,141	-34.9			
5						
4						

ALBUQUERQUE, N. MEX. 840 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,619	19.8	12.1	03	1.5
1000	31	82				
950	31	531				
900	31	1,012				
850	31	1,513				
800	31	2,037	19.3	8.2	20	.3
750	31	2,591	16.3	5.7	22	2.2
700	31	3,174	12.6	2.7	24	1.9
650	31	3,789	8.1	-.6	26	1.4
600	31	4,448	3.1	-3.7	29	.8
550	31	5,136	-1.8	-8.3	35	.6
500	31	5,900	-6.5	-14.2	20	.6
450	31	6,710	-11.1	-21.8	25	1.0
400	31	7,613	-16.6	-28.4	26	1.6
350	31	8,605	-23.0	-36.7	27	1.8
300	31	9,716	-31.3	-44.1	27	3.2
250	31	10,982	-41.0		29	4.0
200	31	12,463	-52.3		30	5.8
175	31	13,315	-58.3		30	5.8
150	31	14,271	-64.5		31	4.6
125	31	15,369	-70.1		31	2.0
100	31	16,690	-71.3		07	2.3
80	31	18,021	-67.4		09	5.5
70	31	18,832	-64.0		09	7.4
60	31	19,784	-61.1		09	8.7
50	31	20,924	-58.2		09	10.9
40	31	22,339	-55.3		09	11.7
30	30	24,190	-51.7		09	13.5
25	29	25,376	-49.4		09	15.2
20	28	26,848	-46.9		09	16.0
15	27	28,766	-43.8		08	17.6
10	22	31,512	-39.3		09	18.6
7	[illegible]	33,971	-33.3			
5						
4						

AMARILLO, TEXAS 892 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,095	20.4	14.6	18	2.6
1000	31	88				
950	31	541				
900	31	1,018				
850	31	1,510	21.0	12.8	21	7.3
800	31	2,034	19.0	9.9	23	6.3
750	31	2,580	15.6	7.0	24	4.8
700	31	3,168	11.6	3.4	27	3.9
650	31	3,779	7.6	-1.4	26	2.6
600	31	4,439	3.1	-6.0	25	1.2
550	31	5,129	-1.9	-10.6	29	.8
500	31	5,890	-6.3	-18.4	33	1.1
450	31	6,703	-10.9	-25.3	33	2.0
400	31	7,604	-16.4	-31.2	35	3.4
350	31	8,595	-23.1	-36.5	36	4.9
300	31	9,707	-31.1	-43.8	35	6.7
250	31	10,973	-41.1		34	8.1
200	31	12,452	-52.2		34	9.8
175	31	13,305	-58.2		34	9.6
150	31	14,261	-64.1		34	8.4
125	31	15,363	-69.0		35	5.5
100	31	16,692	-69.8		04	2.9
80	31	18,028	-66.9		07	6.7
70	31	18,840	-64.2		08	9.1
60	31	19,791	-60.9		09	10.2
50	31	20,934	-57.7		09	11.4
40	30	22,352	-54.7		09	12.3
30	30	24,206	-51.4		09	14.5
25	30	25,398	-48.7		09	16.0
20	30	26,874	-46.2		09	16.9
15	25	28,794	-43.5		09	17.3
10	16	31,545	-38.9		09	19.9
7	[illegible]	34,000	-36.4			
5						
4						

* ANCHORAGE, ALASKA 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	45	10.4	4.9	14	1.3
1000	31	74			16	2.2
950	31	502	9.7	1.4	19	1.1
900	31	948	7.0	-.9	20	1.2
850	31	1,416	3.7	-2.5	21	2.0
800	31	1,905	.3	-4.5	23	1.8
750	31	2,417	-3.1	-8.1	25	1.9
700	31	2,963	-6.4	-11.7	28	2.9
650	31	3,534	-9.7	-16.0	28	4.0
600	31	4,154	-13.1	-21.0	29	5.3
550	31	4,806	-17.2	-24.9	30	6.2
500	31	5,520	-21.8	-30.4	29	7.8
450	31	6,282	-26.7	-35.9	29	9.9
400	31	7,130	-32.7	-41.1	29	11.1
350	31	8,057	-39.3	-43.9	29	13.2
300	31	9,096	-46.3		29	12.8
250	31	10,297	-48.7		30	14.4
200	31	11,769	-47.6		30	13.5
175	31	12,650	-47.6		30	12.1
150	31	13,669	-47.4		30	9.7
125	31	14,873	-47.7		30	8.3
100	31	16,345	-48.1		31	5.5
80	31	17,816	-48.0		31	3.4
70	31	18,696	-48.1		32	2.6
60	31	19,713	-47.8		34	1.1
50	31	20,916	-47.8		36	.5
40	31	22,389	-47.5		08	.5
30	30	24,288	-46.7		06	1.6
25	30	25,499	-45.9		07	1.7
20	29	26,990	-45.1		07	2.0
15	27	28,917	-43.4		07	2.0
10	23	31,678	-39.4		06	2.9
7	10	34,176	-35.2			
5						
4						

* ANNETTE, ALASKA 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	37	12.6	9.6	14	1.9
1000	31	103			14	1.8
950	31	530	9.3	6.9	18	4.9
900	31	979	6.6	3.8	19	5.2
850	31	1,446	3.7	.7	20	5.4
800	31	1,937	1.1	-2.4	21	5.9
750	31	2,451	-1.5	-5.9	21	5.8
700	31	3,002	-4.3	-10.8	22	5.8
650	31	3,578	-7.5	-15.1	23	6.5
600	31	4,203	-11.1	-19.1	24	6.6
550	31	4,856	-15.3	-24.1	24	7.1
500	31	5,580	-20.1	-29.5	24	7.5
450	31	6,345	-25.3	-34.8	24	9.4
400	31	7,201	-31.3	-40.2	24	10.9
350	31	8,134	-38.1	-44.1	25	11.0
300	31	9,179	-45.0		26	9.8
250	31	10,385	-49.2		27	10.1
200	31	11,852	-47.8		26	9.2
175	31	12,734	-48.0		26	8.8
150	31	13,749	-48.5		25	9.4
125	31	14,947	-48.9		24	8.4
100	31	16,413	-49.0		24	7.6
80	31	17,877	-49.3		23	5.8
70	31	18,752	-49.4		23	4.9
60	31	19,762	-49.4		22	3.1
50	31	20,957	-49.4		18	2.0
40	31	22,421	-49.1		15	1.7
30	30	24,316	-48.1		12	2.5
25	30	25,520	-47.2		10	2.1
20	29	27,002	-45.8		09	3.3
15	27	28,922	-43.9		08	3.8
10	24	31,663	-40.9		09	4.5
7	16	34,153	-36.1		09	5.7
5	10	36,531	-30.9			
4	6	38,160	-27.3			

ATHENS, GEORGIA 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	246	20.2	18.5	03	.9
1000	26	134				
950	26	578	20.7	17.5	04	.7
900	26	1,046	18.3	14.1	18	.7
850	26	1,535	15.7	10.8	18	.8
800	26	2,048	13.0	6.2	21	1.8
750	26	2,586	10.2	2.2	22	2.1
700	26	3,160	6.8	-2.0	24	2.2
650	26	3,766	3.7	-6.8	25	3.5
600	26	4,413	.1	-13.1	24	4.2
550	26	5,099	-3.8	-16.7	25	5.1
500	26	5,853	-8.1	-21.8	25	5.7
450	26	6,660	-13.2	-28.0	24	5.1
400	26	7,552	-19.1	-33.8	25	5.1
350	26	8,531	-26.2	-39.5	25	6.7
300	26	9,629	-34.2	-47.6	25	8.0
250	26	10,880	-43.2		25	10.0
200	25	12,353	-52.5		26	9.9
175	25	13,206	-57.1		27	8.8
150	25	14,170	-61.8		28	6.2
125	25	15,286	-65.9		31	3.8
100	25	16,635	-66.9		02	3.6
80	25	17,989	-65.0		06	6.1
70	25	18,807	-62.9		07	8.1
60	25	19,762	-60.2		07	10.2
50	25	20,905	-57.6		08	12.8
40	25	22,326	-53.9		09	15.1
30	24	24,187	-50.6		09	15.0
25	24	25,379	-49.1		09	15.7
20	24	26,850	-47.1		09	17.4
15	23	28,767	-43.9		09	21.1
10	15	31,535	-36.6		09	22.2
7						
5						

BARROW, ALASKA 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	-.8	-1.4	31	1.9
1000	31	79	-.9	-2.0	32	1.9
950	31	491	-1.3	-3.6	31	3.4
900	31	919	-2.3	-5.9	31	4.2
850	31	1,372	-3.8	-8.8	31	4.1
800	31	1,849	-5.7	-11.0	30	4.8
750	31	2,351	-8.2	-14.0	30	5.0
700	31	2,887	-10.7	-17.3	29	5.0
650	31	3,454	-13.1	-20.7	29	5.4
600	31	4,061	-16.1	-23.6	29	5.8
550	31	4,707	-20.3	-27.2	29	5.9
500	31	5,410	-25.0	-32.3	29	6.5
450	31	6,158	-30.1	-37.5	29	6.4
400	31	6,996	-36.0	-43.3	29	6.3
350	31	7,911	-42.4	-44.1	30	7.5
300	31	8,940	-47.7		31	7.6
250	31	10,141	-47.3		31	6.9
200	31	11,631	-43.6		31	5.0
175	31	12,530	-43.4		31	5.1
150	31	13,566	-43.8		32	4.5
125	31	14,790	-44.2		32	3.8
100	30	16,287	-44.7		33	3.1
80	30	17,778	-45.1		35	2.3
70	30	18,669	-45.3		35	2.0
60	30	19,696	-45.5		01	1.8
50	30	20,910	-45.7		03	1.8
40	29	22,391	-45.9		05	2.2
30	26	24,298	-45.9		06	2.1
25	23	25,506	-45.6		06	2.9
20	16	26,959	-45.8		07	2.8
15	6	28,854	-43.5			
10						
7						
5						

BARTER IS., ALASKA 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	.3	-.5	26	3.6
1000	31	69				3.6
950	31	476	.8	-2.8	27	6.3
900	31	915	-.6	-5.3	27	5.9
850	31	1,370	-2.3	-6.5	27	6.9
800	31	1,850	-4.5	-8.5	27	7.0
750	31	2,349	-6.7	-11.0	27	6.9
700	31	2,894	-9.0	-15.0	27	6.4
650	31	3,453	-12.1	-17.4	26	5.7
600	31	4,073	-15.8	-20.5	26	5.2
550	31	4,714	-19.7	-25.5	26	4.8
500	31	5,425	-24.3	-30.1	26	5.0
450	31	6,176	-29.6	-35.5	27	5.0
400	31	7,015	-35.5	-41.9	26	5.2
350	31	7,932	-41.8	-43.4	26	6.0
300	31	8,962	-47.7		26	6.0
250	31	10,162	-47.9		26	5.7
200	31	11,645	-44.4		26	4.4
175	30	12,541	-44.2		26	3.2
150	30	13,575	-44.0		26	3.0
125	30	14,798	-44.1		26	3.4
100	30	16,292	-44.6		27	1.6
80	30	17,784	-45.1		23	.7
70	29	18,677	-45.4		21	.5
60	29	19,705	-45.6		33	.4
50	29	20,920	-45.6		09	.8
40	29	22,408	-45.6		07	1.4
30	27	24,329	-45.3		08	1.9
25	27	25,548	-44.6		08	2.5
20	24	27,056	-43.0		07	2.5
15	22	29,011	-40.9		07	3.8
10	19	31,802	-36.8		07	4.0
7	11	34,367	-31.8		07	4.7
5	7	36,770	-27.8			

BETHEL, ALASKA 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	17	39	7.9	6.6	28	2.3
1000	17	89	8.1	5.6	30	3.9
950	17	511	7.3	2.7	29	1.7
900	17	956	4.7	.7	28	2.3
850	17	1,420	2.5	-3.1	27	3.0
800	17	1,909	.7	-8.4	28	4.0
750	17	2,424	-1.6	-11.8	29	4.6
700	17	2,972	-4.6	-16.6	29	5.9
650	17	3,549	-7.8	-20.6	28	7.0
600	17	4,171	-11.3	-23.1	29	7.2
550	17	4,831	-15.5	-27.8	29	8.2
500	17	5,547	-20.3	-32.2	30	9.0
450	17	6,315	-25.0	-34.8	29	10.2
400	17	7,168	-31.0	-42.2	29	12.8
350	17	8,101	-38.0	-43.3	29	14.7
300	17	9,147	-44.6		29	17.9
250	17	10,355	-49.0		29	21.4
200	17	11,821	-48.8		29	18.5
175	17	12,698	-48.8		29	15.8
150	17	13,709	-49.4		29	13.5
125	17	14,903	-49.9		29	11.0
100	17	16,363	-49.8		29	8.9
80	17	17,823	-50.0		28	6.0
70	17	18,696	-49.6		28	5.2
60	17	19,707	-49.4		28	2.7
50	17	20,904	-48.6		31	1.9
40	15	22,384	-48.1		05	.6
30	14	24,287	-46.9		07	.5
25	14	25,497	-46.1		02	1.1
20	14	26,987	-44.8		07	1.9
15	14	28,920	-42.8		06	1.8
10	8	31,711	-38.9			
7						
5						

* BISMARCK, N. DAK. 953 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	503	16.6	12.0	18	.9
1000	31	90				
950	31	532			17	1.8
900	31	996	20.1	8.4	21	4.4
850	31	1,488	18.1	4.6	24	4.0
800	31	2,004	15.0	.7	28	4.2
750	31	2,542	11.7	-2.7	28	5.0
700	31	3,121	8.1	-7.6	28	6.1
650	31	3,725	4.2	-11.6	28	7.1
600	31	4,374	-.3	-15.6	28	8.3
550	31	5,053	-5.1	-18.5	28	10.4
500	31	5,807	-10.3	-24.9	28	11.3
450	31	6,605	-15.7	-30.6	28	12.7
400	31	7,490	-22.0	-36.1	28	14.7
350	31	8,458	-29.1	-43.1	28	17.2
300	31	9,542	-37.1	-49.3	28	22.1
250	31	10,781	-44.4		28	26.8
200	31	12,234	-51.0		28	27.1
175	31	13,117	-54.5		28	23.6
150	31	14,095	-57.9		28	20.1
125	31	15,238	-60.0		28	14.6
100	31	16,629	-60.8		28	8.9
80	31	18,020	-59.5		28	3.8
70	31	18,858	-57.8		30	1.2
60	31	19,835	-55.4		09	1.1
50	31	21,001	-53.7		09	3.1
40	31	22,441	-51.8		08	4.3
30	30	24,321	-48.2		08	5.4
25	29	25,528	-46.6		08	6.7
20	27	27,016	-44.2		09	7.3
15	25	28,960	-41.5		09	8.8
10	20	31,723	-37.9		08	9.5
7	12	34,205	-33.2			
5						

BOISE, IDAHO 913 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	871	15.3	2.0	16	1.7
1000	31	89				
950	31	529				
900	31	995	19.2	3.4	21	.9
850	31	1,488	21.0	.9	31	2.3
800	31	2,009	18.2	-2.0	30	2.0
750	31	2,554	14.6	-5.2	26	3.8
700	31	3,137	10.4	-8.4	24	6.1
650	31	3,745	5.8	-11.6	24	9.6
600	31	4,398	.9	-15.2	23	12.2
550	31	5,080	-3.9	-20.0	24	13.9
500	31	5,836	-9.1	-24.0	24	15.1
450	31	6,634	-14.7	-30.2	24	16.9
400	31	7,524	-21.3	-35.5	24	18.6
350	31	8,496	-28.0	-41.6	25	21.3
300	31	9,584	-35.9	-48.2	25	26.0
250	31	10,830	-43.8		24	29.4
200	31	12,301	-51.8		25	30.6
175	31	13,158	-56.0		25	28.7
150	31	14,130	-59.9		25	24.6
125	31	15,259	-62.8		25	17.6
100	31	16,633	-63.2		24	9.6
80	30	18,011	-61.3		22	4.2
70	30	18,843	-59.4		17	2.1
60	30	19,813	-57.4		11	2.1
50	30	20,971	-55.5		09	4.0
40	29	22,399	-53.2		08	6.5
30	29	24,267	-50.1		09	7.7
25	27	25,463	-48.5		09	8.6
20	25	26,938	-46.5		09	8.9
15	23	28,864	-43.7		09	12.2
10	10	31,604	-38.3			
7						
5						

‡BOOTHVILLE, LA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	10	1	25.9	23.7	31	.2
1000	10	125	26.3	23.5	28	.6
950	10	586	23.3	19.8	25	.9
900	10	1,048	20.6	15.3	20	.7
850	10	1,541	17.6	12.0	23	1.2
800	10	2,057	14.3	8.8	24	2.2
750	10	2,601	11.0	4.8	24	3.8
700	10	3,174	8.2	-.5	25	3.8
650	10	3,782	4.7	-4.6	27	4.0
600	10	4,433	1.3	-9.7	27	4.1
550	10	5,125	-2.0	-19.0	27	2.8
500	10	5,882	-6.4	-23.3	31	1.0
450	10	6,694	-11.3	-30.6	01	1.8
400	10	7,592	-17.6	-35.0	34	2.6
350	10	8,578	-24.5	-38.5	33	1.8
300	10	9,682	-32.5	-47.5	29	1.8
250	10	10,943	-41.5		34	1.9
200	10	12,423	-51.8		01	6.2
175	10	13,276	-57.8		02	8.3
150	10	14,234	-63.6		04	8.0
125	10	15,341	-67.8		04	8.2
100	10	16,678	-68.7		06	8.9
80	10	18,017	-66.7		08	9.4
70	10	18,828	-64.4		08	10.8
60	10	19,777	-61.6		08	12.5
50	10	20,916	-58.1		09	15.4
40	10	22,334	-54.5		10	17.5
30	9	24,196	-51.0			
25	9	25,387	-49.2			
20	9	26,859	-47.1			
15	8	28,769	-45.5			
10						
7						
5						

* BROWNSVILLE, TEXAS 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	7	25.1	22.8	11	1.5
1000	31	99	25.9	24.2	13	3.4
950	31	553	23.6	21.7	16	7.9
900	31	1,024	21.1	17.1	16	7.9
850	31	1,518	18.5	12.2	15	6.4
800	31	2,036	15.8	7.3	13	5.5
750	31	2,583	12.7	3.9	11	5.8
700	31	3,160	9.3	1.1	10	5.6
650	31	3,771	5.8	-2.8	09	5.4
600	31	4,423	2.3	-8.4	09	4.9
550	31	5,116	-1.3	-15.1	08	5.1
500	31	5,876	-5.7	-19.8	08	4.9
450	31	6,689	-10.8	-24.3	07	4.6
400	31	7,590	-17.0	-30.6	07	4.1
350	31	8,579	-23.5	-37.7	05	4.2
300	31	9,687	-31.7	-45.8	05	5.8
250	31	10,952	-41.1		05	7.8
200	31	12,430	-52.5		05	9.5
175	31	13,280	-58.9		05	9.4
150	31	14,231	-65.4		06	9.2
125	31	15,324	-71.3		06	9.7
100	31	16,632	-73.4		07	13.1
80	31	17,952	-68.7		08	15.4
70	31	18,757	-65.8		08	15.3
60	31	19,700	-62.9		08	16.2
50	31	20,830	-60.3		09	18.8
40	31	22,232	-57.0		09	20.2
30	31	24,072	-52.8		09	21.9
25	31	25,255	-50.6		09	22.9
20	31	26,719	-47.8		09	25.1
15	30	28,631	-44.8		09	27.2
10	26	31,385	-39.4		09	30.1
7	14	33,845	-35.5		09	29.3
5	6	36,205	-30.9			

BUFFALO, N. Y. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	218	17.6	15.0	20	2.1
1000	31	140				
950	31	581	18.9	12.6	26	4.8
900	31	1,043	15.9	9.5	28	5.3
850	31	1,527	12.7	6.1	29	6.5
800	31	2,034	9.8	.5	29	7.2
750	31	2,568	7.6	-7.1	29	8.0
700	31	3,134	4.9	-10.7	29	8.4
650	31	3,733	1.7	-14.4	29	10.2
600	31	4,376	-1.9	-17.5	29	10.2
550	31	5,056	-6.2	-21.9	29	11.1
500	31	5,803	-10.6	-26.3	29	11.1
450	31	6,600	-16.0	-30.8	28	10.9
400	31	7,484	-22.0	-37.0	28	11.2
350	31	8,451	-29.1	-43.6	28	12.6
300	31	9,535	-37.3	-50.2	27	13.7
250	31	10,772	-45.4		27	16.7
200	31	12,238	-52.0		28	16.2
175	31	13,097	-54.8		28	14.8
150	31	14,076	-57.3		28	13.4
125	31	15,222	-59.6		29	10.3
100	31	16,613	-60.3		30	6.7
80	31	18,006	-59.2		33	3.3
70	30	18,847	-57.9		01	1.8
60	30	19,822	-56.5		04	3.0
50	30	20,984	-54.5		07	4.5
40	30	22,422	-51.7		08	6.4
30	30	24,301	-48.8		08	8.6
25	28	25,501	-47.0		08	9.7
20	27	26,987	-44.9		09	10.5
15	[illegible]	28,923	-41.5		09	11.6
10	11	31,691	-36.6			
7						
5						

CAPE HATTERAS, N. C. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	23.1	21.1	07	.4
1000	31	147	23.8	19.9	18	.4
950	31	593	20.8	16.2	24	2.1
900	31	1,061	18.3	11.3	23	2.6
850	31	1,549	15.6	6.9	24	2.6
800	31	2,062	13.3	2.1	24	2.8
750	31	2,604	10.5	-1.8	24	2.9
700	31	3,175	7.5	-4.5	24	3.1
650	31	3,783	4.5	-8.9	23	4.0
600	31	4,431	1.0	-12.3	23	5.2
550	31	5,118	-2.9	-16.5	23	6.0
500	31	5,875	-7.3	-21.6	23	6.5
450	31	6,686	-12.1	-26.2	23	7.4
400	31	7,582	-18.1	-31.3	23	7.3
350	31	8,566	-24.8	-39.0	23	9.4
300	31	9,670	-32.9	-46.3	23	10.5
250	31	10,927	-42.3	-52.5	24	11.0
200	31	12,399	-53.0		25	11.0
175	31	13,250	-58.1		26	9.2
150	31	14,210	-62.4		26	6.8
125	31	15,327	-65.0		27	4.3
100	31	16,682	-66.0		34	1.8
80	31	18,044	-63.3		07	4.6
70	31	18,868	-61.2		07	6.3
60	30	19,829	-58.7		08	8.0
50	30	20,980	-56.5		08	10.7
40	29	22,404	-53.3		09	13.8
30	25	24,267	-49.5		09	14.3
25	24	25,467	-47.6		09	14.5
20	23	26,942	-45.8		09	16.1
15	22	28,869	-43.1		09	17.9
10	19	31,628	-38.9		09	19.1
7	14	34,076	-34.6			
5						

See reference note at end of table

‡ Station destroyed - Hurricane Camille

CARIBOU, MAINE [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	191	15.0	13.6	24	2.3
1000	31	105				
950	31	546	15.4	10.4	27	5.4
900	31	999	13.4	7.2	29	6.6
850	31	1,478	10.3	4.9	29	7.4
800	31	1,980	7.3	.2	29	8.4
750	31	2,512	4.9	-4.9	28	9.6
700	31	3,070	2.1	-7.7	28	10.7
650	31	3,667	-.9	-12.3	28	11.4
600	31	4,302	-3.7	-18.2	28	12.6
550	31	4,982	-7.4	-22.9	28	12.9
500	31	5,722	-11.9	-27.[illegible]	28	13.5
450	31	6,516	-17.0	-32.[illegible]	28	15.5
400	31	7,395	-23.4	-38.3	27	15.6
350	31	8,359	-30.2	-43.[illegible]	28	17.9
300	31	9,438	-38.2	-47.9	28	20.6
250	31	10,671	-46.1		28	23.4
200	30	12,133	-51.2		28	22.8
175	30	13,001	-51.7		27	22.3
150	30	13,996	-53.8		27	19.0
125	30	15,161	-55.4		28	14.1
100	30	16,581	-56.2		28	9.0
80	30	18,002	-55.4		29	4.4
70	30	18,856	-54.5		29	2.5
60	31	19,846	-53.3		32	1.4
50	31	21,027	-51.2		06	1.4
40	29	22,484	-49.8		07	3.6
30	29	24,377	-47.4		09	5.2
25	28	25,586	-45.9		09	5.8
20	28	27,079	-43.6		09	6.5
15	27	29,029	-40.8		09	8.2
10	22	31,810	-36.7		10	9.2
7	6	34,277	-33.1			
5						
4						
3						
2						

CHARLESTON, S. C. 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	13	22.0	20.5	06	.9
1000	31	139	22.9	20.8	09	1.1
950	31	586	21.8	17.0	13	2.1
900	31	1,056	19.0	14.1	16	2.2
850	31	1,545	16.1	10.1	17	1.6
800	31	2,059	13.5	5.[illegible]	20	2.7
750	31	2,598	10.7	.8	21	2.3
700	31	3,174	7.7	-2.8	21	2.2
650	31	3,779	4.1	-6.[illegible]	22	2.8
600	31	4,429	.8	-10.0	22	2.9
550	31	5,119	-2.9	-15.4	22	2.6
500	31	5,873	-7.3	-19.3	23	4.0
450	31	6,683	-12.2	-24.1	23	4.5
400	31	7,579	-18.0	-30.[illegible]	22	5.6
350	31	8,563	-24.9	-36.8	22	6.4
300	31	9,666	-33.0	-44.5	21	7.6
250	31	10,922	-42.5		22	8.2
200	31	12,395	-53.0		24	9.1
175	31	13,245	-58.3		25	7.3
150	31	14,205	-62.8		25	4.4
125	31	15,319	-66.2		31	1.2
100	31	16,666	-67.1		05	3.1
80	31	18,020	-64.7		07	6.3
70	31	18,840	-62.4		07	8.2
60	31	19,796	-60.2		08	10.4
50	31	20,940	-57.8		08	13.5
40	31	22,358	-54.4		09	16.0
30	31	24,221	-50.0		09	15.9
25	31	25,417	-48.5		09	15.7
20	30	26,891	-46.2		09	17.4
15	29	28,815	-43.7		08	19.7
10	27	31,560	-39.1		09	25.0
7	12	34,044	-34.3			

CHIHUAHUA, MEXICO [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	1,428	20.1	13.[illegible]	[illegible]	.4
1000	31	62				
950	31	510				
900	31	987				
850	31	1,492	20.7	12.7	11	.4
800	31	2,018	19.9	9.5	15	2.2
750	31	2,566	16.1	7.0	14	3.7
700	31	3,155	11.9	4.5	12	3.7
650	31	3,764	7.4	1.4	10	4.3
600	31	4,426	2.8	-3.8	08	5.8
550	31	5,119	-1.2	-10.7	09	6.2
500	31	5,880	-5.8	-15.5	09	5.9
450	31	6,690	-10.5	-22.3	08	4.8
400	31	7,597	-16.0	-29.1	07	4.1
350	31	8,591	-22.4	-35.9	07	5.1
300	31	9,704	-30.8	-43.9	06	5.8
250	31	10,972	-40.7	-52.8	04	6.9
200	31	12,452	-52.5		04	8.6
175	31	13,302	-56.7		04	8.8
150	29	14,257	-65.1		05	7.5
125	27	15,353	-71.0		07	7.2
100	25	16,663	-73.0		08	9.6
80	23	17,985	-69.1		08	12.2
70	23	18,787	-66.8		08	12.5
60	22	19,725	-64.0		09	13.2
50	21	20,855	-60.1		09	15.3
40	21	22,259	-56.7		09	17.1
30	17	24,092	-54.3		09	18.6
25	14	25,271	-51.8		09	21.2
20	13	26,730	-48.3		09	22.1
15	5	28,639	-44.6			

COLD BAY, ALASKA 101[illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	3[illegible]	1[illegible].5	7.9	28	5.[illegible]
1000	31	145	9.9	7.7	28	6.3
950	31	569	8.3	5.9	29	8.2
900	31	1,017	6.4	4.2	29	9.2
850	31	1,486	4.8	.0	30	11.2
800	31	1,979	3.3	-3.3	30	12.1
750	31	2,499	1.1	-7.3	30	13.0
700	31	3,055	-1.0	-11.9	30	13.5
650	31	3,640	-3.7	-16.7	30	15.3
600	31	4,273	-6.9	-20.0	30	14.3
550	31	4,941	-10.6	-24.7	30	14.7
500	31	5,675	-15.1	-26.7	30	16.3
450	31	6,458	-20.1	-31.8	30	18.8
400	31	7,327	-26.3	-36.7	31	18.3
350	31	8,279	-33.2	-44.1	30	18.5
300	30	9,350	-40.9	-46.8	30	18.4
250	30	10,569	-48.3		29	19.0
200	30	12,022	-53.2		28	16.3
175	30	12,879	-54.3		28	13.7
150	30	13,866	-54.0		28	10.9
125	30	15,036	-54.3		28	8.9
100	30	16,467	-54.0		29	5.6
80	28	17,901	-52.7		30	3.2
70	28	18,764	-51.6		29	2.1
60	27	19,767	-50.9		31	1.7
50	27	20,955	-50.0		26	.4
40	27	22,416	-49.0		05	1.3
30	27	24,310	-47.6		10	2.1
25	27	25,516	-46.7		12	1.9
20	26	27,002	-45.3		08	2.5
15	25	28,933	-43.5		06	4.5
10	25	31,678	-40.3		07	4.4
7	24	34,132	-36.8		06	4.4
5	21	36,462	-34.5		06	4.1
4	16	38,022	-33.4		04	1.2
3	12	40,046	-31.8			
2	9	42,917	-30.0			

COLUMBIA, MO. [illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	238	19.8	16.5	14	1.8
1000	31	130				
950	31	572	22.1	14.6	19	4.2
900	31	1,043	19.2	11.7	22	3.5
850	31	1,532	16.0	8.6	24	2.8
800	31	2,046	13.3	4.5	26	2.5
750	31	2,581	11.1	-2.3	28	1.6
700	31	3,161	8.1	-6.4	32	1.7
650	31	3,763	4.8	-11.4	32	2.3
600	31	4,418	1.0	-14.4	32	2.5
550	31	5,102	-3.3	-19.0	31	2.8
500	31	5,860	-8.0	-23.6	31	3.8
450	31	6,665	-13.1	-28.6	32	5.9
400	31	7,560	-18.9	-31.9	33	7.9
350	31	8,541	-25.9	-38.2	33	11.5
300	31	9,640	-33.8	-46.0	33	14.3
250	31	10,894	-42.6		33	17.1
200	31	12,371	-51.6		33	17.4
175	31	13,228	-56.1		33	15.5
150	31	14,196	-61.1		33	12.4
125	31	15,316	-64.8		33	10.1
100	31	16,672	-65.7		35	5.9
80	31	18,033	-64.1		02	5.2
70	31	18,854	-62.4		05	5.3
60	31	19,810	-60.0		07	6.2
50	31	20,956	-57.1		08	8.7
40	31	22,379	-53.7		09	10.1
30	28	24,242	-50.4		09	10.3
25	26	25,433	-48.8		09	11.3
20	22	26,903	-46.2		09	12.7
15	16	28,854	-42.6		09	14.8
10	8	31,614	-38.2			

DAYTON, OHIO 983 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	297	16.2	15.[illegible]	07	.8
1000	31	146				
950	31	588	20.0	13.3	23	1.4
900	31	1,052	17.5	9.3	26	2.3
850	31	1,539	14.6	5.4	27	2.9
800	31	2,049	12.3	-1.2	28	3.1
750	31	2,585	9.6	-5.1	29	3.6
700	31	3,158	6.2	-8.7	28	4.3
650	31	3,757	2.9	-13.8	28	4.3
600	31	4,405	-1.1	-16.4	28	4.8
550	31	5,088	-5.3	-21.6	29	5.1
500	31	5,836	-9.8	-26.7	29	5.1
450	31	6,636	-14.9	-31.2	29	5.3
400	31	7,523	-21.2	-36.7	29	6.2
350	31	8,495	-28.2	-42.9	29	7.1
300	31	9,583	-36.3	-49.4	30	8.8
250	31	10,825	-44.3		29	10.1
200	31	12,295	-51.7		28	11.0
175	31	13,155	-55.0		31	11.0
150	31	14,132	-58.4		31	11.0
125	31	15,269	-61.9		31	7.6
100	31	16,645	-63.2		32	5.5
80	31	18,023	-61.7		01	4.5
70	31	18,853	-60.3		04	4.6
60	31	19,819	-58.4		06	5.9
50	31	20,974	-55.7		07	7.8
40	31	22,405	-52.9		08	10.8
30	30	24,279	-49.1		09	11.1
25	29	25,481	-47.2		09	11.6
20	26	26,969	-45.0		09	13.3
15	25	28,908	-41.9		09	14.8
10	18	31,680	-37.6		10	15.5
7	6	34,154	-32.8			

DEL RIO, TEXAS 976 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	314	25.4	19.6	11	3.9
1000	31	97				
950	31	551	24.4	18.7	14	7.0
900	31	1,023	21.9	16.4	17	9.2
850	31	1,519	19.7	12.9	16	8.1
800	31	2,039	16.4	9.8	15	6.6
750	31	2,585	13.7	4.3	13	6.1
700	31	3,165	10.3	1.0	11	5.7
650	31	3,775	6.7	-3.6	10	5.4
600	31	4,433	2.9	-8.3	08	5.4
550	31	5,123	-1.5	-13.4	08	4.7
500	31	5,885	-6.2	-20.1	07	4.7
450	31	6,695	-11.2	-24.4	06	5.9
400	31	7,598	-16.8	-31.5	06	5.7
350	31	8,588	-23.2	-37.8	05	6.1
300	31	9,698	-31.4	-45.0	04	6.2
250	31	10,964	-41.2	-52.8	03	7.1
200	31	12,443	-52.4		03	7.7
175	31	13,295	-58.3		04	8.7
150	31	14,250	-64.9		05	8.9
125	31	15,344	-70.7		06	8.0
100	31	16,656	-72.9		07	9.7
80	30	17,971	-69.8		07	12.7
70	30	18,774	-65.8		08	14.4
60	29	19,720	-61.8		09	14.9
50	29	20,856	-59.3		09	15.4
40	29	22,261	-56.8		09	16.6
30	24	24,101	-52.8		09	19.3
25	21	25,281	-50.3		09	21.1
20	20	26,748	-47.1		09	22.3
15	17	28,672	-44.2		09	23.3
10	16	31,414	-38.2		09	27.0
7	14	33,898	-33.9			

DENVER, COLO. 839 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	1,611	15.6	10.6	21	1.4
1000	31	86				
950	31	533				
900	31	1,005				
850	31	1,498				
800	31	2,018	16.2	7.3	27	2.0
750	31	2,568	16.6	2.7	29	2.3
700	31	3,154	13.0	-1.2	28	3.4
650	31	3,769	8.6	-4.3	29	4.2
600	31	4,429	3.1	-7.0	30	4.8
550	31	5,119	-2.4	-12.0	30	5.5
500	31	5,877	-7.6	-17.8	29	5.4
450	31	6,685	-12.4	-25.8	29	6.2
400	31	7,583	-17.8	-31.8	28	7.5
350	31	8,568	-24.8	-38.1	28	9.6
300	31	9,672	-32.6	-45.4	27	12.6
250	31	10,931	-42.0		29	15.4
200	31	12,408	-52.3		28	16.1
175	31	13,261	-57.7		28	15.0
150	31	14,220	-63.1		28	13.4
125	31	15,329	-67.5		28	9.0
100	31	16,668	-68.3		27	3.5
80	31	18,015	-65.0		10	.2
70	31	18,834	-62.4		08	2.4
60	31	19,791	-59.5		08	5.2
50	31	20,940	-56.7		09	7.8
40	31	22,363	-53.8		09	9.0
30	30	24,223	-50.9		09	10.9
25	30	25,416	-48.6		09	11.8
20	30	26,892	-46.0		09	11.6
15	24	28,816	-43.6		09	13.5
10	17	31,567	-38.6		09	18.5
7	11	34,047	-34.4			

DODGE CITY, KANS. 924 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	791	20.6	17.1	16	3.0
1000	31	100				
950	31	549				
900	31	1,019	20.8	15.6	18	7.1
850	31	1,514	20.1	11.6	21	8.9
800	31	2,036	17.6	8.3	23	7.7
750	31	2,585	14.6	5.6	24	6.6
700	31	3,165	10.8	2.5	25	5.4
650	31	3,777	6.7	-1.1	26	5.2
600	31	4,432	2.1	-5.1	26	4.2
550	31	5,123	-2.2	-11.0	27	3.3
500	31	5,881	-6.5	-17.[illegible]	28	3.6
450	31	6,695	-11.4	-22.9	30	3.8
400	31	7,592	-17.1	-29.3	30	4.8
350	31	8,580	-24.0	-36.1	31	6.7
300	31	9,688	-31.9	-43.9	32	8.7
250	31	10,950	-41.7		32	12.3
200	31	12,427	-52.5		31	12.1
175	31	13,279	-58.1		32	11.1
150	31	14,237	-63.6		32	11.0
125	31	15,344	-67.8		32	7.9
100	31	16,681	-68.4		33	3.5
80	30	18,026	-65.6		05	3.2
70	30	18,841	-63.7		07	6.2
60	30	19,795	-60.2		08	7.8
50	30	20,941	-56.9		09	9.1
40	30	22,361	-54.7		09	10.5
30	30	24,216	-51.1		09	12.3
25	27	25,408	-48.5		09	13.5
20	26	26,884	-46.1		09	14.0
15	23	28,808	-43.1		09	15.6
10	20	31,563	-39.8		09	19.7
7	8	34,028	-34.9			

EL PASO, TEXAS 881 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	1,193	23.6	12.4	02	1.6
1000	31	66				
950	31	516				
900	31	1,002				
850	31	1,505	23.7	10.9	07	2.2
800	31	2,032	20.7	8.1	13	2.4
750	31	2,585	16.8	5.5	16	2.5
700	31	3,172	12.3	2.9	15	2.1
650	31	3,785	7.5	.0	10	.9
600	31	4,443	2.8	-5.1	09	2.9
550	31	5,136	-1.8	-10.5	10	3.3
500	31	5,896	-6.1	-15.9	11	3.6
450	31	6,707	-10.9	-23.2	11	3.2
400	31	7,612	-16.3	-28.6	08	2.6
350	31	8,604	-22.9	-37.0	07	2.8
300	31	9,715	-31.3	-43.8	04	1.8
250	31	10,982	-41.2		03	3.8
200	31	12,462	-52.7		01	4.8
175	31	13,313	-58.8		02	5.6
150	31	14,266	-65.0		02	4.8
125	31	15,360	-71.1		05	3.6
100	31	16,674	-72.3		08	6.1
80	31	17,997	-69.1		08	9.3
70	31	18,800	-66.6		09	10.9
60	31	19,742	-62.7		09	12.2
50	31	20,876	-59.6		09	13.9
40	28	22,283	-56.1		09	15.2
30	27	24,130	-52.3		09	16.9
25	27	25,314	-50.7		09	18.1
20	26	26,773	-48.1		09	19.2
15	25	28,688	-44.5		08	21.7
10	23	31,440	-39.3		09	25.0
7	14	33,898	-34.2			

ELY, NEV. 811 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	1,908	13.0	2.7	20	3.6
1000	31	97				
950	31	541				
900	31	1,012				
850	31	1,503				
800	31	2,019	17.8	4.0	19	4.2
750	31	2,569	17.7	.4	19	4.2
700	31	3,158	13.5	-2.1	23	5.6
650	31	3,772	8.7	-4.9	22	6.2
600	31	4,433	2.9	-7.5	22	6.3
550	31	5,120	-2.7	-12.5	22	6.1
500	31	5,881	-7.7	-19.2	24	6.2
450	31	6,687	-12.7	-27.3	25	7.6
400	31	7,583	-18.5	-34.3	25	8.6
350	31	8,565	-25.5	-40.5	25	10.9
300	31	9,666	-33.4	-46.7	25	14.5
250	31	10,922	-42.5		24	17.8
200	31	12,399	-52.1		25	19.3
175	31	13,253	-57.6		25	18.7
150	31	14,216	-62.8		24	17.2
125	31	15,324	-67.0		24	13.4
100	30	16,670	-67.7		24	5.5
80	30	18,023	-64.0		18	2.3
70	30	18,846	-61.5		11	2.5
60	30	19,806	-59.2		10	5.1
50	30	20,955	-56.9		09	6.1
40	30	22,378	-54.1		09	9.4
30	29	24,237	-50.6		09	11.3
25	28	25,430	-48.9		09	11.[illegible]
20	27	26,900	-47.1		09	11.8
15	26	28,807	-44.6		09	14.7
10	22	31,549	-39.1		09	15.5
7	18	34,010	-34.9		10	17.9
5	4	36,346	-30.5			

EMPALME, MEXICO 1007 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	12	27.6	24.0	04	2.4
1000	31	78	28.0	23.8	06	2.3
950	31	531	27.3	20.6	12	1.9
900	31	1,013	25.4	17.3	11	1.8
850	31	1,515	23.0	14.8	07	1.8
800	31	2,042	20.0	12.1	06	2.8
750	31	2,591	16.8	8.2	07	3.2
700	30	3,182	13.1	4.[illegible]	09	3.8
650	30	3,795	8.7	1.0	10	3.9
600	30	4,458	3.8	-2.8	11	3.8
550	30	5,154	-.9	-7.4	11	3.7
500	30	5,914	-5.6	-14.2	10	3.6
450	3[illegible]	6,734	-10.0	-20.2	10	3.8
400	30	7,633	-15.7	-28.6	11	3.8
350	29	8,626	-21.9	-34.6	11	4.5
300	29	9,742	-30.1	-42.4	11	5.[illegible]
250	29	11,012	-40.1	-50.5	10	5.5
200	27	12,494	-52.1		09	4.6
175	27	13,344	-59.0		08	4.9
150	27	14,293	-66.1		10	5.5
125	27	15,379	-72.0		10	6.8
100	24	16,689	-72.7		08	9.1
80	24	18,007	-69.2		09	12.8
70	24	18,611	-66.4		09	13.3
60	24	19,749	-64.2		09	13.6
50	23	20,873	-60.4		09	16.0
40	21	22,281	-56.5		09	17.2
30	19	24,124	-53.6		09	18.3
25	18	25,300	-51.2		09	20.6
20	18	26,763	-47.4		09	21.6
15	17	28,686	-43.5		08	22.5
10	12	31,436	-38.9			

FAIRBANKS, ALASKA 993 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	135	6.3	2.3	30	.5
1000	31	74				
950	31	498	7.0	-.2	27	2.7
900	31	939	4.2	-2.4	27	4.4
850	31	1,402	1.0	-4.4	26	5.6
800	31	1,887	-2.6	-6.6	26	6.3
750	31	2,398	-6.0	-10.3	26	7.2
700	31	2,933	-9.0	-13.9	25	7.6
650	31	3,505	-12.2	-18.1	26	6.5
600	31	4,113	-15.4	-21.3	27	6.9
550	31	4,763	-19.6	-24.8	27	6.5
500	31	5,466	-24.4	-30.8	28	6.8
450	31	6,224	-29.6	-36.9	28	7.4
400	31	7,056	-35.4	-43.2	29	7.7
350	31	7,974	-41.3	-45.7	29	8.2
300	31	9,006	-47.5		29	9.5
250	31	10,205	-48.1		30	8.7
200	31	11,683	-45.9		29	7.9
175	30	12,570	-45.7		29	7.0
150	30	13,597	-45.6		29	5.4
125	30	14,811	-46.1		30	4.8
100	30	16,293	-46.5		30	3.0
80	30	17,774	-46.7		30	1.9
70	30	18,656	-46.9		31	1.7
60	30	19,679	-47.0		31	.9
50	30	20,886	-46.9		28	.2
40	29	22,363	-46.9		06	.4
30	29	24,269	-46.6		05	.9
25	29	25,480	-46.1		06	1.4
20	29	26,968	-44.7		07	1.5
15	24	28,891	-43.2		08	1.5
10	17	31,672	-39.2		08	2.2
7	9	34,142	-34.4			

FLINT, MICH. 989 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	31	236	15.7	13.4	21	2.0
1000	31	140				
950	31	579	19.3	11.4	27	5.0
900	31	1,043	16.6	8.[illegible]	28	5.4
850	31	1,528	13.5	4.4	28	5.5
800	31	2,037	10.7	-1.5	29	5.9
750	31	2,570	8.0	-6.8	29	6.6
700	31	3,140	5.6	-12.2	28	7.1
650	31	3,739	2.3	-15.1	28	7.2
600	31	4,385	-1.6	-18.8	29	7.2
550	31	5,065	-5.9	-23.4	29	7.6
500	31	5,813	-10.6	-28.[illegible]	29	8.2
450	31	6,610	-15.9	-32.4	30	8.3
400	31	7,494	-22.1	-38.[illegible]	29	8.5
350	31	8,463	-29.2	-43.9	29	9.7
300	31	9,546	-37.4	-50.2	29	10.2
250	31	10,783	-45.4		30	12.1
200	31	12,250	-51.4		30	14.5
175	31	13,112	-54.2		30	14.0
150	31	14,095	-57.1		30	13.0
125	31	15,241	-59.8		31	10.3
100	31	16,631	-60.6		31	6.4
80	31	18,022	-60.0		33	3.7
70	31	18,857	-58.9		03	3.7
60	30	19,828	-57.1		05	4.0
50	30	20,987	-55.0		07	5.6
40	30	22,422	-52.3		08	6.9
30	30	24,295	-49.2		08	8.2
25	29	25,498	-47.2		08	9.4
20	27	26,980	-45.1		09	10.8
15	26	28,912	-42.2		09	12.6
10	24	31,680	-37.3		09	13.4
7	5	34,097	-35.[illegible]			

FORT WORTH, TEXAS 992 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed
SURFACE	28	180	24.4	20.4	17	1.1
1000	28	107				
950	28	558	24.8	18.1	19	6.6
900	28	1,032	23.3	14.6	20	5.7
850	28	1,529	20.1	11.9	20	3.6
800	28	2,050	16.6	8.0	21	1.5
750	28	2,594	13.0	4.4	03	.8
700	27	3,175	9.3	.7	02	2.7
650	27	3,785	6.0	-6.1	03	3.0
600	27	4,437	1.9	-11.9	05	4.1
550	27	5,126	-1.7	-18.8	06	4.3
500	27	5,886	-5.9	-24.1	05	3.8
450	27	6,694	-11.5	-27.7	04	3.6
400	27	7,595	-17.6	-32.8	03	4.5
350	27	8,582	-24.4	-38.4	02	5.6
300	27	9,689	-31.9	-45.8	36	7.1
250	27	10,952	-41.2	-55.1	36	9.6
200	26	12,432	-52.3		36	10.7
175	26	13,285	-58.0		01	10.2
150	26	14,243	-63.6		02	8.1
125	25	15,347	-68.7		03	6.7
100	25	16,675	-70.3		06	6.9
80	25	18,008	-67.7		07	9.5
70	25	18,816	-64.9		08	10.4
60	25	19,764	-61.5		08	11.6
50	25	20,903	-58.1		09	13.1
40	24	22,319	-55.3		09	13.7
30	22	24,163	-52.6		09	16.5
25	21	25,349	-49.7		09	18.6
20	19	26,822	-46.2		09	19.5
15	15	28,749	-43.9		09	19.7
10	13	31,502	-38.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1969

GLASGOW, MONT. 931 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	696	15.7	5.7	09	2.4
1000	31	75				
950	31	518				
900	31	982	21.5	5.2	17	2.4
850	31	1,477	20.3	1.6	24	2.5
800	31	1,997	16.9	-1.6	27	4.0
750	31	2,538	12.7	-4.6	28	5.8
700	31	3,117	8.3	-6.8	28	7.8
650	31	3,718	3.9	-10.3	27	9.4
600	31	4,369	-1.0	-14.6	27	10.8
550	31	5,049	-6.0	-19.9	27	12.8
500	31	5,796	-11.3	-24.9	27	13.9
450	31	6,588	-16.8	-30.9	27	15.0
400	31	7,470	-23.2	-37.4	27	16.3
350	31	8,434	-30.4	-44.5	27	19.5
300	31	9,511	-38.4	-51.1	27	23.0
250	31	10,746	-45.0		27	27.8
200	31	12,217	-50.9		27	30.8
175	31	13,080	-54.0		27	27.9
150	31	14,063	-56.4		27	22.8
125	31	15,214	-59.0		27	16.5
100	31	16,610	-59.8		26	9.9
80	31	18,006	-58.5		26	5.1
70	31	18,848	-57.3		24	2.6
60	30	19,827	-55.5		19	.5
50	30	20,994	-53.7		12	2.3
40	30	22,433	-51.7		09	4.4
30	30	24,310	-48.8		09	4.9
25	29	25,514	-46.7		09	6.0
20	28	26,999	-44.7		08	6.9
15	20	26,944	-41.7		09	7.8
10	10	31,721	-37.4			
7						
5						

GRAND JUNCTION, COLO. 852 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,472	20.1	7.6	13	3.3
1000	31	64				
950	31	515				
900	31	995				
850	31	1,494			13	3.4
800	31	2,019	20.7	5.9	14	3.7
750	31	2,571	17.7	3.5	22	.9
700	31	3,161	13.6	.7	27	3.0
650	31	3,779	8.7	-1.7	27	3.3
600	31	4,436	3.3	-5.0	26	3.1
550	31	5,127	-2.3	-9.3	25	3.8
500	31	5,885	-7.5	-15.6	26	4.6
450	31	6,695	-12.2	-22.8	26	5.4
400	31	7,591	-17.7	-29.4	26	6.8
350	31	8,578	-24.3	-36.6	26	9.1
300	31	9,683	-32.1	-44.9	26	12.0
250	31	10,944	-41.5		26	14.5
200	31	12,424	-51.9		26	15.6
175	31	13,277	-57.6		26	14.3
150	31	14,236	-63.4		26	13.0
125	31	15,341	-68.3		26	8.8
100	31	16,672	-69.2		25	4.5
80	31	18,018	-65.2		20	1.1
70	31	18,835	-63.0		11	2.0
60	31	19,789	-60.2		09	4.8
50	31	20,933	-57.6		09	7.2
40	31	22,353	-54.5		09	8.6
30	30	24,208	-51.5		09	10.9
25	30	25,397	-49.4		09	11.0
20	28	26,867	-47.2		09	11.6
15	23	28,777	-44.8		08	13.0
10	9	31,486	-39.8			
7						
5						

* GREAT FALLS, MONT. 887 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,118	14.9	1.7	25	2.7
1000	31	79				
950	31	525				
900	31	997				
850	31	1,480	18.9	-1.0	26	4.0
800	31	1,998	16.0	-3.1	26	3.7
750	31	2,539	12.0	-5.5	26	5.2
700	31	3,116	7.7	-7.3	25	6.5
650	31	3,723	3.4	-9.8	25	8.7
600	31	4,367	-1.1	-12.6	25	11.3
550	31	5,050	-6.0	-18.2	25	13.5
500	31	5,796	-10.9	-25.4	25	14.8
450	31	6,591	-16.3	-31.7	25	16.7
400	31	7,474	-22.8	-36.9	25	18.1
350	31	8,438	-30.1	-43.2	26	19.9
300	31	9,516	-38.1	-50.5	26	24.6
250	31	10,752	-45.0		25	30.7
200	31	12,222	-50.8		26	31.0
175	31	13,085	-53.8		26	28.2
150	31	14,068	-56.9		25	23.3
125	31	15,214	-59.4		25	16.1
100	31	16,609	-60.0		25	10.9
80	31	18,004	-58.8		24	5.3
70	31	18,846	-57.1		22	3.0
60	31	19,826	-55.1		17	1.2
50	30	20,994	-53.5		09	1.5
40	30	22,435	-51.8		09	3.1
30	30	24,314	-48.4		08	5.2
25	29	25,516	-46.7		09	5.8
20	28	26,999	-45.0		09	5.9
15	27	28,933	-42.2		08	7.4
10	24	31,700	-37.6		09	9.1
7	18	34,193	-33.4		09	11.7
5	10	36,548	-29.7			

GREEN BAY, WIS. 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	210	15.1	12.8	23	1.5
1000	31	123				
950	31	565	19.9	12.7	27	4.8
900	31	1,029	17.5	8.2	27	6.4
850	31	1,515	14.5	3.8	27	7.0
800	31	2,026	11.8	-1.3	27	7.4
750	31	2,557	9.0	-6.2	27	6.6
700	31	3,132	5.8	-10.3	28	6.8
650	31	3,729	2.6	-16.4	29	7.6
600	31	4,378	-1.2	-21.4	29	8.2
550	31	5,053	-5.7	-24.5	29	9.0
500	31	5,807	-10.3	-28.0	29	9.1
450	31	6,603	-15.7	-32.4	29	9.9
400	31	7,489	-21.9	-37.7	29	10.0
350	31	8,458	-29.3	-44.1	29	11.7
300	31	9,541	-37.5	-50.7	30	13.5
250	31	10,779	-45.4		31	17.2
200	31	12,248	-50.8		31	17.4
175	31	13,112	-53.9		31	16.6
150	31	14,094	-57.3		31	16.2
125	31	15,240	-59.8		31	12.7
100	31	16,631	-60.6		31	8.3
80	31	18,024	-59.5		33	5.2
70	31	18,861	-58.2		36	3.9
60	31	19,835	-56.5		04	3.8
50	31	20,997	-54.4		06	5.1
40	31	22,434	-51.9		07	5.6
30	31	24,310	-49.0		08	7.3
25	30	25,512	-47.1		08	8.6
20	29	26,997	-44.8		08	9.7
15	24	28,933	-41.4		09	10.7
10	10	31,683	-38.1			
7						
5						

GREENSBORO, N. C. 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	273	19.7	18.1	35	.2
1000	31	151				
950	31	595	20.3	15.6	29	.6
900	31	1,062	17.8	12.3	30	.7
850	31	1,550	15.3	7.5	30	.9
800	31	2,062	12.8	4.1	27	1.8
750	31	2,598	9.9	.3	27	2.1
700	31	3,173	6.9	-3.1	27	1.9
650	31	3,778	3.6	-7.9	25	2.4
600	31	4,424	.0	-12.9	25	2.7
550	31	5,115	-4.0	-17.8	25	3.8
500	31	5,863	-8.1	-23.0	25	4.7
450	31	6,673	-13.1	-28.5	24	4.2
400	31	7,561	-19.3	-33.8	24	5.3
350	31	8,541	-26.2	-39.9	24	6.8
300	31	9,638	-34.2	-47.6	24	9.8
250	31	10,890	-43.3		24	11.3
200	31	12,361	-52.7		25	10.5
175	31	13,214	-57.2		25	8.7
150	31	14,180	-61.3		26	6.1
125	31	15,302	-64.5		28	3.0
100	31	16,662	-65.1		02	1.7
80	31	18,026	-63.4		06	4.0
70	31	18,850	-61.2		06	5.8
60	31	19,812	-59.1		08	8.3
50	31	20,961	-56.7		08	10.3
40	31	22,386	-53.3		09	12.5
30	31	24,253	-49.6		09	13.6
25	31	25,451	-47.8		09	14.1
20	29	26,930	-45.9		09	15.1
15	26	28,854	-43.1		09	16.9
10	18	31,597	-39.2		09	19.6
7	8	34,047	-34.5			
5						

* GUAM, MARIANA IS. 999 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	111	25.1	23.9	09	1.9
1000	31	100				
950	31	554	23.8	21.4	09	5.4
900	31	1,025	21.2	17.4	10	5.4
850	31	1,519	18.5	14.1	09	5.5
800	31	2,038	15.7	11.5	09	5.3
750	31	2,585	12.9	7.0	09	6.1
700	31	3,162	10.0	2.7	09	6.1
650	31	3,774	6.3	-2.1	10	5.9
600	31	4,426	2.3	-7.7	10	6.5
550	31	5,119	-1.9	-11.3	10	6.2
500	31	5,876	-6.2	-17.2	09	6.1
450	31	6,692	-11.1	-20.7	09	4.9
400	31	7,588	-16.8	-26.9	08	5.0
350	31	8,577	-23.5	-35.6	07	4.4
300	31	9,685	-31.8	-44.5	07	3.9
250	31	10,946	-42.1		07	3.3
200	31	12,413	-54.6		04	2.1
175	31	13,253	-61.7		02	2.6
150	31	14,190	-69.1		02	4.4
125	31	15,260	-75.7		05	6.7
100	30	16,545	-74.9		08	8.5
80	29	17,852	-71.1		09	11.5
70	29	18,647	-68.6		09	11.6
60	28	19,577	-65.8		09	11.6
50	28	20,695	-62.0		09	12.2
40	27	22,089	-58.5		08	12.9
30	27	23,913	-55.0		09	14.9
25	27	25,086	-52.5		09	15.3
20	27	26,538	-49.9		08	14.9
15	23	28,430	-47.6		09	19.0
10	21	31,131	-45.1		09	25.2
7	19	33,540	-40.7		09	34.9
5	7	35,820	-37.8			

HILO, HAWAII 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	21.9	19.9	24	1.7
1000	31	141	22.1	19.3	25	1.4
950	31	585	19.1	16.5	06	2.1
900	31	1,050	16.1	14.4	07	4.2
850	31	1,535	13.3	12.0	07	4.8
800	31	2,045	10.7	8.6	07	4.1
750	31	2,584	9.1	-.6	08	4.5
700	31	3,152	6.7	-8.2	08	4.1
650	31	3,756	4.5	-14.9	09	3.7
600	31	4,407	1.6	-18.5	07	2.1
550	31	5,100	-1.8	-23.1	02	.8
500	31	5,857	-5.9	-26.6	30	1.5
450	31	6,669	-11.2	-31.4	28	2.6
400	31	7,568	-17.6	-36.7	27	4.7
350	31	8,554	-24.7	-42.3	27	6.8
300	31	9,657	-33.3	-49.2	27	9.4
250	31	10,912	-43.0		27	12.1
200	31	12,379	-54.8		27	13.8
175	31	13,220	-61.3		26	13.4
150	31	14,162	-67.6		25	11.8
125	31	15,245	-72.1		24	7.6
100	29	16,554	-73.0		16	3.0
80	28	17,874	-69.1		10	9.2
70	27	18,677	-66.3		10	11.2
60	27	19,618	-63.2		09	12.9
50	27	20,748	-60.0		09	15.3
40	27	22,147	-57.9		09	16.2
30	26	23,976	-53.9		09	18.5
25	25	25,149	-52.1		09	19.5
20	24	26,604	-49.3		09	21.3
15	22	28,499	-46.5		09	22.7
10	18	31,219	-40.7		09	26.9
7	8	33,652	-38.9			
5						

HUNTINGTON W. VA. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	18.2	16.6	14	.5
1000	31	150				
950	31	594	20.8	14.8	21	1.1
900	31	1,059	18.3	12.2	27	1.6
850	31	1,548	15.2	7.9	27	2.7
800	31	2,059	12.4	2.3	27	3.1
750	31	2,598	9.6	-3.0	27	2.8
700	31	3,169	6.4	-7.0	28	3.2
650	31	3,769	3.3	-12.3	29	2.8
600	31	4,419	-.4	-16.1	28	3.2
550	31	5,102	-4.6	-20.0	28	4.0
500	31	5,854	-9.2	-25.2	28	4.6
450	31	6,658	-14.6	-30.0	27	5.1
400	31	7,546	-20.4	-35.9	27	5.0
350	31	8,521	-27.4	-42.5	27	5.7
300	31	9,613	-35.4	-49.0	28	6.4
250	31	10,859	-44.2		26	8.5
200	31	12,330	-51.5		27	9.5
175	31	13,191	-54.8		29	8.7
150	31	14,167	-58.7		31	6.0
125	31	15,302	-62.1		31	5.0
100	31	16,676	-63.5		34	4.2
80	31	18,050	-61.7		04	4.2
70	31	18,880	-60.1		05	5.1
60	31	19,846	-58.0		07	6.4
50	31	21,003	-55.3		08	8.3
40	30	22,435	-52.5		08	10.4
30	28	24,307	-49.3		09	11.7
25	25	25,510	-47.0		09	12.8
20	24	26,998	-45.1		09	13.7
15	24	28,932	-42.2		09	15.2
10	21	31,711	-37.6		09	16.3
7	6	34,243	-32.9			
5						

* INTERNATIONAL FALLS, MINN. 970 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	360	14.0	11.2	22	1.9
1000	31	97				
950	31	533	17.7	12.9	24	5.1
900	31	996	16.9	9.8	26	6.3
850	31	1,482	14.3	6.4	27	6.0
800	31	1,992	11.2	1.2	28	5.7
750	31	2,525	8.6	-4.1	28	6.0
700	31	3,095	5.1	-8.3	28	6.7
650	31	3,690	1.4	-12.2	28	7.8
600	31	4,336	-2.6	-17.2	28	9.9
550	31	5,009	-6.9	-21.9	28	11.7
500	31	5,758	-11.6	-26.4	28	13.3
450	31	6,551	-16.7	-31.7	28	14.6
400	31	7,434	-22.8	-37.5	29	15.4
350	31	8,399	-29.8	-43.2	29	16.5
300	31	9,480	-37.7	-49.5	29	17.8
250	31	10,716	-45.2		29	19.8
200	31	12,186	-50.0		29	22.1
175	31	13,056	-52.3		29	21.8
150	31	14,047	-55.0		29	18.7
125	31	15,205	-57.4		29	14.6
100	31	16,613	-57.9		29	10.1
80	31	18,020	-57.2		30	5.2
70	31	18,866	-56.3		31	3.3
60	31	19,848	-55.1		35	1.9
50	31	21,016	-53.6		04	2.3
40	31	22,457	-51.7		07	3.7
30	30	24,335	-48.7		08	5.0
25	30	25,539	-47.0		08	5.4
20	30	27,023	-44.8		08	5.9
15	29	28,956	-42.4		08	7.5
10	24	31,728	-37.4		10	9.1
7	14	34,214	-33.3		10	9.1
5						

JACKSON, MISS. 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	100	20.7	20.0	08	1.3
1000	31	121	21.3	19.8	10	.9
950	31	573	22.3	16.5	15	1.9
900	31	1,038	19.5	13.7	14	1.8
850	31	1,528	16.2	10.3	15	.8
800	31	2,042	13.2	5.8	30	.4
750	31	2,584	10.2	.9	33	.9
700	31	3,155	7.7	-5.3	34	1.7
650	31	3,761	4.9	-10.4	03	1.7
600	31	4,412	1.5	-14.7	02	2.3
550	31	5,100	-2.6	-18.7	36	3.2
500	31	5,859	-6.9	-23.9	36	4.6
450	31	6,669	-12.3	-28.0	35	4.7
400	31	7,564	-18.4	-33.8	35	6.3
350	31	8,547	-25.3	-39.6	35	7.2
300	31	9,648	-33.1	-46.4	35	8.3
250	31	10,906	-41.9	-53.1	35	10.9
200	31	12,382	-52.3		34	11.8
175	31	13,236	-57.5		34	11.0
150	31	14,197	-62.8		35	10.0
125	31	15,307	-67.5		01	8.4
100	31	16,645	-68.5		05	7.1
80	31	17,987	-66.7		06	8.4
70	31	18,799	-64.2		07	9.7
60	31	19,749	-61.5		08	11.5
50	31	20,886	-58.8		08	14.1
40	31	22,298	-55.6		09	15.2
30	31	24,146	-51.9		09	15.7
25	30	25,336	-49.5		08	18.1
20	30	26,804	-47.3		09	19.5
15	29	28,718	-44.8		09	20.0
10	23	31,468	-39.4		09	22.9
7	9	33,923	-34.4			
5						

JOHNSTON IS., PACIFIC AREA 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	26.6	22.7	09	6.7
1000	31	121	25.4	21.9	09	7.5
950	31	571	21.7	19.6	09	8.8
900	31	1,040	19.0	15.1	09	9.3
850	31	1,530	16.1	11.9	09	8.5
800	31	2,044	13.4	7.4	09	7.3
750	31	2,586	11.4	-.5	09	6.2
700	31	3,161	8.8	-5.3	09	5.1
650	31	3,770	5.7	-10.4	08	4.5
600	31	4,423	2.7	-16.0	07	3.8
550	31	5,113	-1.4	-19.5	07	3.0
500	31	5,874	-6.1	-23.3	08	2.2
450	31	6,687	-11.5	-26.4	11	1.9
400	31	7,585	-17.5	-33.1	18	1.1
350	31	8,571	-24.6	-39.8	26	2.5
300	31	9,673	-33.2	-46.2	26	5.6
250	31	10,929	-43.0		25	8.8
200	31	12,393	-55.1		25	11.5
175	31	13,233	-61.5		25	11.2
150	30	14,174	-68.3		24	11.3
125	30	15,254	-72.7		24	7.2
100	29	16,556	-74.3		14	2.6
80	29	17,866	-70.2		09	8.4
70	29	18,664	-67.5		09	10.8
60	29	19,600	-64.0		09	11.9
50	29	20,723	-60.9		09	12.7
40	28	22,118	-58.3		09	14.1
30	28	23,941	-54.4		09	16.2
25	28	25,112	-52.6		09	17.3
20	26	26,559	-50.5		09	18.7
15	25	28,444	-47.2		09	23.1
10	24	31,149	-42.7		09	29.0
7	13	33,578	-39.8			
5						

KEY WEST, FLA. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	27.8	24.1	13	2.1
1000	30	121	27.2	23.6	12	3.4
950	30	570	23.6	20.9	13	5.2
900	30	1,046	20.8	16.2	13	5.0
850	30	1,539	18.2	12.1	14	4.6
800	30	2,057	15.2	7.7	14	4.2
750	30	2,592	12.1	3.4	14	3.2
700	30	3,177	9.0	-.9	15	3.1
650	30	3,778	5.4	-4.3	17	3.1
600	30	4,438	1.6	-8.0	18	2.2
550	30	5,126	-2.2	-13.5	18	1.7
500	30	5,887	-6.7	-17.6	18	1.5
450	30	6,699	-11.7	-21.9	20	1.0
400	30	7,596	-17.5	-26.1	26	.1
350	30	8,583	-24.4	-34.6	34	1.3
300	30	9,688	-32.8	-43.2	32	2.0
250	30	10,945	-42.9		34	4.5
200	30	12,412	-54.6		35	5.6
175	30	13,255	-60.3		36	4.7
150	30	14,202	-65.7		02	4.1
125	30	15,298	-69.7		04	5.4
100	30	16,622	-70.7		07	8.1
80	29	17,949	-68.2		07	10.4
70	29	18,753	-66.1		08	13.0
60	29	19,696	-62.4		08	16.1
50	29	20,830	-59.3		09	18.3
40	28	22,234	-57.1		09	19.5
30	28	24,073	-52.9		09	20.7
25	28	25,257	-49.6		09	21.4
20	27	26,727	-46.7		09	20.4
15	26	28,646	-44.1		08	22.2
10	24	31,387	-40.4		[illegible]	29.1
7	13	33,822	-36.9			
5						

KING SALMON, ALASKA 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	8.0	5.4	25	2.1
1000	31	84			28	3.0
950	31	508	7.7	3.2	30	3.6
900	31	953	5.8	1.4	30	3.8
850	31	1,419	3.3	-.5	30	5.2
800	31	1,910	1.0	-4.3	29	6.3
750	31	2,424	-1.6	-8.2	29	7.2
700	31	2,974	-4.3	-13.4	30	7.9
650	31	3,554	-7.4	-17.9	30	9.2
600	31	4,175	-11.0	-21.0	30	10.7
550	31	4,838	-14.8	-24.7	30	12.4
500	31	5,556	-19.0	-28.8	30	14.3
450	31	6,330	-24.2	-33.6	30	16.3
400	31	7,184	-29.9	-38.9	30	18.5
350	31	8,122	-36.6	-43.2	30	21.2
300	31	9,174	-43.8	-49.6	30	23.8
250	31	10,386	-48.1		30	23.3
200	31	11,850	-49.7		30	19.0
175	31	12,723	-50.1		30	17.2
150	31	13,730	-50.1		30	14.6
125	31	14,921	-50.2		30	11.7
100	31	16,381	-49.9		31	7.7
80	31	17,839	-49.9		32	4.4
70	30	18,713	-49.5		32	3.3
60	30	19,722	-49.3		31	1.5
50	30	20,919	-48.9		01	.9
40	30	22,387	-47.9		06	.8
30	30	24,289	-46.9		09	1.8
25	28	25,502	-45.9		09	1.8
20	28	26,991	-44.6		09	3.0
15	27	28,928	-42.4		07	2.6
10	15	31,698	-38.3		06	3.6
7						
5						

+ KOROR, CAROLINE IS. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	28.1	24.5	19	.6
1000	31	100	27.0	22.9	18	.6
950	31	545	23.1	18.7	20	.6
900	31	1,022	20.5	15.1	19	1.1
850	31	1,515	18.0	11.6	13	.9
800	31	2,033	15.4	8.1	11	1.2
750	31	2,575	12.5	4.4	10	2.1
700	31	3,154	9.3	.7	08	3.2
650	31	3,763	5.8	-2.9	09	4.8
600	31	4,416	2.1	-7.1	09	6.4
550	31	5,111	-1.8	-11.8	10	7.2
500	31	5,867	-6.0	-17.0	10	8.0
450	31	6,685	-10.7	-23.1	10	8.6
400	31	7,583	-15.9	-29.7	09	8.5
350	31	8,575	-22.7	-37.1	09	8.4
300	31	9,686	-31.3	-44.8	08	7.8
250	31	10,950	-41.5		08	7.6
200	31	12,423	-54.0		06	9.6
175	31	13,265	-61.1		05	9.5
150	31	14,205	-68.6		06	9.9
125	31	15,279	-74.9		08	7.0
100	31	16,566	-75.9		09	8.7
80	31	17,874	-69.4		08	8.5
70	30	18,679	-66.8		08	6.9
60	30	19,616	-64.1		10	6.4
50	30	20,739	-61.4		09	5.6
40	30	22,133	-58.1		08	5.9
30	29	23,957	-54.8		10	7.7
25	28	25,131	-52.1		10	7.3
20	28	26,586	-49.4		10	6.7
15	27	28,482	-47.2		10	9.3
10	26	31,169	-43.9		10	14.8
7	18	33,601	-39.9			
5						

KOTZEBUE, ALASKA 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	6.3	3.0	33	3.9
1000	30	82			33	4.7
950	30	497	4.1	-1.4	32	2.6
900	30	939	1.5	-3.7	31	3.2
850	30	1,398	-.9	-5.6	30	3.6
800	30	1,880	-2.8	-9.3	30	4.4
750	30	2,390	-5.3	-12.1	30	5.4
700	30	2,929	-8.2	-15.2	30	5.8
650	30	3,499	-11.2	-18.2	30	6.5
600	30	4,113	-15.0	-21.7	31	7.0
550	30	4,761	-19.0	-27.1	31	7.4
500	30	5,470	-23.5	-31.6	30	8.3
450	30	6,229	-28.6	-36.5	30	8.4
400	30	7,067	-34.5	-42.1	30	9.6
350	30	7,988	-41.2	-45.5	31	11.1
300	30	9,020	-47.3		30	13.8
250	30	10,221	-48.1		31	13.1
200	30	11,701	-44.7		31	11.4
175	30	12,594	-45.1		30	9.9
150	30	13,622	-45.5		30	9.5
125	29	14,832	-45.9		30	7.0
100	29	16,316	-46.2		30	5.6
80	29	17,796	-47.0		29	4.5
70	29	18,680	-47.0		30	3.7
60	29	19,702	-46.9		32	2.5
50	29	20,909	-47.2		01	2.4
40	28	22,384	-47.0		05	1.6
30	27	24,299	-46.1		05	1.2
25	27	25,512	-45.5		07	.8
20	24	26,996	-44.7		05	1.7
15	23	28,925	-42.8		06	1.0
10	8	31,700	-38.5			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1969

KWAJALEIN, MARSHALL IS. — 101[illegible] MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	30	4	27.5	24.1	08	2.9
1000	30	98	26.9	23.7	08	3.4
950	30	551	23.4	21.1	08	4.3
900	30	1,023	20.8	17.6	09	4.6
850	30	1,516	18.1	14.6	09	4.3
800	30	2,035	15.5	11.5	08	4.7
750	30	2,581	13.0	7.5	08	5.5
700	30	3,159	10.0	3.3	09	5.9
650	30	3,772	6.3	-1.1	09	6.5
600	30	4,425	2.3	-4.6	09	6.9
550	30	5,124	-1.4	-10.1	09	7.8
500	30	5,878	-5.6	-17.0	09	7.7
450	30	6,697	-10.8	-20.8	09	7.2
400	30	7,593	-16.4	-28.3	09	6.1
350	30	8,584	-23.4	-35.4	09	4.1
300	30	9,693	-31.8	-44.4	13	2.6
250	30	10,954	-42.3	-53.5	15	2.4
200	30	12,422	-54.8	-64.8	19	2.7
175	30	13,262	-62.0		24	2.4
150	30	14,198	-69.3		25	3.2
125	30	15,267	-76.3		22	2.0
100	28	16,555	-74.9		10	5.9
80	27	17,862	-70.5		09	5.5
70	27	18,660	-67.9		10	2.3
60	25	19,592	-65.3		09	4.4
50	25	20,713	-61.5		09	4.4
40	25	22,107	-59.1		08	6.3
30	25	23,927	-55.0		08	7.7
25	25	25,098	-53.3		09	8.7
20	25	26,545	-50.5		09	9.9
15	23	28,429	-47.9		09	13.7
10	18	31,117	-45.6		09	18.9
7	13	33,511	-42.0		09	28.7
5						
4						

LAKE CHARLES, LA. — 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	5	23.0	21.8	04	1.7
1000	31	114	24.7	22.1	07	1.8
950	31	565	23.3	18.3	16	2.4
900	31	1,037	20.3	14.7	17	2.2
850	31	1,529	17.3	11.6	13	1.4
800	31	2,045	14.3	7.3	06	1.4
750	31	2,585	11.2	3.4	02	1.9
700	31	3,163	8.3	-2.9	01	2.6
650	31	3,772	5.2	-7.6	36	2.6
600	31	4,422	1.8	-12.8	01	3.0
550	31	5,114	-1.9	-18.7	02	3.5
500	31	5,871	-6.4	-23.9	03	3.6
450	31	6,687	-11.8	-28.4	04	4.7
400	31	7,580	-17.9	-33.9	03	5.3
350	31	8,565	-24.6	-39.5	02	5.4
300	31	9,670	-32.3	-46.3	01	5.6
250	31	10,931	-41.5	-53.7	36	7.9
200	31	12,409	-52.5		36	9.8
175	31	13,260	-58.3		36	10.0
150	31	14,217	-64.0		02	10.0
125	31	15,320	-68.7		04	8.2
100	31	16,647	-70.6		05	8.8
80	31	17,980	-67.7		07	10.8
70	31	18,788	-65.2		08	12.0
60	31	19,734	-62.1		08	13.6
50	31	20,871	-58.5		09	16.2
40	30	22,285	-55.3		09	16.7
30	28	24,131	-52.3		09	18.0
25	28	25,316	-50.0		09	19.8
20	26	26,785	-47.7		09	20.9
15	21	28,693	-44.7		09	22.2
10	14	31,437	-38.4		09	23.5
7						
5						
4						

LANDER, WYO. — 830 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	1,696	16.6	3.4	22	1.1
1000	31	74				
950	31	522				
900	31	995				
850	31	1,492				
800	31	2,013	19.8	-.2	24	1.4
750	31	2,560	16.9	-2.6	27	2.0
700	31	3,151	12.9	-5.8	27	4.5
650	31	3,761	7.9	-8.8	27	6.6
600	31	4,423	2.8	-12.2	27	8.4
550	31	5,111	-2.7	-15.6	26	9.3
500	31	5,869	-8.3	-20.4	26	10.2
450	31	6,675	-13.5	-26.8	26	10.8
400	31	7,567	-19.2	-34.4	26	13.3
350	31	8,546	-26.3	-39.7	26	16.4
300	31	9,643	-34.3	-47.2	26	19.3
250	31	10,895	-42.9		26	22.3
200	31	12,369	-52.1		26	24.1
175	31	13,224	-56.8		26	22.9
150	31	14,190	-61.4		26	21.2
125	31	15,310	-65.0		26	14.9
100	31	16,665	-65.6		25	7.2
80	31	18,029	-62.4		23	2.5
70	31	18,857	-60.5		14	1.4
60	31	19,820	-58.7		10	3.1
50	31	20,972	-56.2		09	4.8
40	29	22,395	-53.7		08	7.2
30	27	24,260	-50.1		09	8.6
25	26	25,456	-47.9		09	10.2
20	25	26,933	-45.9		09	10.7
15	23	28,863	-43.1		09	12.6
10	16	31,611	-38.3		09	13.5
7	10	34,062	-33.7			
5						
4						

* LIHUE KAUAI, HAWAII — 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	36	25.0	20.8	06	5.9
1000	31	152	24.0	20.3	06	7.3
950	31	596	20.1	18.4	07	8.7
900	31	1,065	16.8	14.5	07	9.4
850	31	1,551	13.7	11.7	07	8.6
800	31	2,061	11.1	4.9	08	8.0
750	31	2,595	10.3	-8.2	08	7.3
700	31	3,171	8.0	-14.5	08	5.8
650	31	3,776	4.8	-17.5	08	4.6
600	31	4,426	1.4	-20.6	07	3.7
550	31	5,116	-1.6	-24.9	05	2.4
500	31	5,876	-5.9	-28.5	32	2.3
450	31	6,684	-11.6	-32.4	29	3.9
400	31	7,585	-18.0	-37.1	29	6.4
350	31	8,568	-25.3	-43.2	28	9.1
300	31	9,667	-33.8	-51.0	27	12.1
250	31	10,918	-43.8		27	16.2
200	30	12,378	-55.1		27	21.1
175	30	13,219	-61.0		27	22.1
150	30	14,164	-66.2		26	19.4
125	30	15,257	-70.0		25	13.2
100	30	16,580	-70.4		22	3.4
80	30	17,911	-68.1		09	6.7
70	30	18,716	-66.1		09	10.4
60	30	19,657	-63.3		09	12.7
50	29	20,786	-60.2		09	14.7
40	29	22,186	-57.7		09	17.5
30	29	24,016	-54.3		09	19.7
25	29	25,190	-52.3		09	21.2
20	28	26,643	-49.5		09	23.1
15	27	28,542	-46.3		09	24.5
10	25	31,254	-42.3		09	27.3
7	20	33,692	-38.5		09	32.8
5	13	36,034	-33.8		09	39.2
4	5	37,583	-30.0			

LITTLE ROCK, ARK. — 1006 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	79	20.2	18.5	04	.6
1000	31	127	21.0	18.[illegible]	07	.8
950	31	576	22.6	15.4	17	2.5
900	31	1,045	19.7	12.7	17	2.4
850	31	1,535	16.2	10.[illegible]	18	1.5
800	31	2,049	13.4	4.1	05	.4
750	31	2,586	10.9	-2.0	01	.8
700	31	3,163	8.2	-7.0	35	1.8
650	31	3,772	5.5	-12.3	02	3.1
600	31	4,424	1.9	-15.3	36	3.3
550	31	5,111	-2.4	-18.8	36	4.1
500	31	5,872	-6.7	-23.5	36	5.1
450	31	6,678	-11.9	-28.4	36	6.8
400	31	7,579	-18.1	-32.6	36	8.2
350	31	8,563	-25.1	-39.2	36	9.2
300	31	9,666	-32.8	-46.6	35	11.1
250	31	10,925	-41.8	-53.6	35	12.1
200	31	12,404	-51.7		35	13.0
175	31	13,260	-56.9		35	12.4
150	31	14,224	-62.2		35	12.4
125	31	15,338	-66.2		36	10.2
100	31	16,684	-67.2		03	7.2
80	31	18,036	-65.5		05	7.7
70	31	18,851	-63.7		06	9.0
60	31	19,804	-60.5		08	10.2
50	31	20,949	-57.4		09	12.4
40	31	22,369	-54.0		09	13.5
30	30	24,231	-50.9		09	14.4
25	30	25,423	-48.9		09	16.0
20	29	26,897	-46.3		09	18.5
15	26	28,818	-43.0		09	19.0
10	12	31,600	-38.2			
7	6	34,073	-33.4			
5						
4						

MCGRATH, ALASKA — 997 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	17	103	6.1	1.2	28	1.4
1000	17	79				
950	17	498	6.0	-1.0	30	2.6
900	17	940	3.1	-2.6	29	3.1
850	17	1,401	.2	-4.9	31	3.0
800	17	1,884	-2.4	-7.4	29	4.5
750	17	2,388	-5.0	-11.2	29	5.4
700	17	2,934	-7.7	-15.7	29	5.8
650	17	3,502	-10.9	-20.8	29	6.4
600	17	4,118	-14.4	-23.9	30	8.2
550	17	4,765	-18.2	-25.8	29	10.7
500	17	5,478	-22.6	-30.1	29	12.8
450	17	6,234	-27.6	-35.7	30	13.9
400	17	7,081	-33.4	-41.6	30	15.6
350	17	8,004	-40.0	-46.4	30	13.7
300	17	9,042	-45.9		29	15.1
250	17	10,248	-47.1		30	16.0
200	17	11,729	-46.1		31	15.7
175	17	12,617	-45.8		31	13.0
150	17	13,643	-46.3		31	11.1
125	17	14,852	-47.0		31	10.3
100	16	16,324	-47.2		31	6.8
80	15	17,797	-47.7		32	3.6
70	15	18,680	-47.2		32	2.9
60	15	19,699	-47.3		33	1.3
50	15	20,905	-47.4		36	1.2
40	15	22,382	-47.0		03	1.4
30	15	24,292	-45.8		04	1.8
25	15	25,508	-45.1		07	2.1
20	14	26,999	-43.9		05	1.8
15	12	28,921	-42.1		07	2.1
10	8	31,690	-38.5			
7						
5						
4						

+ MAJURO, MARSHALL IS. — 1011 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	3	28.9	24.7	09	1.8
1000	31	101	27.1	21.9	09	2.1
950	31	553	23.2	18.8	09	2.6
900	31	1,024	20.6	15.2	10	3.8
850	31	1,517	17.9	11.8	09	4.7
800	31	2,035	15.2	8.4	09	4.9
750	31	2,583	12.4	4.8	09	5.4
700	31	3,157	9.6	.2	09	5.7
650	31	3,773	6.0	-3.0	09	6.1
600	31	4,421	2.3	-7.5	09	7.0
550	31	5,116	-1.5	-11.2	09	7.6
500	31	5,874	-5.4	-17.4	09	7.5
450	31	6,693	-10.1	-23.2	09	7.0
400	31	7,594	-15.3	-29.2	09	6.8
350	31	8,590	-22.0	-35.8	10	6.6
300	31	9,706	-30.3	-44.2	10	6.6
250	31	10,976	-40.5	-51.4	10	4.6
200	31	12,458	-52.7		12	2.2
175	31	13,307	-59.8		14	1.1
150	31	14,254	-67.0		24	.7
125	31	15,336	-73.7		20	1.2
100	31	16,633	-74.9		10	4.2
80	30	17,947	-68.8		09	5.1
70	30	18,754	-65.1		10	2.6
60	30	19,699	-62.8		10	2.0
50	29	20,829	-59.9		09	3.2
40	28	22,231	-57.5		12	3.7
30	25	24,062	-53.4		11	4.3
25	24	25,240	-51.2		11	4.5
20	20	26,693	-48.7		10	5.3
15	20	28,600	-45.2		10	7.4
10	16	31,335	-41.5		09	15.8
7	6	33,770	-37.2			
5						
4						

* MEDFORD, OREG. — 969 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	401	12.3	7.4	22	.1
1000	31	130				
950	31	569	15.3	7.5	30	.9
900	31	1,024	14.7	6.0	30	1.5
850	31	1,506	13.4	2.3	31	.2
800	31	2,016	12.6	-4.8	24	1.4
750	31	2,557	10.5	-9.9	23	4.7
700	31	3,126	7.6	-14.2	23	7.3
650	31	3,733	4.5	-17.7	23	8.5
600	31	4,380	.7	-20.8	24	10.3
550	31	5,064	-3.7	-23.4	24	12.4
500	31	5,818	-8.8	-28.5	24	14.3
450	31	6,617	-14.7	-33.9	24	16.2
400	31	7,505	-21.5	-38.8	24	18.0
350	31	8,476	-28.6	-44.4	24	21.4
300	31	9,562	-36.5	-51.1	24	24.3
250	31	10,804	-44.5		24	27.3
200	31	12,273	-51.7		24	28.9
175	31	13,132	-55.1		24	27.5
150	31	14,109	-58.8		24	24.2
125	31	15,246	-61.3		24	18.9
100	31	16,627	-62.0		23	10.7
80	31	18,013	-60.1		22	4.8
70	31	18,849	-58.8		20	2.5
60	30	19,820	-57.1		14	2.3
50	30	20,979	-55.3		10	3.9
40	30	22,410	-53.2		09	6.1
30	29	24,276	-50.4		09	7.4
25	28	25,470	-48.8		09	9.1
20	28	26,945	-46.3		09	9.9
15	27	28,871	-43.4		09	12.0
10	22	31,625	-39.3		09	12.3
7	19	34,086	-35.3		10	14.7
5	12	36,471	-30.8			
4	8	38,104	-26.5			

MERIDA, MEXICO — 1011 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	11	23.1	22.8	10	3.3
1000	31	109	24.1	23.2	10	5.2
950	31	560	23.7	20.8	12	8.5
900	31	1,034	21.4	16.4	13	8.2
850	31	1,529	18.6	12.8	12	7.7
800	31	2,048	15.8	8.8	12	6.5
750	31	2,592	12.8	4.6	13	5.9
700	31	3,171	9.5	1.5	13	5.3
650	31	3,780	5.8	-1.8	13	4.5
600	31	4,435	2.1	-5.9	12	4.3
550	31	5,127	-1.8	-10.8	10	4.3
500	31	5,887	-5.9	-15.6	08	3.8
450	31	6,701	-10.8	-19.7	07	3.7
400	31	7,604	-16.3	-27.6	07	3.1
350	31	8,596	-23.3	-34.5	06	2.3
300	31	9,705	-31.7	-43.7	35	.8
250	31	10,969	-41.6		29	4.0
200	30	12,443	-53.1		29	5.5
175	30	13,291	-59.4		29	5.8
150	30	14,241	-65.9		35	4.2
125	28	15,328	-71.4		04	5.8
100	27	16,637	-73.0		06	11.0
80	26	17,960	-68.1		07	14.1
70	25	18,766	-65.4		08	15.4
60	25	19,711	-62.5		08	16.8
50	22	20,847	-59.1		08	17.8
40	22	22,256	-56.2		09	18.2
30	21	24,099	-53.2		09	18.7
25	21	25,282	-50.0		09	18.8
20	20	26,753	-47.0		08	19.2
15	18	28,671	-43.6		08	24.0
10	6	31,426	-38.8			
7						
5						
4						

MIAMI, FLA. — 1014 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	30	4	26.0	22.6	10	1.3
1000	30	125	26.5	23.0	12	2.5
950	30	582	23.3	20.4	14	5.0
900	30	1,049	20.6	15.4	15	4.8
850	30	1,542	18.0	10.2	15	4.2
800	30	2,060	15.3	5.8	16	3.1
750	30	2,599	12.2	2.7	17	2.5
700	30	3,180	8.9	-.8	19	2.3
650	30	3,789	5.4	-5.1	20	2.3
600	30	4,440	1.7	-10.2	21	3.0
550	30	5,129	-2.4	-14.7	21	2.7
500	30	5,888	-6.9	-17.8	21	2.9
450	30	6,698	-11.5	-24.2	21	2.1
400	30	7,598	-17.2	-29.4	22	1.4
350	30	8,586	-24.0	-37.0	25	1.4
300	30	9,693	-32.3	-44.3	26	1.8
250	30	10,954	-41.9		31	2.5
200	30	12,428	-53.1		33	3.1
175	30	13,277	-59.1		33	2.1
150	29	14,230	-64.7		01	2.3
125	29	15,330	-69.2		05	3.8
100	29	16,658	-70.1		07	7.3
80	29	17,990	-68.2		08	10.3
70	28	18,797	-65.4		08	12.7
60	28	19,741	-62.5		08	15.3
50	28	20,874	-59.3		09	18.3
40	28	22,282	-56.4		09	20.2
30	27	24,127	-51.7		09	20.4
25	27	25,315	-49.5		09	21.2
20	26	26,787	-46.2		09	21.5
15	19	28,723	-43.4		09	23.3
10	11	31,473	-39.6		09	29.5
7						
5						
4						

MIDLAND, TEXAS — 915 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	874	22.0	15.0	14	2.1
1000	31	93				
950	31	546				
900	31	1,019	23.6	15.4	17	5.0
850	31	1,518	21.9	12.3	18	9.5
800	31	2,042	19.0	8.8	17	5.5
750	31	2,594	15.5	5.6	14	2.9
700	31	3,176	11.5	1.6	09	2.1
650	31	3,792	7.3	-2.7	08	2.2
600	31	4,445	2.9	-7.4	09	3.1
550	31	5,142	-1.2	-12.0	09	3.3
500	31	5,857	-6.0	-17.6	08	3.0
450	31	6,713	-10.9	-23.7	08	3.7
400	31	7,610	-16.6	-30.3	07	4.1
350	31	8,601	-23.1	-36.3	04	5.4
300	31	9,712	-31.2	-44.5	02	7.2
250	31	10,977	-41.1		02	8.7
200	31	12,456	-52.4		02	9.3
175	31	13,307	-58.7		07	8.3
150	31	14,261	-65.0		03	7.6
125	31	15,357	-70.3		04	5.9
100	31	16,673	-72.4		07	6.7
80	31	17,997	-68.4		08	9.9
70	31	18,803	-65.8		08	11.9
60	31	19,748	-62.1		09	12.2
50	31	20,885	-59.1		09	13.3
40	31	22,293	-56.3		09	14.5
30	31	24,137	-52.4		09	17.3
25	31	25,324	-49.7		09	18.6
20	30	26,794	-47.0		09	18.6
15	26	28,710	-44.3		09	20.4
10	19	31,463	-38.9		09	23.3
7	8	33,945	-33.7			

MONTERREY, MEXICO — 967 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	423	23.3	21.3	11	.9
1000	31	123				
950	31	578	22.5	20.3	11	2.3
900	31	1,043	20.6	17.7	12	5.3
850	31	1,537	19.5	13.6	13	6.8
800	31	2,058	16.6	9.3	13	6.7
750	31	2,602	13.4	4.3	12	6.1
700	31	3,183	10.0	.6	11	4.8
650	31	3,797	6.3	-3.6	09	4.3
600	31	4,448	2.5	-8.6	08	3.8
550	31	5,146	-1.6	-14.5	08	3.9
500	31	5,898	-6.1	-19.6	07	5.2
450	31	6,711	-11.0	-23.8	07	5.1
400	31	7,611	-16.9	-29.9	07	5.5
350	31	8,601	-23.2	-38.8	06	5.5
300	31	9,710	-31.6	-46.5	05	4.9
250	31	10,974	-41.4		05	7.5
200	31	12,451	-53.1		04	7.5
175	31	13,299	-59.4		04	8.4
150	31	14,249	-65.6		05	7.9
125	31	15,341	-71.4		06	9.1
100	31	16,649	-73.0		07	13.1
80	31	17,975	-67.8		08	14.1
70	31	18,783	-65.5		08	14.0
60	31	19,726	-63.0		08	14.4
50	31	20,856	-60.3		08	16.5
40	31	22,260	-56.5		08	17.9
30	29	24,104	-52.5		08	19.1
25	28	25,289	-50.4		08	20.0
20	27	26,753	-46.8		08	21.3
15	25	28,670	-43.2		08	23.8
10	11	31,422	-37.8			
7						

MONTGOMERY, ALA. — 1009 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	57	20.8	18.7	09	.9
1000	31	133	21.5	19.0	10	1.6
950	31	582	22.0	17.6	14	2.4
900	31	1,050	19.5	14.9	15	2.0
850	31	1,541	16.6	11.0	15	2.0
800	31	2,055	13.6	6.6	15	1.7
750	31	2,595	10.5	2.2	19	1.6
700	31	3,169	7.7	-3.0	18	1.5
650	31	3,777	4.5	-7.9	16	1.2
600	31	4,426	1.1	-13.3	23	.3
550	31	5,120	-2.7	-18.1	22	.1
500	31	5,870	-7.2	-23.6	27	.7
450	31	6,681	-12.5	-28.1	28	1.6
400	31	7,574	-18.8	-33.1	30	3.0
350	31	8,555	-25.8	-39.2	30	4.1
300	31	9,654	-34.1	-46.3	30	4.8
250	31	10,906	-43.0	-50.6	30	6.2
200	31	12,380	-52.0		32	6.9
175	31	13,235	-56.9		33	7.2
150	31	14,200	-62.0		34	7.0
125	31	15,315	-66.2		01	5.7
100	31	16,660	-67.5		04	5.1
80	31	18,010	-65.3		07	7.2
70	31	18,826	-63.3		07	8.7
60	29	19,780	-60.9		07	11.0
50	29	20,921	-57.5		09	13.5
40	26	22,340	-54.1		10	14.6
30	25	24,196	-50.9		09	14.7
25	23	25,391	-49.1		09	16.1
20	22	26,861	-46.7		09	17.0
15	21	28,781	-43.6		09	19.9
10	20	31,543	-37.4		09	21.8
7	9	33,969	-35.5			

* NANTUCKET, MASS. — 1016 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	26	14	19.4	16.6	25	1.6
1000	26	149	19.8	15.6	24	3.4
950	26	587	18.3	12.1	27	5.0
900	26	1,054	15.9	8.9	26	6.0
850	26	1,538	13.2	5.1	26	7.3
800	26	2,046	10.8	-.1	27	8.6
750	26	2,583	8.0	-1.9	27	9.5
700	26	3,149	4.8	-6.3	27	10.1
650	26	3,748	1.6	-11.4	27	11.0
600	26	4,392	-1.5	-16.7	28	10.9
550	26	5,075	-5.1	-21.2	27	12.7
500	26	5,824	-9.5	-27.2	27	13.5
450	26	6,626	-14.6	-32.6	27	14.1
400	26	7,514	-20.7	-36.6	27	14.0
350	26	8,488	-27.4	-42.1	27	14.8
300	26	9,580	-35.6	-49.6	28	16.0
250	26	10,825	-44.5		28	18.3
200	26	12,294	-52.5		28	20.7
175	26	13,149	-56.5		28	19.6
150	26	14,120	-59.7		28	15.4
125	25	15,256	-62.0		27	11.4
100	25	16,636	-61.6		29	6.2
80	24	18,027	-60.0		32	2.2
70	24	18,863	-58.5		03	1.5
60	24	19,836	-56.7		08	3.2
50	24	20,998	-54.5		08	5.2
40	23	22,433	-52.0		08	6.8
30	21	24,308	-49.0		09	9.3
25	21	25,510	-47.2		09	10.4
20	19	26,990	-45.3		09	11.6
15	15	28,918	-41.8		09	13.8
10	10	31,683	-37.2			
7	6	34,146	-33.7			

NASHVILLE, TENN. — 996 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	180	19.8	18.2	12	.7
1000	31	143				
950	31	591	21.5	15.2	17	2.3
900	31	1,055	18.8	12.2	20	2.2
850	31	1,544	15.6	8.3	23	2.0
800	31	2,056	12.6	2.1	24	1.9
750	31	2,594	9.7	-3.5	25	1.2
700	31	3,165	6.7	-8.1	27	.4
650	31	3,770	3.3	-11.0	24	.5
600	31	4,415	.0	-17.0	34	.4
550	31	5,098	-4.2	-20.7	31	1.1
500	31	5,852	-8.8	-25.2	29	2.1
450	31	6,658	-14.0	-29.7	31	3.0
400	31	7,545	-20.1	-36.0	32	4.4
350	31	8,521	-27.0	-41.6	33	5.2
300	31	9,614	-35.1	-48.5	32	6.1
250	31	10,861	-43.4		32	8.0
200	31	12,336	-51.3		32	9.4
175	31	13,196	-55.5		33	9.4
150	31	14,168	-60.1		34	9.0
125	31	15,295	-63.6		35	6.5
100	31	16,655	-65.5		01	5.1
80	31	18,018	-63.6		04	6.1
70	31	18,840	-61.9		06	6.7
60	30	19,798	-59.9		07	8.5
50	30	20,944	-56.9		08	10.5
40	28	22,369	-53.3		09	11.8
30	27	24,235	-50.1		09	13.0
25	25	25,431	-48.3		09	13.9
20	24	26,910	-46.1		09	16.2
15	21	28,828	-43.3		09	17.0
10	20	31,587	-38.3		09	18.0
7	6	34,032	-34.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

• NOME, ALASKA 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	5.6	.3	32	2.0
1000	31	88	6.6	1.4	31	3.1
950	31	512	5.7	.7	32	2.6
900	31	951	3.8	-1.4	31	3.2
850	31	1,415	2.0	-4.4	30	4.0
800	31	1,903	-.7	-7.0	30	3.9
750	31	2,415	-3.6	-10.2	30	4.4
700	31	2,959	-6.3	-13.2	30	5.5
650	31	3,537	-9.0	-17.5	31	7.1
600	31	4,153	-12.4	-22.1	32	9.1
550	31	4,81[illegible]	-16.5	-26.8	31	9.6
500	31	5,525	-20.9	-31.0	31	10.5
450	31	6,291	-26.1	-36.3	31	12.1
400	31	7,139	-32.3	-42.6	31	12.2
350	31	8,068	-38.9	-48.0	31	13.4
300	31	9,112	-45.4		31	14.7
250	31	10,317	-49.1		31	13.6
200	30	11,782	-46.9		30	12.1
175	30	12,668	-46.6		30	10.6
150	30	13,690	-47.0		31	9.5
125	30	14,895	-47.7		30	7.3
100	29	16,363	-47.7		30	5.6
80	29	17,835	-47.9		31	4.4
70	29	18,716	-47.8		33	3.0
60	29	19,732	-47.9		34	2.3
50	29	20,936	-47.5		36	1.6
40	29	22,409	-47.5		01	1.6
30	29	24,313	-46.7		02	1.5
25	28	25,525	-46.1		03	1.3
20	27	27,023	-44.6		04	1.5
15	23	28,958	-43.0		03	2.1
10	21	31,721	-39.6		05	1.5
7	17	34,180	-36.2		02	2.0

NORTH PLATTE, NEBR. 917 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	847	16.9	14.1	14	1.7
1000	31	99				
950	31	545				
900	31	1,008	18.8	14.3	17	3.7
850	31	1,500	19.3	10.6	20	5.7
800	31	2,020	17.2	7.1	21	3.8
750	31	2,568	14.1	3.1	23	3.5
700	31	3,147	11.0	-3.4	26	4.0
650	31	3,761	7.0	-8.1	27	3.8
600	31	4,415	2.7	-12.1	28	4.8
550	31	5,105	-2.1	-16.8	28	6.0
500	31	5,862	-7.2	-21.0	29	6.1
450	31	6,676	-12.2	-26.3	29	7.1
400	31	7,567	-18.1	-32.9	29	8.7
350	31	8,552	-24.9	-39.6	30	11.2
300	31	9,655	-32.9	-46.3	29	14.4
250	31	10,913	-42.2		29	17.7
200	31	12,390	-51.6		29	18.8
175	31	13,246	-56.8		30	17.2
150	31	14,211	-61.8		30	15.2
125	31	15,328	-65.4		30	10.0
100	31	16,682	-66.4		29	5.0
80	31	18,042	-63.6		32	.8
70	31	18,866	-60.8		08	2.5
60	31	19,830	-58.6		08	4.4
50	31	20,982	-56.2		09	6.4
40	31	22,410	-53.1		09	8.0
30	30	24,276	-49.8		09	9.2
25	30	25,475	-47.6		09	10.3
20	29	26,955	-45.5		08	11.1
15	27	28,884	-42.8		09	11.8
10	19	31,630	-38.6		09	14.9
7	6	34,085	-34.7			

OAKLAND, CALIF. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	6	13.0	11.4	31	1.1
1000	31	94	13.4	11.2	29	.9
950	31	537	20.8	5.2	28	1.9
900	31	1,001	23.5	-.7	31	2.8
850	31	1,497	21.5	-3.8	29	1.7
800	31	2,019	18.8	-6.4	26	1.9
750	31	2,566	15.9	-8.7	23	2.9
700	31	3,151	12.3	-11.3	23	3.7
650	31	3,763	8.0	-14.1	23	4.1
600	31	4,422	3.4	-17.5	23	4.9
550	31	5,108	-1.3	-21.2	24	6.1
500	31	5,876	-6.5	-26.1	24	6.9
450	31	6,683	-12.2	-31.0	24	8.2
400	31	7,582	-18.8	-35.9	24	10.6
350	31	8,564	-25.6	-41.3	24	13.1
300	31	9,664	-33.8	-48.2	24	16.5
250	31	10,919	-42.8		24	19.1
200	31	12,393	-52.4		23	20.8
175	31	13,246	-57.7		23	20.1
150	31	14,208	-62.6		23	18.1
125	31	15,321	-66.2		23	15.9
100	31	16,671	-66.3		23	6.9
80	31	18,028	-63.9		17	3.7
70	31	18,850	-61.8		14	3.7
60	31	19,810	-59.2		11	5.4
50	31	20,960	-56.7		09	8.0
40	31	22,382	-54.3		09	9.4
30	30	24,239	-51.3		09	12.2
25	29	25,426	-49.6		09	13.5
20	28	26,898	-47.2		09	14.5
15	25	28,816	-44.5		09	16.5
10	17	31,562	-39.3		09	14.9

OMAHA, NEBR. 968 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	403	18.8	16.5	15	1.7
1000	31	119				
950	31	563	20.8	16.1	18	3.7
900	31	1,030	19.8	12.0	21	6.2
850	31	1,521	17.6	7.0	23	4.3
800	31	2,037	14.6	2.1	24	3.4
750	31	2,575	11.8	-1.7	25	3.8
700	31	3,155	8.8	-5.6	27	3.1
650	31	3,759	5.3	-10.0	28	3.5
600	31	4,414	1.2	-13.9	28	4.4
550	31	5,104	-3.1	-18.3	28	5.4
500	31	5,858	-7.8	-21.8	29	5.8
450	31	6,663	-12.8	-28.6	29	7.6
400	31	7,561	-18.8	-33.9	30	10.1
350	31	8,542	-25.7	-39.2	30	11.8
300	31	9,642	-33.5	-46.1	30	15.3
250	31	10,898	-42.4		30	18.9
200	31	12,374	-51.7		30	18.9
175	31	13,230	-56.7		31	16.5
150	31	14,197	-61.1		31	15.7
125	31	15,318	-64.6		31	11.2
100	31	16,676	-64.9		32	6.5
80	31	18,043	-63.3		36	2.8
70	31	18,867	-61.4		05	3.3
60	31	19,829	-59.2		07	5.4
50	31	20,979	-56.2		08	6.8
40	30	22,406	-53.3		08	7.9
30	30	24,273	-49.9		09	8.6
25	29	25,472	-48.0		09	9.9
20	27	26,949	-45.9		09	11.6
15	23	28,879	-42.9		09	12.7
10	15	31,638	-38.7		08	13.4
7	9	34,109	-35.0			

PAGO PAGO, AMERICAN SAMOA + 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	26.8	22.3	12	6.5
1000	31	126	25.0	19.3	12	7.7
950	31	572	21.0	16.4	11	9.2
900	31	1,041	17.6	13.4	10	8.8
850	31	1,528	15.1	9.6	10	7.4
800	31	2,041	13.9	4.3	07	3.4
750	31	2,579	12.0	-.1	05	1.8
700	31	3,160	9.4	-4.3	05	.9
650	31	3,766	6.0	-7.1	32	.7
600	31	4,422	2.2	-12.0	32	1.6
550	31	5,116	-1.7	-16.0	32	2.7
500	31	5,873	-5.8	-21.3	31	2.7
450	31	6,688	-10.8	-26.8	31	3.3
400	31	7,589	-16.5	-32.2	30	4.3
350	31	8,579	-23.3	-38.8	29	5.8
300	31	9,689	-31.9	-46.8	28	7.3
250	31	10,949	-42.2		27	9.9
200	31	12,418	-54.5		26	13.5
175	31	13,260	-61.2		26	13.5
150	31	14,202	-67.8		26	11.2
125	31	15,282	-73.1		27	8.9
100	31	16,582	-74.3		28	6.7
80	31	17,890	-70.9		27	6.7
70	31	18,687	-67.7		26	7.0
60	30	19,622	-64.4		27	7.5
50	30	20,748	-60.5		28	7.5
40	29	22,150	-57.2		28	8.0
30	28	23,903	-53.9		28	8.1
25	27	25,163	-51.4		28	6.9
20	26	26,623	-48.8		28	5.9
15	25	28,531	-45.0		28	7.0
10	16	31,265	-40.3		17	1.7

• PEORIA, ILL. 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	200	17.4	15.5	19	.9
1000	31	177				
950	31	580	21.1	13.7	22	3.1
900	31	1,047	18.2	11.3	23	2.9
850	31	1,535	15.2	6.9	26	2.1
800	31	2,047	12.8	.7	28	2.6
750	31	2,586	10.1	-4.4	29	2.7
700	31	3,159	7.5	-8.6	30	3.0
650	31	3,761	4.3	-13.3	30	4.2
600	31	4,413	.5	-17.7	30	5.0
550	31	5,098	-3.8	-21.7	30	5.8
500	31	5,852	-8.6	-26.8	30	6.1
450	31	6,657	-13.7	-32.7	31	7.3
400	31	7,547	-19.8	-36.2	31	8.7
350	31	8,524	-26.8	-42.3	32	10.2
300	31	9,618	-34.7	-48.6	32	12.6
250	31	10,869	-42.9		33	17.6
200	31	12,347	-50.8		32	15.9
175	31	13,209	-54.9		32	15.9
150	31	14,185	-59.0		32	14.6
125	31	15,319	-62.6		32	11.4
100	31	16,692	-63.4		33	5.8
80	30	18,064	-61.9		01	4.2
70	30	18,893	-60.3		04	4.9
60	30	19,858	-58.5		06	5.6
50	30	21,011	-55.8		08	7.9
40	30	22,441	-52.6		08	8.9
30	30	24,316	-49.0		09	9.8
25	30	25,517	-47.2		09	10.5
20	30	27,001	-44.9		09	12.3
15	30	28,936	-41.8		09	13.5
10	27	31,704	-38.5		09	15.3
7	22	34,165	-34.1		09	17.5
5	8	36,544	-29.8			
4						

• PITTSBURGH, PA. 975 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	359	16.6	15.3	24	.8
1000	31	145				
950	31	592	19.3	13.3	26	1.9
900	31	1,050	17.1	9.9	29	3.0
850	31	1,536	14.0	5.6	29	4.4
800	31	2,045	11.3	.4	29	4.9
750	31	2,584	8.7	-4.6	28	6.1
700	31	3,150	5.6	-7.4	28	6.3
650	31	3,752	2.5	-11.7	28	6.1
600	31	4,397	-1.0	-17.4	29	6.2
550	31	5,083	-5.0	-21.7	29	6.8
500	31	5,829	-9.5	-25.4	28	7.3
450	31	6,632	-14.7	-30.1	28	7.9
400	31	7,518	-20.8	-35.9	28	7.9
350	31	8,491	-27.9	-43.0	27	10.3
300	31	9,581	-35.6	-48.6	27	10.6
250	31	10,827	-44.2		26	12.7
200	31	12,296	-52.0		27	13.7
175	30	13,152	-55.2		28	10.8
150	30	14,130	-58.0		29	9.8
125	30	15,269	-61.1		29	7.4
100	30	16,650	-62.1		31	4.6
80	30	18,032	-60.6		36	2.9
70	30	18,866	-59.1		04	2.9
60	30	19,836	-57.3		06	3.7
50	30	20,996	-54.7		07	4.3
40	30	22,431	-52.4		08	5.9
30	30	24,305	-49.0		08	7.7
25	30	25,508	-46.8		09	8.3
20	29	26,994	-44.7		09	8.9
15	29	28,928	-42.2		09	10.2
10	28	31,694	-38.2		10	11.7
7	22	34,176	-33.6		09	11.9
5	14	36,546	-29.0		09	10.9
4	7	38,155	-25.9			

PONAPE, CAROLINE IS. + 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	39	28.7	24.3	06	1.4
1000	31	90	27.8	22.7	06	1.5
950	31	541	23.9	17.9	08	2.1
900	31	1,015	20.7	14.7	10	3.1
850	31	1,508	18.1	11.3	10	3.4
800	31	2,026	15.4	7.6	11	4.1
750	31	2,571	12.7	4.2	10	4.7
700	31	3,149	9.8	.2	09	5.7
650	31	3,758	6.3	-3.5	09	7.0
600	31	4,415	2.7	-7.7	09	7.4
550	31	5,110	-1.2	-12.2	09	7.7
500	31	5,870	-5.4	-17.2	09	8.1
450	31	6,686	-10.0	-23.6	09	8.0
400	31	7,590	-15.5	-29.7	09	6.9
350	31	8,585	-22.3	-37.5	09	6.1
300	31	9,699	-30.8	-45.3	09	3.5
250	31	10,967	-41.0	-52.8	09	1.6
200	31	12,444	-53.2		07	1.0
175	31	13,290	-60.3		07	1.2
150	31	14,235	-67.7		09	.3
125	31	15,313	-74.2		20	.5
100	31	16,606	-74.6		09	6.2
80	31	17,919	-69.2		09	5.6
70	31	18,722	-66.2		10	3.6
60	31	19,662	-63.7		10	3.3
50	31	20,787	-60.9		10	3.6
40	29	22,182	-57.9		11	4.7
30	29	24,010	-55.0		11	4.8
25	29	25,179	-53.0		11	5.5
20	27	26,628	-50.2		10	5.9
15	25	28,520	-46.7		09	8.0
10	24	31,224	-43.0		09	15.7
7	14	33,614	-40.2			

PORTLAND, MAINE 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	20	17.7	14.1	28	1.5
1000	31	127	19.0	14.0	29	2.3
950	31	567	18.4	10.4	30	4.1
900	31	1,030	15.7	7.7	29	5.2
850	31	1,513	12.3	5.0	28	6.5
800	31	2,019	9.4	1.8	28	7.7
750	31	2,548	6.3	-1.7	28	8.8
700	31	3,116	3.9	-8.8	28	10.2
650	31	3,711	1.0	-13.9	28	11.0
600	31	4,355	-2.3	-18.1	28	11.6
550	31	5,034	-6.1	-21.3	28	12.5
500	31	5,781	-10.7	-26.7	27	14.1
450	31	6,574	-16.3	-31.1	27	14.9
400	31	7,461	-22.0	-37.1	28	16.5
350	31	8,429	-28.9	-43.1	27	19.0
300	31	9,513	-37.0	-48.8	27	19.9
250	31	10,751	-45.1		27	21.4
200	31	12,215	-52.2		27	24.3
175	31	13,074	-54.9		27	22.2
150	31	14,052	-57.4		27	18.0
125	31	15,198	-59.1		27	12.5
100	31	16,593	-59.7		28	7.7
80	31	17,993	-58.3		32	2.1
70	31	18,834	-57.4		03	.8
60	31	19,812	-55.7		06	1.3
50	30	20,978	-54.1		08	3.1
40	29	22,419	-51.7		08	6.0
30	29	24,296	-49.0		08	8.2
25	26	25,499	-47.1		09	9.2
20	26	26,981	-45.3		09	10.1
15	21	28,920	-42.6		09	11.3
10	14	31,690	-38.2		09	13.2

• QUILLAYUTE, WASH. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	58	10.2	9.9	07	.6
1000	31	139	11.0	10.2	12	.3
950	31	569	10.5	7.6	25	1.5
900	31	1,017	8.8	4.3	25	2.9
850	31	1,489	7.2	.3	24	4.2
800	31	1,986	5.5	-3.6	25	4.8
750	31	2,506	3.4	-5.3	25	5.5
700	31	3,070	.8	-11.4	24	7.0
650	31	3,659	-2.0	-16.6	24	9.2
600	31	4,294	-5.6	-20.1	24	11.7
550	31	4,965	-9.4	-24.1	24	13.7
500	31	5,702	-14.1	-28.6	24	15.1
450	31	6,486	-19.7	-33.7	24	15.8
400	31	7,358	-25.9	-40.0	24	17.5
350	31	8,312	-32.6	-45.2	24	19.2
300	31	9,381	-40.0	-49.9	24	21.7
250	31	10,606	-46.9		24	23.3
200	31	12,070	-50.2		25	25.5
175	31	12,941	-51.2		24	24.5
150	31	13,939	-53.0		24	21.9
125	31	15,110	-54.8		24	18.1
100	31	16,533	-55.8		24	13.0
80	31	17,954	-55.7		24	7.8
70	31	18,806	-54.8		23	4.9
60	31	19,793	-54.0		22	3.3
50	31	20,965	-53.1		19	1.9
40	31	22,407	-52.0		12	1.8
30	31	24,278	-49.7		08	3.0
25	31	25,475	-48.3		09	3.5
20	30	26,950	-46.7		09	5.2
15	28	28,868	-44.0		09	6.8
10	21	31,598	-40.7		09	8.0
7	16	34,034	-36.5		10	8.4
5	8	36,384	-32.6			

RAPID CITY, S. DAK. 903 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	966	16.3	10.1	20	.1
1000	31	85				
950	31	526				
900	31	994			20	.3
850	31	1,488	20.9	7.4	25	4.3
800	31	2,011	18.9	3.7	24	4.4
750	31	2,554	15.3	-.7	25	3.7
700	31	3,142	11.1	-4.6	28	4.2
650	31	3,750	6.8	-10.1	29	5.7
600	31	4,408	2.0	-13.2	29	6.9
550	31	5,093	-3.0	-16.1	28	8.1
500	31	5,850	-8.6	-21.3	28	8.4
450	31	6,655	-13.8	-27.9	28	10.5
400	31	7,545	-19.8	-34.2	28	13.0
350	3	8,522	-26.8	-40.5	28	16.2
300	31	9,617	-34.8	-47.0	28	20.5
250	31	10,866	-43.3		28	23.0
200	31	12,341	-51.5		28	24.2
175	31	13,199	-56.0		28	22.2
150	31	14,170	-60.2		28	19.9
125	31	15,297	-63.3		28	13.8
100	31	16,664	-64.1		27	8.0
80	31	18,034	-62.1		26	3.3
70	31	18,864	-59.8		23	.3
60	31	19,831	-57.8		09	2.5
50	31	20,987	-55.4		08	4.4
40	29	22,417	-52.6		09	5.8
30	29	24,290	-49.1		09	6.8
25	29	25,490	-47.5		09	7.6
20	29	26,971	-45.4		09	9.8
15	27	28,899	-42.4		09	11.0
10	15	31,664	-37.7		09	12.3
7	8	34,183	-32.4			
5						

ST CLOUD, MINN. 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	316	16.2	13.7	22	2.2
1000	31	115				
950	31	556	20.0	13.5	23	5.4
900	31	1,021	18.2	9.3	25	6.4
850	31	1,508	15.6	4.1	26	5.2
800	31	2,020	13.0	-.7	27	5.7
750	31	2,555	10.2	-5.6	27	6.1
700	31	3,131	6.9	-8.6	28	7.1
650	31	3,729	3.4	-13.9	28	7.0
600	31	4,381	-.4	-17.5	29	8.3
550	31	5,061	-4.8	-22.6	29	9.5
500	31	5,815	-9.8	-26.6	28	10.9
450	31	6,613	-15.3	-31.6	29	12.0
400	31	7,500	-21.5	-36.3	29	13.6
350	31	8,470	-28.7	-42.0	29	15.9
300	31	9,555	-36.7	-48.8	30	17.2
250	31	10,795	-44.4		30	20.9
200	31	12,268	-50.8		30	23.8
175	31	13,132	-53.8		30	22.2
150	31	14,115	-57.1		30	18.0
125	31	15,258	-60.2		30	14.2
100	31	16,648	-60.8		30	8.9
80	31	18,036	-60.1		32	4.7
70	31	18,871	-58.4		35	3.0
60	31	19,845	-56.6		05	2.8
50	31	21,005	-54.5		07	4.1
40	31	22,442	-52.0		08	5.5
30	30	24,316	-48.7		08	6.1
25	30	25,518	-47.2		08	7.1
20	29	27,002	-45.1		08	8.5
15	22	28,939	-42.1		09	9.5
10	13	31,698	-37.5		09	12.0
7	5	34,250	-34.2			

• ST PAUL IS., ALASKA 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	10	9.0	8.0	26	2.0
1000	31	132	9.4	7.8	26	2.7
950	31	558	8.3	6.1	27	5.1
900	31	1,005	7.7	2.4	28	6.0
850	31	1,476	6.8	-.5	28	6.6
800	31	1,974	5.2	-3.4	28	7.1
750	31	2,498	2.7	-5.4	28	8.2
700	31	3,056	.2	-8.9	29	9.7
650	31	3,645	-2.8	-12.3	29	11.0
600	31	4,277	-6.2	-18.5	29	11.3
550	31	4,950	-10.1	-23.5	29	13.1
500	31	5,683	-14.4	-28.0	29	14.3
450	31	6,470	-19.5	-32.9	29	15.8
400	31	7,339	-25.5	-38.3	29	16.4
350	31	8,294	-32.5	-41.2	29	18.5
300	31	9,362	-40.4	-45.3	29	18.9
250	31	10,582	-48.6		29	20.2
200	31	12,032	-53.1		29	19.1
175	31	12,890	-54.0		28	16.1
150	31	13,861	-53.5		28	11.6
125	31	15,053	-53.8		29	9.6
100	31	16,486	-53.6		29	7.0
80	31	17,924	-52.6		30	4.7
70	31	18,787	-52.0		31	3.6
60	31	19,787	-51.2		33	1.8
50	31	20,974	-50.4		36	1.5
40	31	22,434	-49.2		03	1.2
30	30	24,327	-47.4		06	1.2
25	30	25,536	-46.0		07	1.2
20	30	27,024	-45.0		07	2.2
15	30	28,953	-43.2		08	2.6
10	29	31,699	-39.2		08	2.6
7	28	34,160	-35.1		07	3.9
5	21	36,495	-32.1		05	4.6

SALEM, ILL. 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	174	17.5	16.2	09	.8
1000	31	137				
950	31	578	21.2	14.7	18	1.4
900	31	1,049	18.1	11.5	22	1.2
850	31	1,536	15.2	6.7	27	1.1
800	31	2,049	12.8	1.2	29	1.7
750	31	2,585	9.9	-3.6	28	1.6
700	31	3,159	7.0	-7.5	30	2.2
650	31	3,763	3.8	-12.6	32	2.3
600	31	4,411	.0	-16.4	33	3.1
550	31	5,094	-4.3	-20.8	32	4.4
500	31	5,847	-9.0	-25.2	32	4.6
450	31	6,647	-14.1	-30.1	33	6.2
400	31	7,539	-20.2	-35.6	33	8.0
350	31	8,514	-27.5	-42.3	33	10.2
300	31	9,605	-35.3	-48.8	34	13.0
250	31	10,853	-43.4		33	14.5
200	31	12,328	-51.5		33	13.8
175	31	13,187	-55.6		32	14.2
150	31	14,158	-60.2		33	12.1
125	31	15,284	-63.8		33	8.9
100	31	16,646	-65.0		35	6.4
80	31	18,010	-63.5		03	5.0
70	31	18,833	-61.9		06	6.3
60	31	19,793	-59.0		07	7.2
50	31	20,941	-56.6		08	9.2
40	31	22,368	-53.0		09	10.8
30	31	24,236	-49.5		09	11.4
25	30	25,430	-48.1		09	12.1
20	29	26,907	-46.2		09	13.5
15	23	28,823	-43.1		09	15.4
10	11	31,563	-39.1			

SALEM, OREG. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	61	10.7	8.4	21	.1
1000	31	140	12.2	9.0	36	.8
950	31	571	12.1	8.2	01	3.0
900	31	1,024	11.2	5.7	33	2.0
850	31	1,501	10.1	-.6	28	2.3
800	31	2,004	8.6	-4.2	26	3.1
750	31	2,533	6.5	-8.5	25	5.6
700	31	3,100	4.3	-11.6	25	7.6
650	31	3,698	1.2	-15.3	24	9.9
600	31	4,340	-2.5	-18.1	24	11.4
550	31	5,017	-6.5	-23.1	24	13.3
500	31	5,763	-11.4	-27.6	24	15.3
450	31	6,555	-17.1	-32.6	24	17.7
400	31	7,437	-23.5	-37.4	24	20.6
350	31	8,398	-31.0	-43.5	24	22.8
300	31	9,473	-39.0	-50.2	24	25.0
250	31	10,702	-46.0		24	29.0
200	31	12,169	-51.2		24	31.2
175	31	13,032	-53.9		24	28.7
150	31	14,015	-56.6		24	25.2
125	31	15,165	-58.7		24	19.3
100	31	16,564	-59.3		23	12.4
80	31	17,963	-58.7		23	6.5
70	31	18,806	-57.1		21	3.2
60	31	19,784	-55.9		17	2.0
50	31	20,948	-54.4		12	2.3
40	31	22,382	-52.9		09	4.1
30	31	24,250	-50.2		08	6.4
25	30	25,443	-48.6		09	7.2
20	28	26,917	-46.5		09	8.8
15	25	28,837	-43.0		08	7.9
10	13	31,614	-37.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UTAH — 87[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,288	18.6	[illegible]	[illegible]	3.7
1000	31	73				
950	31	521				
900	31	995				
850	31	1,491	23.1	[illegible]	[illegible]	5.1
800	31	2,019	21.9	3.0	18	4.7
750	31	2,575	18.5	-.6	22	3.4
700	31	3,162	14.0	-3.3	24	4.1
650	31	3,779	8.9	-5.9	25	5.8
600	31	4,438	3.3	-8.0	25	6.8
550	31	5,133	-2.7	-11.8	25	7.3
500	31	5,885	-8.1	-18.5	24	7.4
450	31	6,696	-13.1	-25.1	25	9.2
400	31	7,586	-18.5	-32.7	25	10.8
350	31	8,568	-25.4	-39.1	25	12.4
300	31	9,668	-33.5	-46.6	25	15.7
250	31	10,924	-42.3		25	19.6
200	31	12,401	-52.0		26	21.6
175	31	13,255	-57.2		25	19.5
150	31	14,219	-62.2		25	18.2
125	31	15,332	-66.5		25	13.3
100	31	16,677	-67.3		24	6.6
80	31	18,033	-63.9		22	2.7
70	31	18,857	-60.8		14	1.7
60	31	19,820	-58.8		09	3.7
50	31	20,971	-56.4		09	5.9
40	30	22,395	-54.0		09	8.2
30	29	24,256	-50.7		09	10.3
25	28	25,449	-48.8		09	11.1
20	27	26,921	-46.5		09	11.3
15	25	28,836	-44.0		09	13.4
10	17	31,592	-38.3		09	15.1
7	5	34,085	-34.4			
5						
4						

SAN DIEGO, CALIF. — 994 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	24	18.8	17.0	30	.6
1000	31	75				
950	31	523	21.7	5.2	01	.8
900	31	992	26.1	1.1	32	1.4
850	31	1,494	24.6	1.1	30	1.9
800	31	2,022	21.4	.3	26	1.8
750	31	2,572	17.3	-.6	20	2.3
700	31	3,161	12.7	-2.5	17	3.4
650	31	3,774	7.9	-5.4	17	4.0
600	31	4,434	3.1	-11.2	18	4.0
550	31	5,126	-1.7	-15.9	19	3.7
500	31	5,886	-6.0	-22.0	19	3.1
450	31	6,701	-10.9	-28.2	18	2.0
400	31	7,601	-16.7	-34.1	20	1.6
350	31	8,591	-23.4	-40.2	21	2.1
300	31	9,700	-31.7	-46.9	21	3.4
250	31	10,964	-41.2	-53.7	20	6.5
200	31	12,445	-51.9		20	9.2
175	31	13,298	-58.1		20	8.9
150	31	14,254	-64.6		20	8.7
125	31	15,351	-70.3		21	5.9
100	31	16,670	-71.2		12	2.8
80	31	18,000	-67.9		10	7.3
70	31	18,810	-64.6		10	9.0
60	31	19,757	-61.8		09	10.3
50	31	20,893	-59.0		09	12.3
40	31	22,306	-55.0		09	14.3
30	31	24,153	-52.5		09	15.8
25	31	25,337	-50.4		09	18.4
20	30	26,800	-48.1		09	18.8
15	27	28,710	-44.7		09	20.1
10	20	31,458	-38.6		09	22.7
7	9	33,920	-36.2			
5	6	36,261	-32.0			
4						

SAN JUAN, P. R. — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	6	25.6	21.9	13	1.8
1000	31	133	25.2	21.2	11	4.4
950	31	58[illegible]	22.6	18.0	09	7.2
900	31	1,053	19.9	14.6	[illegible]	8.0
850	31	1,544	17.4	10.0	10	8.2
800	31	2,061	15.0	4.6	10	8.2
750	31	2,601	12.3	-.8	10	7.3
700	31	3,180	8.9	-4.6	10	7.0
650	31	3,785	5.3	-8.7	10	6.7
600	31	4,439	1.8	-13.2	10	5.9
550	31	5,128	-2.0	-17.9	10	5.4
500	31	5,887	-6.4	-23.1	11	4.7
450	31	6,692	-11.5	-28.1	09	4.2
400	31	7,596	-17.4	-34.0	11	3.3
350	31	8,581	-24.7	-40.2	11	2.3
300	30	9,684	-33.1	-47.5	13	1.6
250	30	10,939	-42.8		09	.9
200	30	12,407	-54.2		05	.7
175	30	13,250	-60.5		08	1.3
150	30	14,195	-66.7		06	2.6
125	30	15,284	-70.9		07	6.6
100	30	16,595	-73.3		08	8.8
80	30	17,912	-69.2		08	13.6
70	30	18,717	-65.8		08	16.0
60	30	19,660	-62.9		09	16.7
50	30	20,792	-59.8		09	16.1
40	30	22,195	-56.8		09	17.5
30	29	24,032	-52.7		09	18.5
25	28	25,213	-50.9		09	17.4
20	25	26,675	-48.8		09	19.4
15	21	28,581	-44.3		09	24.4
10	15	31,338	-38.8		09	30.4
7						
5						
4						

SAN NICOLAS, CALIF. — 99[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	174	14.8	13.0	30	2.3
1000	31	77				
950	31	519	22.4	2.4	32	2.6
900	31	992	26.2	.0	30	2.6
850	31	1,492	24.1	-1.3	27	2.5
800	31	2,018	20.8	-2.2	23	2.9
750	31	2,571	17.1	-1.8	22	3.5
700	31	3,154	13.1	-6.6	20	4.1
650	31	3,771	8.3	-7.8	20	3.8
600	31	4,426	3.7	-11.2	19	2.9
550	31	5,126	-.7	-15.8	18	1.0
500	31	5,881	-5.4	-19.5	20	1.2
450	31	6,698	-11.2	-28.6	23	1.0
400	31	7,592	-16.9	-33.5	25	1.6
350	31	8,580	-24.3	-39.8	25	3.0
300	31	9,684	-32.8	-47.7	22	4.9
250	31	10,942	-42.5	-58.2	21	7.3
200	31	12,414	-53.3	-67.3	21	8.9
175	30	13,261	-59.6	-72.3	20	9.3
150	30	14,212	-65.3		20	9.4
125	30	15,307	-70.4		21	7.7
100	30	16,629	-70.3		14	2.6
80	30	17,965	-67.1		10	7.0
70	30	18,775	-64.5		10	8.3
60	30	19,727	-61.0		09	10.1
50	30	20,867	-58.5		10	11.4
40	30	22,282	-55.1		09	13.3
30	29	24,118	-52.5		09	16.3
25	28	25,303	-50.3		09	17.7
20	28	26,766	-48.5		09	18.7
15	28	28,672	-45.5		09	19.7
10	28	31,403	-40.7		09	22.0
7	26	33,854	-35.7		10	22.8
5	17	36,204	-31.9		09	24.8
4	10	37,767	-29.5			

*** SAULT STE MARIE, MICH. — 9[illegible] MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	221	14.5	[illegible]	[illegible]	.5
1000	31	117				
950	31	555	17.0	[illegible]	[illegible]	[illegible]
900	31	1,015	15.7	8.5	28	7.4
850	31	1,499	13.1	5.5	28	[illegible]
800	31	2,007	10.5	1.2	28	7.9
750	31	2,541	7.8	-3.5	29	9.1
700	31	3,109	4.6	-8.4	29	[illegible]
650	31	3,706	1.3	-12.5	28	11.2
600	31	4,350	-2.4	-15.9	29	11.7
550	31	5,030	-6.4	-21.6	29	[illegible]
500	31	5,774	-11.2	-27.0	29	13.0
450	31	6,571	-16.2	-32.5	29	13.0
400	31	7,454	-22.0	-37.8	29	13.7
350	31	8,421	-29.4	-44.2	29	14.7
300	31	9,502	-37.9	-50.6	29	15.9
250	31	10,733	-46.6		30	16.2
200	30	12,198	-51.1		30	17.5
175	30	13,063	-52.8		30	17.7
150	30	14,053	-55.1		30	15.4
125	30	15,212	-57.3		30	12.6
100	30	16,620	-57.7		31	8.3
80	29	18,033	-57.1		31	4.6
70	29	18,879	-56.2		34	3.4
60	29	19,862	-54.8		02	2.8
50	29	21,032	-53.2		04	3.1
40	29	22,477	-51.1		07	4.6
30	29	24,360	-48.1		08	5.7
25	29	25,567	-46.4		08	6.8
20	29	27,056	-44.2		08	8.1
15	28	28,997	-41.4		09	8.5
10	28	31,779	-36.6		09	10.5
7	27	34,259	-32.8		09	10.9
5	19	36,672	-28.1		09	10.5
4	8	38,333	-25.2			

*** SHEMYA, ALASKA — 1008 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	38	9.9	9.6	16	2.5
1000	31	102	10.1	9.8	17	4.3
950	31	528	10.6	10.1	19	6.7
900	31	982	10.0	8.0	20	7.1
850	31	1,456	8.2	5.0	20	7.4
800	31	1,956	6.4	.8	20	8.0
750	31	2,483	4.0	-1.6	20	8.5
700	31	3,043	1.4	-5.3	21	9.3
650	31	3,632	-1.5	-10.8	21	9.6
600	31	4,272	-4.9	-15.0	21	10.4
550	31	4,943	-8.5	-19.3	21	10.5
500	31	5,686	-12.9	-24.7	21	12.0
450	31	6,475	-18.1	-28.7	22	13.8
400	31	7,353	-23.9	-34.1	22	16.2
350	31	8,314	-30.7	-40.2	22	17.5
300	31	9,392	-38.2	-45.5	22	20.0
250	31	10,624	-46.6		23	21.9
200	30	12,083	-51.5		23	17.5
175	30	12,948	-52.6		23	14.3
150	30	13,940	-53.7		24	11.3
125	30	15,108	-55.0		24	9.0
100	30	16,529	-56.0		25	6.3
80	30	17,951	-55.1		26	3.5
70	30	18,805	-54.5		26	1.9
60	30	19,794	-53.7		29	1.0
50	30	20,969	-52.6		09	1.0
40	30	22,415	-51.3		07	2.0
30	29	24,295	-49.2		09	2.7
25	29	25,496	-47.8		09	3.2
20	28	26,974	-45.9		08	3.4
15	26	28,891	-44.1		10	3.8
10	25	31,637	-40.5		10	4.3
7	17	34,079	-37.0		08	4.1
5	12	36,406	-33.6			
4	6	37,969	-31.9			

*** SHREVEPORT, LA. — 1005 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	79	22.8	19.1	11	.9
1000	31	121	23.1	19.0	13	1.4
950	31	578	23.6	17.0	18	3.5
900	31	1,042	20.9	14.1	18	2.6
850	31	1,535	17.5	11.8	24	.9
800	31	2,051	14.2	6.6	34	2.0
750	31	2,595	11.1	2.9	35	2.5
700	31	3,168	8.6	-4.4	35	2.7
650	31	3,778	5.5	-8.3	01	2.8
600	31	4,429	1.9	-12.0	02	3.4
550	31	5,121	-2.0	-17.4	02	3.7
500	31	5,879	-6.3	-22.[illegible]	01	4.3
450	31	6,694	-11.7	-26.4	01	5.1
400	31	7,589	-17.8	-31.5	01	6.0
350	31	8,575	-24.3	-37.7	01	8.0
300	31	9,681	-32.1	-44.6	36	8.3
250	31	10,944	-41.3	-52.7	35	9.1
200	31	12,424	-51.9		35	12.1
175	31	13,278	-57.5		36	11.2
150	30	14,239	-63.3		36	10.6
125	30	15,347	-67.9		02	9.1
100	30	16,680	-69.6		05	7.3
80	30	18,016	-67.0		06	8.3
70	30	18,827	-64.8		07	10.5
60	30	19,775	-61.4		08	12.4
50	30	20,914	-58.2		09	14.2
40	30	22,331	-54.8		09	14.5
30	29	24,183	-51.6		09	15.3
25	29	25,371	-49.5		09	17.3
20	28	26,843	-47.3		09	19.9
15	26	28,766	-43.5		09	20.2
10	22	31,518	-38.8		09	21.9
7	18	33,971	-34.6		09	24.2
5	6	36,308	-30.5			
4						

SPOKANE, WASH. — 930 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	720	12.7	1.7	17	3.1
1000	31	105				
950	31	540				
900	31	1,000	16.9	1.7	21	3.9
850	31	1,485	14.7	-1.1	23	5.1
800	31	1,995	11.2	-4.2	23	5.8
750	31	2,524	7.8	-8.6	23	7.1
700	31	3,095	4.4	-12.1	24	9.7
650	31	3,690	1.1	-15.7	24	12.1
600	31	4,334	-2.9	-18.9	24	13.6
550	31	5,005	-7.1	-21.4	24	14.8
500	31	5,755	-12.0	-25.7	24	16.4
450	31	6,543	-17.4	-30.9	24	19.0
400	31	7,425	-23.9	-37.0	24	20.8
350	31	8,386	-31.2	-43.1	24	22.9
300	31	9,460	-39.3	-50.9	24	26.1
250	31	10,669	-45.8		24	30.5
200	31	12,158	-50.3		24	31.8
175	31	13,026	-52.4		24	29.3
150	31	14,017	-55.2		24	24.0
125	31	15,174	-57.6		24	17.6
100	31	16,579	-58.4		24	12.4
80	31	17,986	-57.6		24	6.3
70	31	18,831	-56.3		23	4.0
60	31	19,813	-55.0		20	1.9
50	31	20,983	-53.4		15	1.4
40	31	22,423	-52.1		10	3.1
30	31	24,298	-49.1		09	5.1
25	30	25,496	-47.5		08	5.6
20	29	26,978	-45.8		09	6.4
15	29	28,905	-42.7		08	8.4
10	15	31,687	-37.2			
7						
5						
4						

*** SWAN ISLAND, W. I. — 1010 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	10	27.2	24.1	12	3.8
1000	31	99	26.7	23.5	12	4.7
950	31	552	23.6	20.8	12	7.1
900	31	1,024	20.9	16.9	12	8.0
850	31	1,518	18.0	13.5	12	8.7
800	31	2,036	15.3	8.9	12	8.1
750	31	2,582	12.3	5.1	12	7.5
700	31	3,157	9.2	.9	12	6.9
650	31	3,768	5.8	-3.4	12	6.4
600	31	4,421	2.1	-8.2	12	5.4
550	31	5,113	-1.6	-11.4	11	5.6
500	31	5,873	-5.7	-17.3	11	4.6
450	31	6,690	-10.6	-21.7	11	3.7
400	31	7,589	-16.2	-28.3	09	3.6
350	31	8,581	-23.1	-34.7	08	3.8
300	31	9,692	-31.4	-43.8	07	3.1
250	30	10,955	-41.8		02	3.3
200	30	12,426	-54.6		36	5.0
175	30	13,268	-61.5		36	5.7
150	29	14,207	-68.6		02	5.4
125	28	15,286	-73.5		06	6.0
100	27	16,587	-74.2		08	10.4
80	27	17,899	-70.2		08	13.2
70	27	18,699	-67.1		08	13.7
60	27	19,635	-64.0		09	15.4
50	27	20,760	-60.9		09	16.8
40	25	22,161	-57.3		09	17.2
30	25	23,992	-54.5		10	17.7
25	25	25,166	-52.2		10	17.5
20	24	26,620	-48.5		09	17.9
15	20	28,537	-44.8		09	20.2
10	12	31,264	-40.9		09	26.3
7	5	33,661	-37.4			
5						
4						

TAMPA, FLA. — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	8	24.0	22.7	12	2.0
1000	31	127	24.0	21.9	12	2.9
950	31	580	22.5	18.3	16	3.4
900	31	1,047	19.9	14.7	18	3.3
850	31	1,539	17.3	10.5	18	3.1
800	31	2,055	14.5	6.4	18	2.9
750	31	2,597	11.4	2.9	19	2.9
700	31	3,172	8.0	-.7	20	2.8
650	31	3,781	4.4	-4.6	22	[illegible]
600	31	4,429	.5	-8.8	23	2.6
550	31	5,120	-3.0	-14.8	22	2.4
500	31	5,874	-7.1	-20.6	24	2.4
450	31	6,689	-12.1	-26.1	25	2.0
400	31	7,582	-17.8	-29.8	26	1.9
350	31	8,567	-24.7	-37.6	26	1.8
300	31	9,671	-32.8	-45.9	27	2.7
250	31	10,928	-42.4		28	2.2
200	31	12,400	-53.3		28	3.4
175	31	13,249	-59.0		29	3.2
150	31	14,203	-64.5		34	1.8
125	31	15,303	-69.3		03	3.0
100	31	16,631	-69.7		07	7.1
80	31	17,967	-67.1		08	9.5
70	31	18,777	-65.1		08	11.4
60	31	19,722	-62.5		08	14.4
50	31	20,855	-59.6		09	17.3
40	31	22,262	-56.2		09	19.2
30	30	24,108	-52.2		09	19.1
25	25	25,293	-49.5		09	20.1
20	22	26,759	-46.4		09	20.6
15	15	28,666	-43.6		08	23.0
10	13	31,419	-38.4		10	24.8
7						
5						
4						

TOPEKA, KANS. — 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	268	19.3	16.8	13	1.1
1000	31	120				
950	31	567	22.4	16.4	18	5.5
900	31	1,036	20.6	13.3	21	5.7
850	31	1,529	17.9	9.9	22	4.1
800	31	2,047	15.1	4.8	25	3.1
750	31	2,588	12.1	.9	29	3.0
700	31	3,166	8.8	-2.9	29	3.6
650	31	3,775	5.6	-7.4	28	3.4
600	31	4,427	1.7	-13.1	29	3.7
550	31	5,113	-2.9	-17.2	30	3.7
500	31	5,871	-7.8	-20.8	30	4.7
450	31	6,679	-12.2	-27.1	31	6.1
400	31	7,576	-18.1	-32.6	32	7.6
350	31	8,561	-24.8	-39.3	32	10.0
300	31	9,664	-33.1	-45.6	32	14.0
250	31	10,921	-42.0		32	15.5
200	31	12,399	-52.0		32	15.7
175	31	13,253	-56.9		32	13.8
150	31	14,218	-61.8		32	12.1
125	31	15,336	-65.7		33	9.0
100	31	16,687	-66.1		34	5.0
80	31	18,044	-64.5		04	3.8
70	31	18,864	-62.5		07	4.7
60	31	19,822	-59.9		07	6.4
50	29	20,968	-56.7		08	8.5
40	27	22,394	-53.5		09	8.7
30	24	24,259	-50.6		09	10.6
25	24	25,451	-48.8		09	12.0
20	24	26,926	-46.2		09	13.[illegible]
15	20	28,862	-42.5		09	14.8
10	13	31,520	-38.4			
7	5	[illegible]	-34.6			
5						

+ TRUK, CAROLINE IS. — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	2	28.6	24.4	03	.3
1000	31	98	27.3	22.1	06	.2
950	31	548	23.3	18.6	09	1.5
900	31	1,022	20.5	14.9	09	2.2
850	31	1,515	18.1	11.6	09	2.9
800	31	2,033	15.3	7.9	09	3.8
750	31	2,577	12.5	4.2	09	4.9
700	31	3,155	9.4	.4	09	6.1
650	31	3,766	5.9	-3.2	09	7.0
600	31	4,418	2.1	-7.0	10	7.4
550	31	5,110	-1.6	-12.4	10	7.5
500	31	5,871	-5.7	-17.7	10	7.9
450	31	6,685	-10.4	-23.3	10	7.6
400	31	7,588	-15.8	-29.5	09	6.1
350	31	8,582	-22.4	-36.8	09	4.8
300	31	9,696	-30.9	-44.4	09	4.4
250	31	10,962	-41.1		11	4.0
200	31	12,438	-53.5		13	1.2
175	31	13,284	-60.5		08	1.4
150	31	14,227	-68.1		01	1.1
125	31	15,301	-75.3		36	1.8
100	31	16,591	-74.2		09	6.8
80	31	17,909	-68.5		09	5.9
70	31	18,715	-65.7		10	4.8
60	31	19,656	-63.8		10	4.2
50	31	20,781	-60.7		10	4.4
40	31	22,180	-57.8		10	5.1
30	31	24,009	-54.4		10	7.4
25	31	25,164	-52.0		10	6.9
20	31	26,641	-48.9		10	7.1
15	29	28,542	-46.3		10	10.8
10	27	31,268	-41.9		09	16.3
7	20	33,702	-38.8		09	25.8
5						

*** TUCSON, ARIZ. — 921 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	769	24.5	17.5	15	3.1
1000	31	61				
950	31	514				
900	31	993	26.3	15.6	18	3.0
850	31	1,497	24.4	12.8	12	1.3
800	31	2,026	21.1	10.2	09	1.8
750	31	2,578	17.1	7.6	07	2.0
700	31	3,167	12.8	4.4	11	2.6
650	31	3,782	8.1	.8	13	3.2
600	31	4,442	3.3	-3.2	12	3.7
550	31	5,133	-1.5	-8.9	12	3.3
500	31	5,896	-6.4	-15.4	12	3.0
450	31	6,711	-10.8	-21.2	13	3.1
400	31	7,612	-16.1	-27.0	15	2.7
350	31	8,605	-22.8	-34.5	16	3.0
300	31	9,717	-30.9	-43.0	17	3.4
250	31	10,985	-40.5	-51.2	20	3.1
200	31	12,469	-51.9		22	3.4
175	31	13,321	-58.5		22	3.0
150	31	14,275	-65.1		20	1.9
125	31	15,370	-70.9		14	1.8
100	31	16,684	-72.3		[illegible]	4.7
80	30	18,007	-68.8		09	8.7
70	31	18,813	-65.4		09	10.4
60	31	19,758	-62.1		09	11.5
50	30	20,895	-59.3		09	13.3
40	30	22,303	-56.1		09	14.9
30	29	24,146	-52.8		09	16.6
25	28	25,328	-51.0		09	18.1
20	26	26,766	-48.1		09	19.4
15	24	28,704	-44.7		08	21.9
10	22	31,446	-40.3		09	23.0
7	13	33,909	-34.0			
5	4	36,294	-29.5			

*** VANDENBERG AFB, CALIF. — 999 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	100	11.2	11.1	10	.1
1000	31	90			34	.6
950	31	529	20.1	5.9	01	3.0
900	31	995	24.9	1.6	02	3.5
850	31	1,494	22.6	-.6	02	2.5
800	31	2,018	19.9	-3.1	34	1.0
750	31	2,568	16.6	-6.0	25	.8
700	31	3,154	13.1	-8.9	22	1.2
650	31	3,770	9.2	-11.4	20	1.4
600	31	4,430	4.7	-14.3	20	1.3
550	31	5,126	-.1	-18.4	23	1.6
500	31	5,889	-5.3	-23.4	24	2.9
450	31	6,703	-10.7	-27.9	24	3.9
400	31	7,604	-16.9	-33.8	25	4.7
350	31	8,592	-24.2	-39.9	24	5.8
300	31	9,698	-32.4	-46.3	23	8.1
250	31	10,958	-41.7		23	10.1
200	29	12,434	-52.3		22	12.8
175	28	13,284	-58.1		22	12.5
150	28	14,241	-64.0		21	12.1
125	28	15,343	-69.0		22	10.3
100	28	16,673	-69.5		21	4.2
80	28	18,012	-66.6		12	4.6
70	28	18,825	-63.9		11	6.3
60	28	19,776	-61.3		10	8.9
50	28	20,915	-58.4		09	11.0
40	28	22,328	-55.6		10	12.5
30	28	24,176	-52.1		09	14.3
25	28	25,360	-50.4		09	16.1
20	28	26,824	-48.2		09	18.1
15	28	28,731	-45.2		09	19.0
10	24	31,463	-40.9		09	19.9
7	27	33,908	-36.3		09	21.6
5	5	36,274	-31.0			

VICTORIA, TEXAS — 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	33	24.8	22.8	13	.8
1000	31	109	25.2	23.8	16	1.7
950	31	559	23.7	20.9	18	6.0
900	31	1,034	21.7	14.3	17	5.3
850	31	1,529	18.9	11.7	15	4.2
800	31	2,048	15.8	9.5	12	3.1
750	31	2,590	12.4	5.7	09	2.8
700	31	3,171	9.1	2.9	07	2.9
650	31	3,778	5.6	-2.4	07	3.5
600	31	4,434	1.9	-7.5	07	3.4
550	31	5,128	-1.6	-15.6	07	4.2
500	31	5,886	-6.1	-21.2	07	4.3
450	31	6,698	-11.1	-25.9	06	4.7
400	31	7,599	-17.0	-31.0	05	5.0
350	31	8,589	-23.4	-38.0	04	5.6
300	31	9,699	-31.4	-45.5	03	5.8
250	31	10,964	-41.2	-53.[illegible]	02	7.0
200	31	12,444	-52.4		02	8.0
175	31	13,296	-58.5		03	9.0
150	31	14,251	-64.6		04	8.5
125	31	15,349	-70.1		04	8.3
100	31	16,667	-71.6		07	10.2
80	31	17,994	-68.4		07	12.3
70	31	18,801	-65.5		08	12.8
60	31	19,745	-62.3		09	13.6
50	31	20,879	-59.3		09	[illegible]
40	31	22,288	-56.2		09	16.8
30	31	24,133	-52.0		09	18.9
25	31	25,319	-49.9		09	20.3
20	31	26,786	-47.4		09	21.1
15	26	28,704	-44.0		09	23.5
10	8	[illegible]	-39.3			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1969

Standard pressure surface (mb.)	* WAKE IS., PACIFIC AREA 1014 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	* WALLOPS IS., VA., NASA 1016 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	WASHINGTON DULLES INT. AP 1007 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	31	5	28.4	24.5	[illegible]	4.1	30	3	21.3	20.0	25	1.4	31	85	17.2	15.5	26	.7
1000	31	123	26.8	22.8	09	4.3	30	142	21.9	18.2	27	2.2	31	148	18.5	15.8	27	.7
950	31	574	23.0	21.2	07	4.8	30	587	20.6	13.5	28	3.1	31	594	19.5	13.2	30	2.1
900	31	1,047	20.3	17.0	09	4.9	30	1,054	17.9	9.2	27	2.9	31	1,055	17.2	10.1	31	3.1
850	31	1,539	17.4	13.7	07	4.6	30	1,542	15.4	5.5	26	3.1	31	1,541	14.5	5.2	31	3.5
800	31	2,056	14.8	10.2	09	4.4	30	2,055	12.6	1.8	25	3.9	31	2,052	11.7	1.6	30	4.0
750	31	2,599	12.4	4.9	09	4.7	30	2,592	9.7	-2.5	25	5.0	31	2,592	9.2	-3.8	28	4.4
700	31	3,178	9.6	-1.1	08	4.9	30	3,165	6.8	-7.2	25	5.6	31	3,159	6.1	-6.6	28	5.6
650	31	3,786	6.2	-6.6	08	4.5	30	3,769	3.6	-11.2	25	6.2	31	3,763	2.9	-10.8	27	5.5
600	31	4,443	2.4	-11.[illegible]	07	4.6	30	4,417	.3	-15.1	25	7.0	31	4,407	-.5	-16.1	27	6.0
550	31	5,132	-1.7	-16.7	07	3.2	30	5,104	-3.5	-18.9	25	8.4	31	5,094	-4.5	-19.6	26	7.1
500	31	5,894	-6.2	-23.8	08	2.5	29	5,860	-7.9	-24.7	25	8.7	31	5,842	-8.9	-24.5	27	7.4
450	31	6,702	-11.5	-28.6	08	2.4	29	6,667	-13.1	-28.8	25	9.2	31	6,649	-14.1	-28.9	26	7.9
400	31	7,605	-17.4	-34.4	09	1.5	29	7,561	-19.0	-33.8	25	9.6	31	7,535	-20.0	-34.1	26	8.9
350	31	8,591	-24.4	-40.3	10	1.4	29	8,542	-25.7	-39.7	25	11.3	31	8,511	-27.3	-40.3	25	10.4
300	31	9,695	-32.8	-47.9	09	1.3	29	9,642	-33.8	-47.2	25	12.0	31	9,604	-35.2	-47.7	25	12.2
250	31	10,952	-42.7		12	2.7	29	10,895	-43.3		25	12.1	31	10,852	-44.1		25	13.1
200	31	12,418	-54.6		11	3.7	29	12,365	-53.0		25	12.7	30	12,319	-53.1		26	14.0
175	31	13,259	-61.3		09	3.1	29	13,214	-57.9		26	11.8	30	13,172	-56.8		26	11.9
150	30	14,200	-67.7		10	3.5	28	14,178	-61.5		26	9.7	30	14,141	-60.2		26	9.3
125	30	15,283	-72.4		09	4.1	28	15,300	-64.2		27	6.5	30	15,269	-63.1		27	6.8
100	29	16,594	-71.8		09	6.1	28	16,665	-63.9		32	2.2	30	16,638	-63.5		30	4.1
80	28	17,917	-69.0		08	10.4	28	18,037	-61.9		05	2.5	30	18,013	-61.7		03	2.1
70	27	18,721	-66.5		09	12.5	28	18,866	-60.3		06	4.2	30	18,843	-60.3		06	3.0
60	27	19,660	-63.6		09	14.1	28	19,830	-58.2		08	5.9	30	19,809	-57.8		07	4.5
50	27	20,789	-60.3		09	15.5	28	20,984	-55.7		08	8.5	30	20,965	-55.8		08	6.7
40	27	22,188	-57.7		09	16.8	27	22,410	-52.8		08	10.4	29	22,395	-53.1		08	9.0
30	25	24,022	-53.9		09	18.5	27	24,278	-49.7		09	12.7	27	24,260	-49.6		09	11.4
25	25	25,198	-52.2		09	20.8	27	25,477	-47.5		09	13.3	26	25,457	-47.5		09	11.7
20	25	26,651	-49.5		09	22.1	26	26,959	-45.2		09	12.9	26	26,939	-45.5		09	12.7
15	23	28,552	-46.4		09	26.3	24	28,891	-42.4		09	15.3	24	28,871	-42.9		09	14.6
10	12	31,273	-41.8				15	31,651	-39.1		09	16.2	22	31,635	-38.0		09	15.7
7							7	34,129	-35.2				9	34,109	-34.2			

Standard pressure surface (mb.)	WAYCROSS, GA. 1010 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	WINNEMUCCA, NEV. 868 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	31	44	21.8	21.2	02	.9	31	1,312	11.0	-6.4	13	.5
1000	31	128	22.3	21.3	03	.9	31	105				
950	31	578	22.0	18.8	13	1.8	31	542				
900	31	1,046	19.7	15.2	15	2.4	31	1,010				
850	31	1,537	17.0	11.4	17	2.4	31	1,493	20.4	-1.7	04	.3
800	31	2,053	14.0	7.5	17	2.1	31	2,015	19.3	-3.5	32	1.3
750	31	2,590	10.9	3.0	19	2.2	31	2,563	15.8	-6.4	25	3.0
700	31	3,168	7.6	-1.4	19	2.3	31	3,147	11.6	-9.1	22	6.0
650	31	3,770	4.4	-6.4	20	2.6	31	3,758	7.0	-11.7	22	9.1
600	31	4,424	1.1	-10.8	22	3.0	31	4,414	1.9	-13.5	22	11.1
550	31	5,110	-2.7	-14.8	22	1.9	31	5,101	-3.7	-17.2	22	11.1
500	31	5,869	-7.0	-21.3	21	1.9	31	5,855	-8.5	-25.1	23	10.4
450	31	6,674	-12.1	-27.1	23	1.9	31	6,657	-13.8	-30.8	24	11.3
400	31	7,575	-17.9	-33.2	24	2.5	31	7,550	-20.1	-36.6	25	13.5
350	31	8,560	-24.7	-38.0	24	2.8	30	8,524	-27.2	-42.2	24	15.8
300	31	9,664	-32.9	-45.9	22	4.8	30	9,617	-35.0	-49.3	24	19.7
250	31	10,922	-42.2	-52.7	23	6.8	30	10,867	-43.4		24	23.1
200	31	12,396	-52.8		25	5.9	30	12,340	-52.1		24	25.1
175	31	13,248	-57.8		27	5.0	30	13,195	-57.0		24	23.3
150	31	14,208	-62.9		30	2.9	30	14,160	-61.8		24	21.9
125	31	15,319	-67.2		02	1.5	30	15,278	-65.0		24	16.1
100	31	16,659	-68.1		06	5.4	29	16,636	-65.1		23	7.4
80	31	18,006	-65.5		07	7.7	28	18,008	-62.4		21	3.5
70	31	18,823	-63.2		07	9.0	28	18,835	-60.6		14	2.3
60	31	19,775	-61.0		07	11.9	28	19,801	-58.0		11	3.1
50	31	20,915	-58.0		08	14.8	28	20,955	-56.0		09	5.1
40	31	22,332	-54.6		09	16.6	28	22,383	-53.5		09	7.9
30	31	24,187	-51.0		09	17.4	28	24,245	-50.7		09	9.4
25	31	25,378	-49.2		09	18.1	28	25,438	-48.7		09	10.4
20	29	26,851	-46.9		09	18.7	27	26,911	-46.9		09	11.3
15	27	28,771	-44.4		08	22.4	23	28,828	-44.2		09	13.4
10	22	31,504	-39.3		09	26.9	14	31,584	-38.7		09	14.0
7	5	33,973	-36.6				6	34,055	-35.1			

Standard pressure surface (mb.)	WINSLOW, ARIZ. 852 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	YAKUTAT, ALASKA 1007 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	+ YAP, CAROLINE IS. 1009 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	31	1,487	20.0	12.8	20	1.7	31	12	6.4	6.2	07	.7	31	14	28.1	24.3	14	.9
1000	31	72					31	72			08	.7	31	94	26.8	22.4	15	.8
950	31	519					31	495	8.7	4.5	11	1.1	31	539	23.2	18.5	15	.6
900	31	1,001					31	943	6.0	1.5	15	1.2	31	1,016	20.4	14.7	10	.9
850	31	1,502			18	1.6	31	1,409	3.1	-.9	16	1.1	31	1,509	17.6	11.8	09	1.5
800	31	2,028	21.0	9.2	24	1.6	31	1,898	.7	-4.1	15	.7	31	2,026	15.0	8.4	10	2.1
750	31	2,581	17.8	6.2	27	.9	31	2,411	-2.3	-7.4	20	1.0	31	2,567	12.2	4.7	09	2.8
700	31	3,170	13.5	3.5	28	.7	31	2,959	-5.4	-12.1	24	1.4	31	3,147	9.3	.9	09	3.8
650	31	3,785	8.5	1.1	22	.5	31	3,537	-8.6	-16.7	25	2.3	31	3,756	5.9	-2.5	09	4.8
600	31	4,445	3.4	-3.0	19	1.3	31	4,155	-12.2	-21.2	27	3.3	31	4,410	2.2	-6.6	09	6.2
550	31	5,140	-1.8	-7.5	17	1.6	31	4,811	-16.4	-25.0	27	4.2	31	5,100	-1.7	-11.3	10	7.3
500	31	5,897	-6.6	-14.0	20	2.4	31	5,525	-20.9	-30.0	27	4.5	31	5,861	-5.7	-16.8	09	7.9
450	31	6,710	-11.3	-21.5	23	2.7	31	6,289	-26.3	-34.9	28	5.1	31	6,675	-10.4	-22.4	09	7.0
400	31	7,611	-16.6	-27.7	23	3.5	31	7,139	-32.4	-40.7	28	6.3	31	7,579	-15.9	-29.1	09	6.7
350	31	8,602	-23.2	-35.9	22	4.7	31	8,066	-39.3	-45.3	28	6.9	31	8,571	-22.8	-36.4	08	6.6
300	31	9,713	-31.4	-43.1	23	6.1	31	9,106	-46.4		28	8.3	31	9,683	-31.0	-44.2	08	5.7
250	31	10,980	-41.0	-52.0	23	6.7	31	10,306	-49.4		29	10.3	31	10,948	-41.2		07	5.8
200	31	12,463	-51.9		24	7.1	31	11,774	-47.5		29	10.2	31	12,422	-54.0		05	6.4
175	31	13,316	-58.2		24	6.7	31	12,657	-47.0		28	9.1	31	13,264	-61.1		05	7.3
150	31	14,272	-64.6		24	5.9	31	13,678	-47.0		28	8.4	31	14,205	-68.6		04	8.6
125	31	15,369	-70.6		24	4.1	31	14,885	-47.0		27	6.8	31	15,277	-75.4		06	8.2
100	31	16,687	-71.5		14	1.6	30	16,362	-47.7		26	5.1	31	16,565	-74.9		08	8.5
80	31	18,013	-67.9		10	4.4	30	17,836	-47.5		25	3.6	31	17,875	-70.1		09	10.0
70	31	18,821	-65.3		10	6.5	30	18,718	-47.6		24	2.5	31	18,673	-67.8		08	10.3
60	31	19,767	-62.3		09	8.3	30	19,737	-47.6		22	2.2	31	19,610	-63.9		08	9.8
50	31	20,901	-59.2		09	11.1	30	20,941	-47.4		21	1.5	30	20,736	-61.1		09	8.9
40	31	22,311	-56.0		09	12.9	30	22,417	-47.3		16	.6	30	22,131	-58.3		09	10.2
30	31	24,154	-52.9		09	15.0	30	24,322	-46.7		10	1.2	29	23,957	-54.4		09	11.5
25	29	25,334	-51.0		09	15.4	30	25,532	-46.1		09	2.2	29	25,131	-52.0		09	10.7
20	29	26,794	-48.7		09	15.6	30	27,020	-44.9		08	2.4	27	26,585	-49.0		10	12.8
15	27	28,698	-45.7		09	18.5	28	28,960	-42.4		07	3.3	25	28,491	-46.1		10	12.3
10	23	31,427	-40.4		09	21.7	23	31,744	-37.8		07	3.9	24	31,207	-42.7		09	17.0
7	9	33,852	-37.1				11	34,270	-32.4				17	33,621	-38.9		09	27.9
5													7	35,937	-37.2			

Standard pressure surface (mb.)	YUCCA FLAT, NEV. 879 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	YUMA, ARIZ. 990 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	31	1,198	16.8	4.2	23	.1	21	131	30.9	16.4	11	.4
1000	31	73					21	37				
950	31	519					21	494	31.5	14.7	16	1.5
900	31	996					21	982	28.9	11.6	19	2.2
850	31	1,490	25.4	5.8	24	1.1	21	1,488	25.7	9.6	19	2.6
800	31	2,020	22.8	3.2	20	5.8	21	2,018	22.0	7.3	17	2.6
750	31	2,574	18.7	.5	20	6.5	21	2,568	17.6	4.7	15	2.5
700	31	3,164	13.8	-1.3	19	6.1	21	3,161	12.9	1.6	14	1.9
650	31	3,780	8.4	-3.7	18	5.5	21	3,773	8.0	-2.4	16	2.1
600	31	4,438	3.0	-8.5	17	5.3	21	4,434	2.9	-6.7	16	1.5
550	31	5,132	-1.9	-14.1	18	4.7	21	5,126	-1.8	-11.6	18	1.4
500	31	5,888	-7.1	-20.9	21	4.2	21	5,886	-6.0	-17.7	14	1.5
450	31	6,699	-11.4	-28.6	24	4.9	21	6,696	-10.7	-24.9	14	1.8
400	31	7,598	-17.6	-34.1	25	6.2	21	7,602	-16.7	-32.0	10	1.0
350	31	8,584	-24.4	-39.6	25	8.3	21	8,592	-23.6	-38.8	17	.5
300	31	9,689	-32.4	-46.3	24	10.3	21	9,700	-31.7	-46.7	20	2.9
250	31	10,950	-41.5		24	12.3	21	10,964	-41.1		21	5.2
200	31	12,430	-52.0		23	13.9	19	12,442	-52.4		21	8.0
175	31	13,283	-57.6		23	13.5	17	13,298	-58.8		21	8.2
150	31	14,243	-63.4		23	13.2	16	14,254	-65.3		21	6.9
125	31	15,348	-68.8		24	10.5	15	15,355	-70.4		23	2.5
100	31	16,680	-69.0		22	4.1	9	16,655	-71.5			
80	31	18,024	-65.7		14	2.4						
70	31	18,840	-62.9		11	4.0						
60	31	19,797	-59.9		10	6.2						
50	31	20,942	-57.5		09	8.8						
40	31	22,360	-54.9		09	10.6						
30	28	24,212	-51.7		09	11.9						
25	25	25,399	-49.9		09	12.4						
20	14	26,871	-47.7		09	14.9						
15	7	28,797	-45.8									
10												
7												
5												

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Aug.									
1	----	----	----	----	----	----	(1.10)	(0.93)	----
2	----	----	----	----	1.31	----	----	----	----
4	----	----	----	1.09	1.32	----	----	----	----
5	0.67	0.78	0.91	1.09	1.30	----	----	----	----
6	.72	.81	.93	1.08	----	1.11	.91	----	----
7	.61	.81	----	----	----	----	----	----	----
8	.71	.80	.94	1.12	1.31	1.07	.85	.69	0.63
9	.75	.87	.97	1.15	1.33	1.12	.92	.80	.74
10	.70	.78	.93	1.11	1.35	1.11	.89	.74	.64
11	.86	.97	1.07	1.19	1.41	----	----	----	----
12	.64	.75	.91	1.07	----	----	----	----	----
13	.76	.80	----	1.15	----	----	----	----	----
15	.87	.96	1.05	1.22	1.42	1.19	1.01	----	----
16	----	----	----	----	1.38	----	----	----	----
17	.79	.92	1.00	1.18	1.35	1.13	----	----	----
18	----	----	----	1.08	----	----	----	----	----
19	.71	.81	.95	1.11	1.31	----	----	----	----
20	.77	.88	1.01	1.12	1.34	1.13	.95	.79	----
21	.76	.85	.98	----	----	----	----	----	----
22	----	----	----	----	----	(1.13)	----	----	----
25	.81	.92	1.03	1.19	1.36	----	----	----	----
26	(.75)	(.85)	(.95)	----	1.34	(1.07)	----	----	----
27	.69	.79	.92	1.04	1.25	1.09	(.90)	----	----
28	.83	.91	1.03	1.16	1.33	----	----	----	----
30	.61	----	----	----	----	1.12	.93	.73	.67
31	.79	.89	----	1.14	1.31	1.02	.96	----	----
Averages	0.74	0.85	0.98	1.13	1.34	1.11	0.93	0.75	0.67

TUCSON, ARIZ.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Aug.									
1	----	----	----	----	1.22	----	----	----	----
3	----	----	----	----	1.22	----	----	----	----
4	.49	.58	.73	.86	----	----	----	----	----
5	.52	.61	.73	.94	1.14	----	----	----	----
6	----	----	----	----	1.08	.93	----	----	----
7	----	----	----	.89	1.19	----	----	----	----
8	.55	.63	.79	.99	1.25	.90	.78	----	----
9	.62	.73	.88	1.03	1.26	----	----	----	----
10	.59	.70	.84	1.00	1.26	----	----	----	----
11	----	----	----	----	1.24	----	----	----	----
12	.75	.84	.95	1.10	1.29	----	----	----	----
14	.66	.80	.90	1.03	----	----	----	----	----
15	.65	.74	.86	.96	1.28	----	----	----	----
16	.65	.75	.87	1.03	1.26	----	----	----	----
18	.68	.76	.90	1.05	1.29	1.05	.89	0.76	0.64
19	.70	.78	.91	1.06	1.26	----	----	----	----
20	.67	.76	.88	1.04	1.27	----	.76	.62	.54
21	----	.68	----	.97	1.18	----	----	----	----
22	.76	.85	.97	1.13	1.31	1.11	----	----	----
23	----	----	----	----	1.27	----	----	----	----
25	----	----	.71	.90	1.15	----	----	----	----
26	.57	.66	.78	.93	1.20	----	----	----	----
27	.60	.72	.81	1.00	1.15	.92	.69	----	.48
28	.50	.57	.72	.89	1.14	----	----	----	----
29	----	----	----	----	1.18	----	----	----	----
30	.54	.65	.77	.93	1.17	----	----	----	----
31	.61	.72	.84	.99	1.26	.97	.74	----	----
Averages	0.62	0.71	0.83	0.99	1.22	0.98	0.77	0.69	0.55

MADISON, WIS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Aug.									
14	----	M 0.69	M 0.88	M 1.09	S 1.31	----	S 0.92	S 0.80	S 0.62
21	S 0.82	S .93	S 1.08	S 1.19	S 1.34	S 1.15	S 1.00	S .88	S .79
22	M .75	M .85	M 1.02	M 1.16	S 1.28	S 1.11	S .93	S .78	S .68
23	M .70	M .82	M .95	M 1.11	S 1.23	S 1.03	S .83	S .72	----
25	I .35	I .44	I .57	I .75	----	S .82	M .58	M .45	M .35
26	I .37	I .48	I .61	I .81	----	----	----	----	----
29	----	----	----	----	----	----	HI .44	HI .32	HI .27
Averages	0.60	0.70	0.85	1.02	1.29	1.03	0.78	0.66	0.54

BLUE HILL OBS., MASS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Aug.									
7	----	----	----	----	----	0.86	0.62	0.47	0.36
11	0.50	0.61	0.77	1.00	----	----	----	----	----
12	.33	.48	.67	.94	1.21	----	----	----	----
13	.53	.64	.79	.98	1.18	.96	.77	.60	.50
14	.29	.39	.54	.77	1.07	.70	.47	.32	.21
18	.48	.59	.72	.93	1.10	.79	.59	.48	.41
20	.88	.99	1.10	1.21	----	1.13	.99	.87	.77
21	.82	.92	1.05	1.18	1.36	1.17	1.03	.91	.81
22	.87	.96	1.07	1.21	1.33	----	----	----	----
23	.67	.77	.91	1.06	1.27	1.00	.78	.69	.58
24	----	----	----	----	1.14	.93	.73	.61	.52
25	.58	.70	.86	1.04	1.25	1.02	.82	.66	.55
26	.61	.74	.85	1.01	1.22	----	----	----	----
27	.81	.91	1.02	1.14	1.29	1.07	.92	.80	.71
Averages	0.57	0.73	0.86	1.04	1.22	0.96	0.77	0.64	0.54

OMAHA, NEBR.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Aug.									
3	HS0.74	HS0.82	HS0.93	HM1.08	----	----	----	----	----
7	----	----	----	----	----	HS1.10	HS0.92	HS0.76	HS0.70
8	----	----	----	HS1.01	HS1.29	----	----	----	----
9	----	----	----	----	HS1.21	HS1.04	HS .84	HS .73	HS .62
10	HM .62	HM .75	HS .89	HS1.07	HS1.21	HS1.01	HS .79	HS .64	HS .53
11	----	----	----	----	HS1.22	HS1.02	HS .92	HS .70	HS .59
12	HS .66	HS .75	HS .86	HS1.03	----	----	----	----	----
14	HS .71	HS .84	HS .97	HS1.11	----	----	----	----	----
17	F .51	F .57	----	HM .93	----	HM .87	HM .71	HM .60	----
23	----	----	----	----	----	----	----	----	.63
25	GF .29	F .36	F .54	HI .69	----	----	----	----	----
29	HS .54	HS .66	HS .80	HS1.00	----	----	----	----	----
Averages	0.57	0.68	0.83	0.99	1.24	1.01	0.84	0.69	0.61

HS Slight haze
HM Moderate haze
HI Intense haze
GF Ground fog
( ) Clouds present
F Fog
S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

AUGUST 1969

Station	Day of month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	591	557	544	610	646	572	512	655	653	651	644	524	563	560	653	616	613	560	599	619	476	415	332	480	506	594	597	595	404	487	589	562
AMES IOWA	517	603	597	415	471	544	566	573	569	573	554	553	405	581	265	497	497	436	288	108	518	518	452	513	471	495	439	419	484	470	75	467
ANNETTE ALASKA	128	470	295	614	635	138	127	79	187	230	143	237	290	89	285	84	206	162	241	231	400	446	530	194	267	218	121	436	71	60	107	249
APALACHICOLA FLORIDA	669	503	83	527	544	659	638	500	457	296	399	488	171	376	333	508	350	417	603	598	593	320	290	429	603	632	620	535	590	419	477	472
ARGONNE NAT. LAB.	555	632	614	605	590	571	374	666	173	545	512	539	590	422	396	437	305	557	555	317	612	567	583	517	522	429	408	449	453	514	506	501
ASTORIA OREGON	663	402	423	511	600	643	443	642	314	432	396	224	560	427	---	616	473	306	264	308	496	578	568	333	470	309	391	530	517	546	554	465
BARROW ALASKA	---	272	311	192	338	373	230	171	245	283	292	412	368	213	---	176	242	164	178	231	280	262	126	175	143	166	90	182	150	249	275	234
BETHEL ALASKA	---	---	---	---	---	---	---	---	---	---	---	---	336	74	337	233	433	333	201	210	226	267	483	477	367	398	158	146	106	235	123	---
BISMARCK N.DAK.	728	712	435	709	539	585	715	386	686	688	602	621	641	666	656	579	660	665	633	470	604	608	609	606	611	566	493	519	186	479	431	583
BOISE IDAHO	663	590	662	630	665	663	655	644	640	591	379	639	629	613	581	623	574	544	602	594	596	540	483	552	576	569	574	564	578	515	566	590
BROWNSVILLE TEXAS	304	409	560	665	427	358	611	337	478	643	640	667	670	637	575	588	635	637	541	476	615	438	523	283	480	522	598	370	206	235	446	502
BURLINGTON VERMONT	410	379	517	182	391	393	502	266	388	174	420	512	507	475	420	386	263	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CAPE HATTERAS N.C.	403	457	565	184	270	543	621	603	400	564	498	310	231	558	587	604	600	467	589	372	652	457	644	624	615	527	565	611	597	551	612	512
CARIBOU MAINE	511	392	518	469	170	277	677	321	518	287	522	652	338	630	148	---	259	534*	228	309	413	592	614	482	415	484	559	377	352	597	---	436*
CHARLESTON S.C.	306	264	294	122	382	522	490	539	544	608	217	340	418	134	122	621	574	506	493	464	414	479	161	520	496	613	477	321	451	293	72	395
CLEVELAND OHIO	529	549	681	576	557	468	496	570	126	534	517	559	547	545	488	282	315	517	368	603	616	527	584	581	570	598	569	570	456	466	468	511
COLUMBIA MISSOURI	450	637	675	671	621	639	550	574	555	663	643	637	458	222	329	333	429	517	516	404	269	602	596	473	437	432	510	488	533	548	572	515
DODGE CITY KANSAS	583	634	596	589	529	674	668	678	687	677	680	671	598	396	681	680	642	625	543	567	461	366	437	80	117	179	345	441	637	362	157	515
E. LANSING MICHIGAN	561	563	658	628	451	581	289	647	193	628	654	637	574	366	491	165	418	544	628	652	642	631	626	595	570	604	551	482	383	510	501	530
EL CENTRO CALIF. NPF	471	471	628	624	610	483	619	509	490	606	606	610	604	595	521	527	594	623	643	623	615	627	561	561	560	594	588	567	588	584	576	577
EL PASO TEXAS	663	649	685	566	655	640	622	616	724	739	717	683	729	705	691	691	699*	673	608	609	640	605	673*	662	422	594*	638*	518*	330	288*	460*	619*
ELY NEVADA	680	536	476	649	731	767	760	755	610	501	463	690	574	287	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EPPLEY NEWPORT R.I.	317	471	431	302	554	478	573	538	563	401	559	537	---	552	301	255	471	493	402	501	621	602	584	558	561	441	579	515	530	447	349	483
FAIRBANKS ALASKA	211	198	187	294	540	451	234	233	248	406	573	433	494	549	449	430	468	495	265	169	311	438	434	407	263	302	457	373	395	361	339	368
FLAMING GORGE UTAH	580	576	534	431	431	658	667	644	543	446	328	441	642	630	483	303	311	394	562	388	454	457	396	618	526	371	366	239	139	366	575	468
FORT WORTH TEXAS	649	446	629	401	---	612	665	689	686	662	650	636	647	578	215	618	671	645	642	602	563	456	432	473	139	328	394	499	624	541	588	546
FRESNO CALIFORNIA	605	520	606	616	627	638	631	585	534	506	528	616	596	584	571	574	568	589	593	582	584	570	556	585	579	582	576	575	579	574	553	580
GAINESVILLE FLORIDA	452	495	320	---	428	488	406	624	559	320	445	208	272	392	412	583	564	564	493	496	520	240	196	335	490	575	558	342	370	356	380	429
GENEVA NEW YORK	489	310	494	203	519	491	491	424	458	390	580	594	587	535	327	283	316	478	531	613	604	581	554	546	536	540	554	512	396	378	441	476
GLASGOW MONTANA	686	662	663	659	674	391	678	538	659	659	267	327	657	632	601	523	639	630	589	591	592	593	589	594	462	474	563	543	537	500	561	572
GRAND JUNCTION COLO.	674	620	501	668	606	667	685	669	622	445	596	368	597	641	647	559	552	372	552	473	627	574	503	615	615	609	535	499	93	551	601	559
GREAT FALLS MONTANA	222	709	697	639	717	519	699	663	682	607	265	350	681	637	608	557	665	569	629	626	629	586	553	514	529	594	606	585	606	473	585	581
GREENSBORO N.C.	366	378	190	188	508	528	531	538	510	463	513	555	157	330	225	262	404	420	267	477	477	340	593	575	561	518	562	557	550	557	393	435
INDIANAPOLIS INDIANA	525	603	610	594	470	604	553	602	192	607	624	440	570	565	490	455	287	445	369	518	606	615	584	558	495	569	510	469	533	494	522	519
INYOKERN CALIFORNIA	595	525	635	634	661	666	612	648	606	527	590	605	614	608	601	591	596	607	623	633	617	601	563	510	602	619	599	605	590	584	571	601
LAKE CHARLES LA.	529	577	552	622	518	592	630	555	497	643	355	513	502	591	394	595	625	560	581	439	473	437	489	390	278	448	217	572	528	556	502	508
LAKELAND FLORIDA	520	658	585	269	170	280	378	567	579	655	332	379	411	499	527	578	528	512	510	589	505	510	413	123	557	648	637	545	473	473	453	479
LANDER WYOMING	697	668	525	652	623	708	691	649	677	549	518	559	664	647	517	438	389	494	605	483	567	615	555	582	568	543	592	429	410	590	598	574
LARAMIE WYOMING	632	645	304	544	405	622	674	633	643	582	523	381	643	606	634	431	452	333	554	410	366	601	590	596	601	579	492	399	304	536	570	525
LAS VEGAS NEVADA	647	628	585	663	692	699	630	630	640	554	541	636	612	631	550	614	628	652	640	653	637	620	617	502	539	600	581	606	521	611	598	612
LITTLE ROCK ARKANSAS	651	569	699	566	644	636	635	598	654	645	665	678	683	344	461	338	339	309	---	403	362	375	579	520	493	530	547	598	554	584	448	537
LOS ANGELES CALIF.	592	692	662	586	566	574	642	500	669	540	660	663	658	461	622	617	604	629	681	659	669	679	652	602	644	641	558	475	462	352	443	595
MADISON WISCONSIN	---	---	---	---	---	---	---	681	301	613	601	594	569	641	534	452	558	416	530	480	625	614	588	535	549	530	538	423	491	516	394	532
MANHATTAN KANSAS	256	576	576	534	515	581	367	586	616	612	605	578	551	282	140	386	564	513	430	333	124	333	485	225	306	228	227	422	434	386	236	420
MATANUSKA ALASKA	544	---	---	---	---	---	---	---	---	---	209	366	442	555	291	455	332	413	399	494	255	129	208	430	482	290	445	122	---	---	---	---
MEDFORD OREGON	700	696	714	566	711	676	677	676	653	624	610	677	634	653	678	664	655	652	654	648	644	620	615	606	659	632	631	584	612	600	601	646
MIAMI FLORIDA	679	489	654	591	555	464	511*	596	685	594	391	415	283	430	622	679	658	656	603	664	683	674	575	590	377	380	555	487	477	454	496	547*
MIDLAND TEXAS	600	598	414	270	624	636	667	604	654	619	644	651	635	616	528	606	623	609	603	602	588	512	467	524	392	394	382	375	416	337	498	538
NASHVILLE TENNESSEE	596	483	607	551	513	567	588	487	546	625	519	593	564	313	376	406	363	266	93	515	365	251	581	585	558	536	527	490	464	523	385	479
NEW YORK N.Y. U	484	309	454	307	294	596	581	451	487	416	545	644	461	543	175	320	402	413	429	579	663	646	619	592	594	426	618	554	534	422	427	483
NORTH OMAHA NEBRASKA	382	442	652	202	617	601	635	619	632	618	616	570	547	544	258	570	536	540	334	415	290	475	489	435	555	459	476	469	518	418	121	485
OAK RIDGE TENNESSEE	503	466	516	528	437	499	488	466	547	534	615	581	526	424	484	345	331	372	175	514	462	375	619	607	583	559	542	441	463	557	392	482
OKLAHOMA CITY OKLA.	668	503	569	115	483	589	638	651	643	647	624	608	608	480	410	647	632	577	572	599	---	480	263	401	76	254	---	431	540	531	512	509
PAGE ARIZONA	665	541	588	703	721	728	717	698	653	663	522	308	611	693	685	651	644	384	559	690	689	578	581	668	---	---	---	---	---	619	---	622
PALMER AAES ALASKA	517	435	276	465	402	353	554	506	162	549	505	360	375	492	425	405	337	343	397	420	262	178	287	467	475	465	443	153	201	232	254	377

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. AUGUST 1969

Station	Day of month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	536	591	581	636	626	507	639	619	649	644	568	398	571	604	639	643	545	638	638	636	544	608	552	588	598	588	576	480	530	567	593	585
PORTLAND MAINE	576	504	554	63	258	768	604	408	511	122	448	562	566	518	487	355	490	555	469	632	624	548	556	541	526	476	556	320	448	535	459	485
PROSSER WASHINGTON	723	676	691	615	689	680	645	670	644	---	640	450	606	588	577	618	601	566	611	572	567	557	545	524	571	529	---	554	554	540	537	598
RAPID CITY S.DAK.	557	665	494	578	594	687	656	640	630	623	565	517	632	618	596	492	565	476	312	474	577	605	571	571	578	571	516	443	461	514	334	552
RENO NEVADA	635	625	651	651	655	652	653	626	619	464	599	631	587	603	602	601	440	592	599	577	596	573	553	598	580	588	587	575	527	557	541	592
RICHLAND 25 NW WASH.	688	688	685	606	684	667	617	654	637	650	636	521	625	604	578	626	609	573	601	589	589	576	565	547	592	539	582	582	591	571	568	608
RIVERSIDE CALIFORNIA	656	674	716	708	710	644	649	372	652	623	669	696	696	671	626	677	669	628	692	694	695	648	627	597	654	656	640	564	577	565	622	644
RUSTON LOUISIANA	572	462	609	568	591	575	301	577	597	576	601	592	282	511	263	483	482	290	554	546	441	344	429	212	390	476	531	556	509	553	345	478
SAINT CLOUD MINN.	612	596	599	508	561	322	606	544	532	590	573	488	407	590	555	564	432	538	484	542	543	530	530	531	495	390*	443	462	473	65	522	504*
SALT LAKE CITY	735	482	625	702	712	736	720	739	664	511	511	667	716	689	617	359	427	664	601	676	670	599	658	585	502	506	635	463	641	624	618	615
SAN ANTONIO TEXAS	630	629	630	653	432	621	628	592	610	674	669	666	658	610	645	650	615	646	637	356	541	649	618	465	352	192	182	342	443	478	497	549
SANTA MARIA CALIF.	670	692	687	708	715	702	671	646	639	421	614	661	662	618	604	583	505	522	564	656	660	665	572	600	656	606	650	629	559	595	570	623
SAULT STE MARIE MICH	147	596	601	465	302	488	320	164	449	600	590	439	498	452	535	506	528	317	584	584	571	533	532	532	499	514	433	298	324	425	141	451
SEATTLE TACOMA WASH.	407	461	626	452	543	619	304	628	639	100	381	214	539	612	298	627	516	375	345	207	160	563	564	447	519	331	332	383	514	556	554	446
SPOKANE WASHINGTON	649	652	648	528	538	654	616	630	616	620	574	492	599	585	559	595	589	434	567	578	564	552	509	476	578	547	535	447	553	517	538	566
STATE COLLEGE PENN.	420	397	452	222	460	574	543	470	264	486	559	470	628	576	387	308	373	347	208	619	660	647	625	603	589	602	656	561	539	474	469	490
STERLING VIRGINIA	326	375	---	187*	234	576	514	---	---	522	544	---	524	---	---	---	---	282	180	492	602	597	573	---	522	523	576	---	519	479	482	---
SWAN ISLAND W.I.	622	673	476	636	545	557	548	211	461	545	645	656	660	562	415	340	581	481	593	552	643	632	389	460	248	461	615	199	540	624	560	520
TALLAHASSEE FLORIDA	439	330	153	452	591	554	527	467	---	---	448	465	237	428	284	484	531	345	531	568	524	412	259	484	620	607	554	448	525	253	339	443
TAMPA FLORIDA	491	648	519	202	165	268	367	554	671	658	128	250	452	348	472	558	579	616	472	611	600	364	465	137	568	612	613	565	386	545	508	464
TUCSON ARIZONA	653	478	595	639	588	539	600	642	661	590	504	501	388	586	556	619	505	630	512	590	536	546	477	511	429	578	560	529	443	556	577	552
UPPER MARBORO MD.	431	399	306	203	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WAKE ISLAND PACIFIC	662	643	456	659	672	647	595	655	590	614	637	626	644	651	655	488	644	646	623	646	632	622	652	605	645	644	628	646	606	605	569	623

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

AUGUST 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	210	190	131	219	159	128	193	167	48	160	166	98	112	150	154	147	93	121	138	165	71	26	56	128	143	154	138	4	41	73	91	125

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	16.93	19.53	18.58	11.36	13.85	18.58	14.56	13.49	14.68	14.56	14.56	13.85	11.24	15.98	12.07	17.52	15.98	13.14	9.47	4.85	14.20	15.51	15.86	12.66	15.03	12.31	11.36	14.20	15.62	11.48	3.55	13.76

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

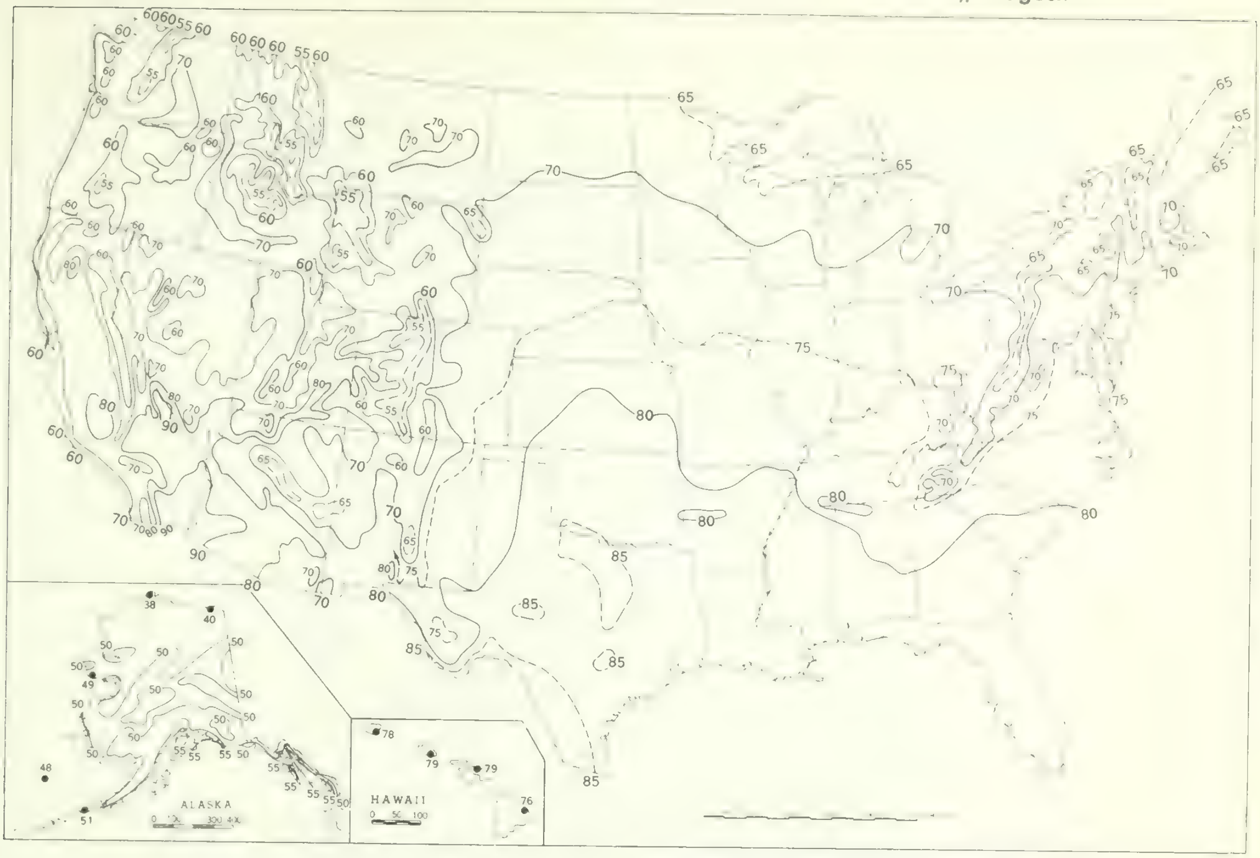
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code ʌ s ϱ ϱ ϱ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded ϱ ϱ ϱ) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g , 350 milli-atmo-cm. ozone implies an ozone layer 0 350 centimeter thick. The code ʌ s designates the type of measurement made

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), August.



B. Temperature Departure from 30 - Year Mean (°F 1931-60), August 1969.

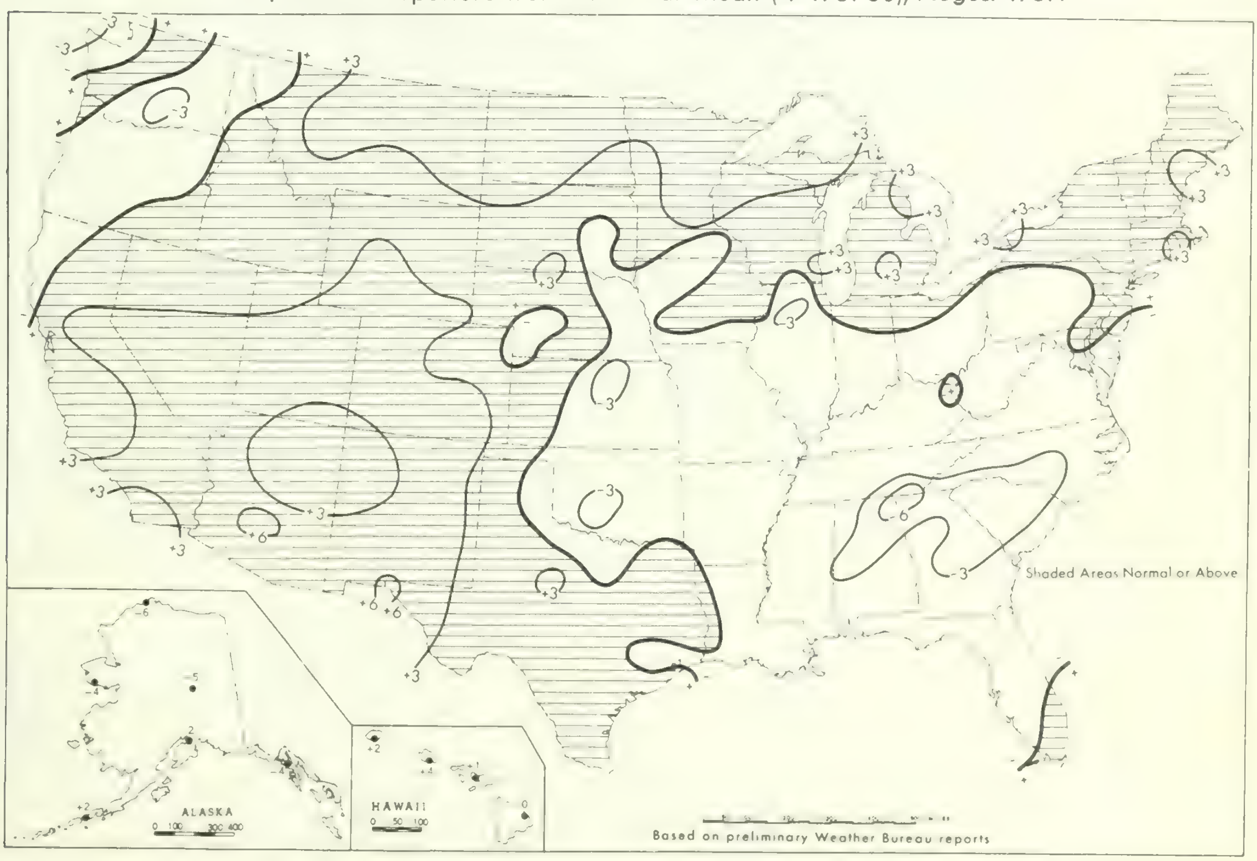
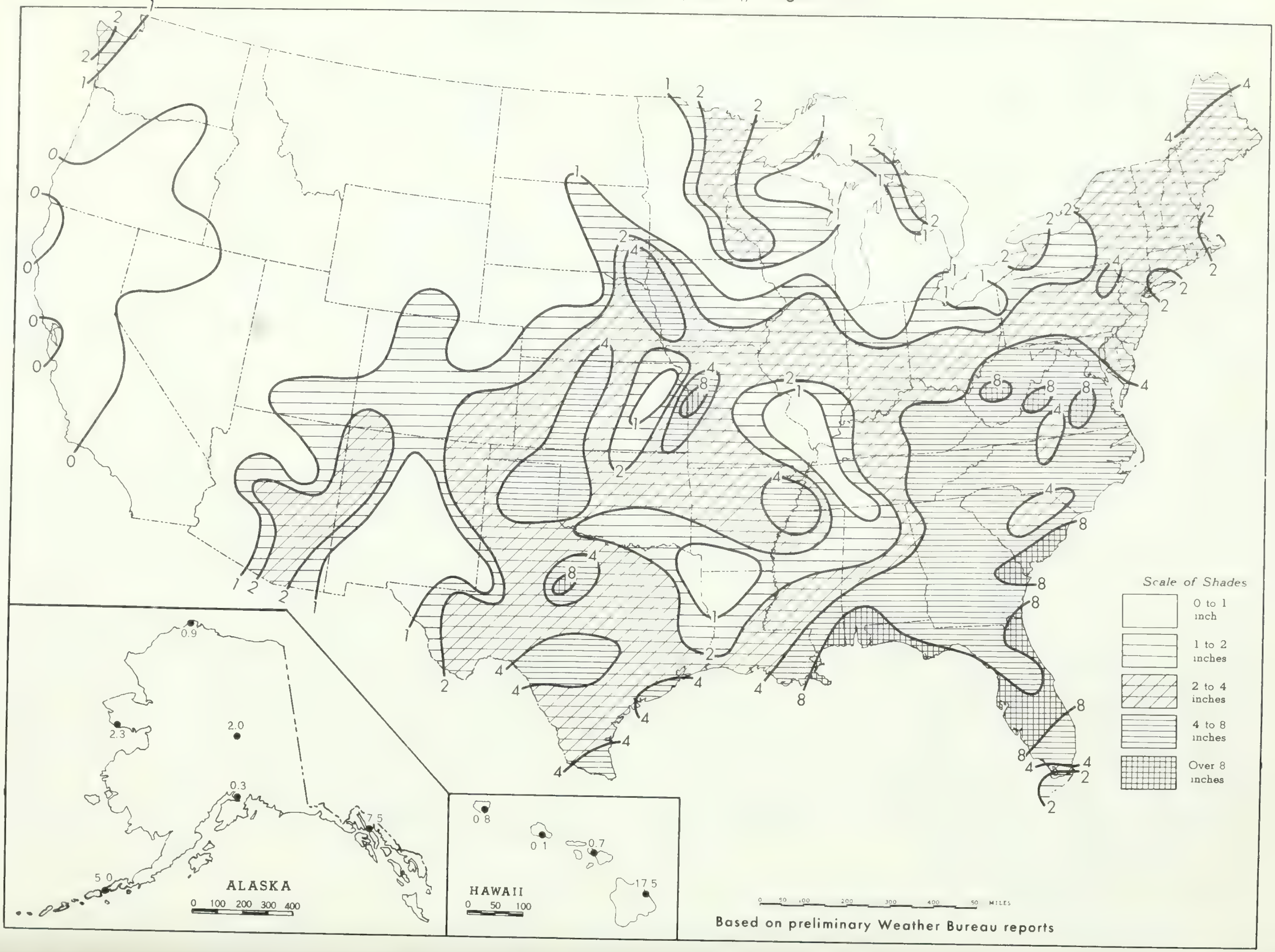


Chart II. Total Precipitation (Inches), August 1969.



Based on preliminary Weather Bureau reports

Chart III. Percentage of Normal Precipitation, August 1969.

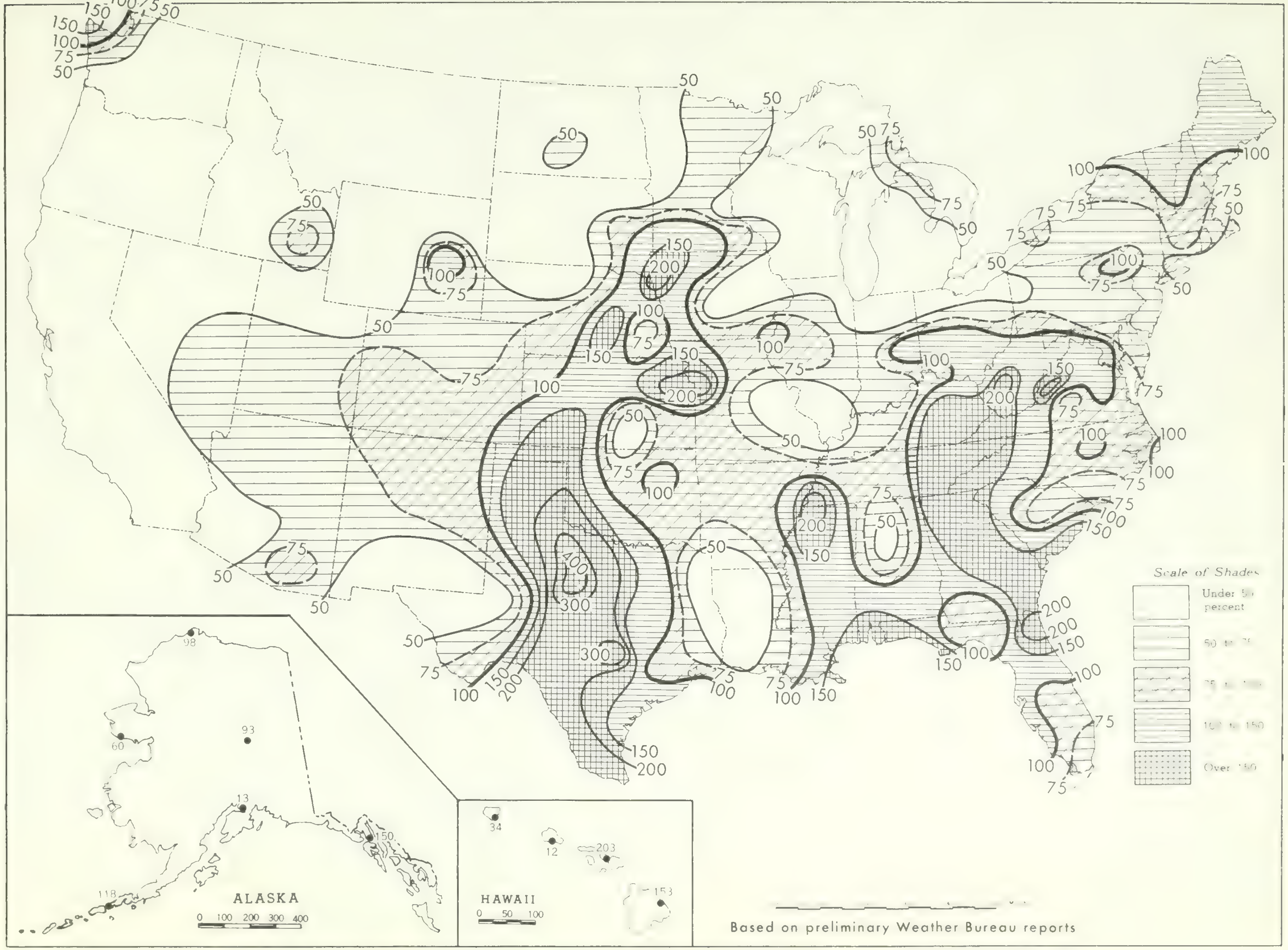
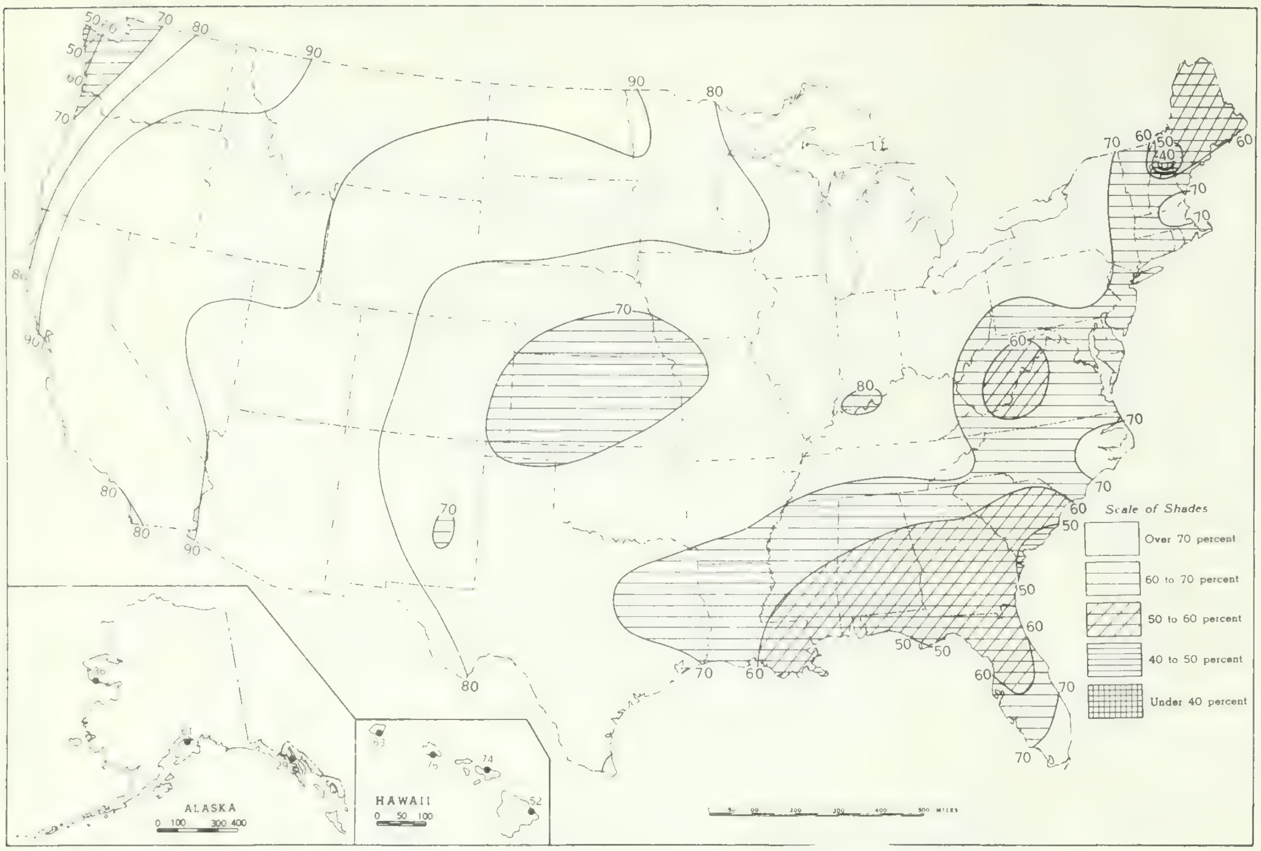
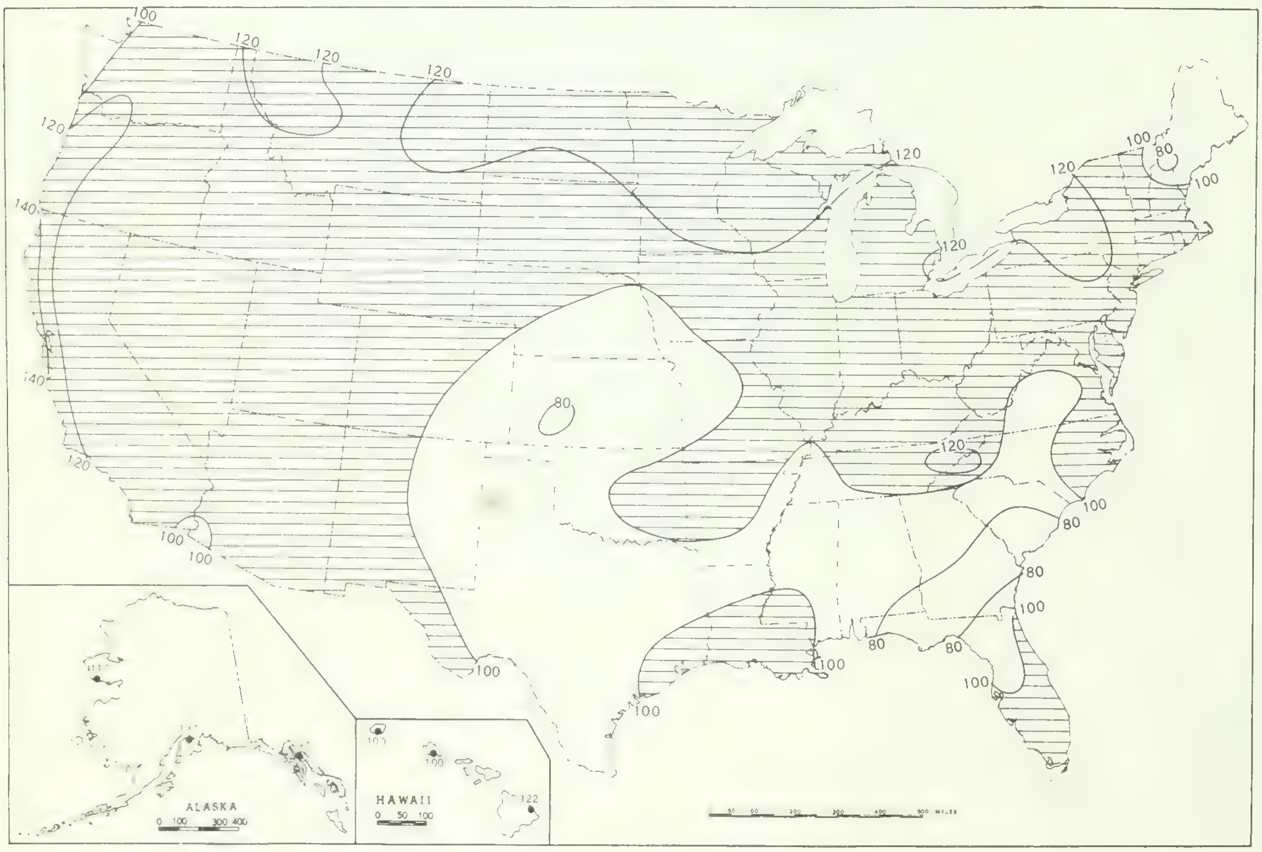


Chart VI. A. Percentage of Possible Sunshine, August 1969.

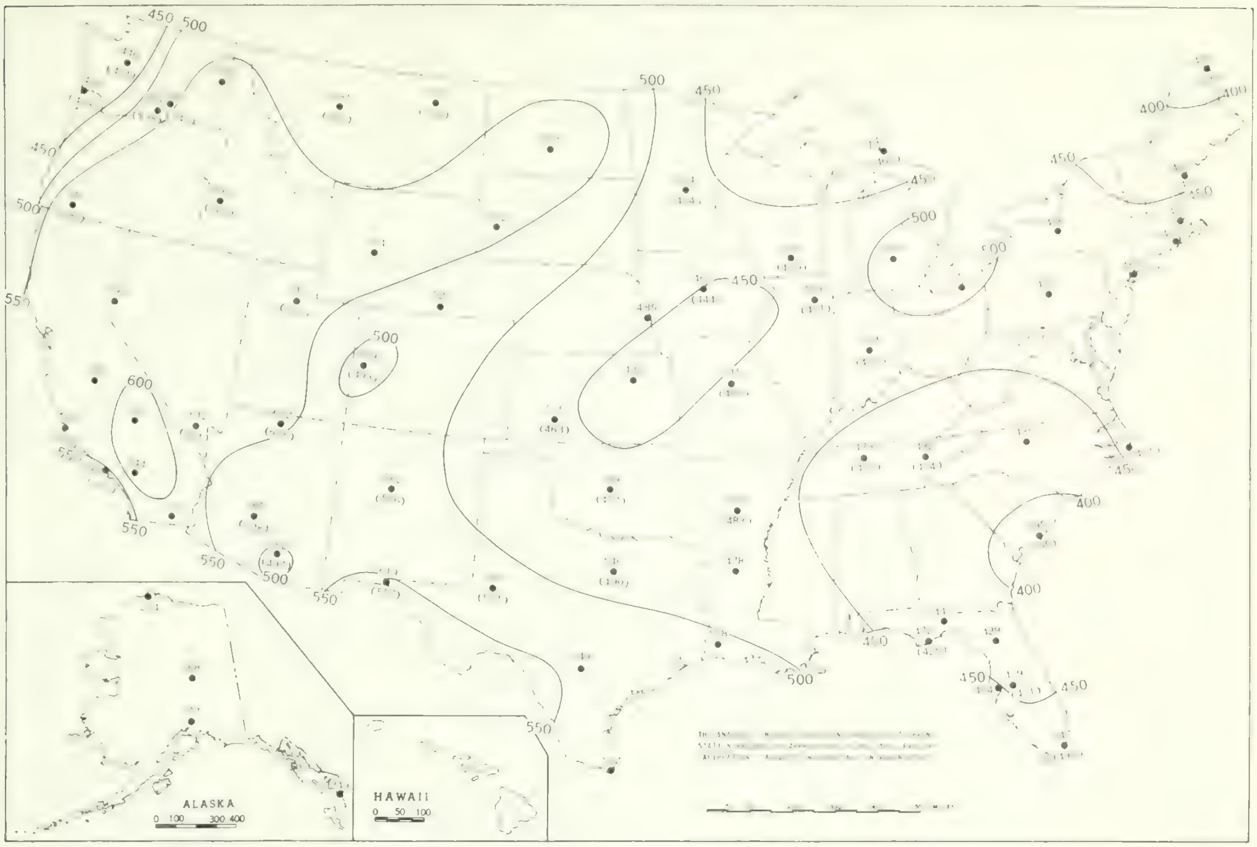


B. Percentage of Mean Monthly Sunshine, August 1969.

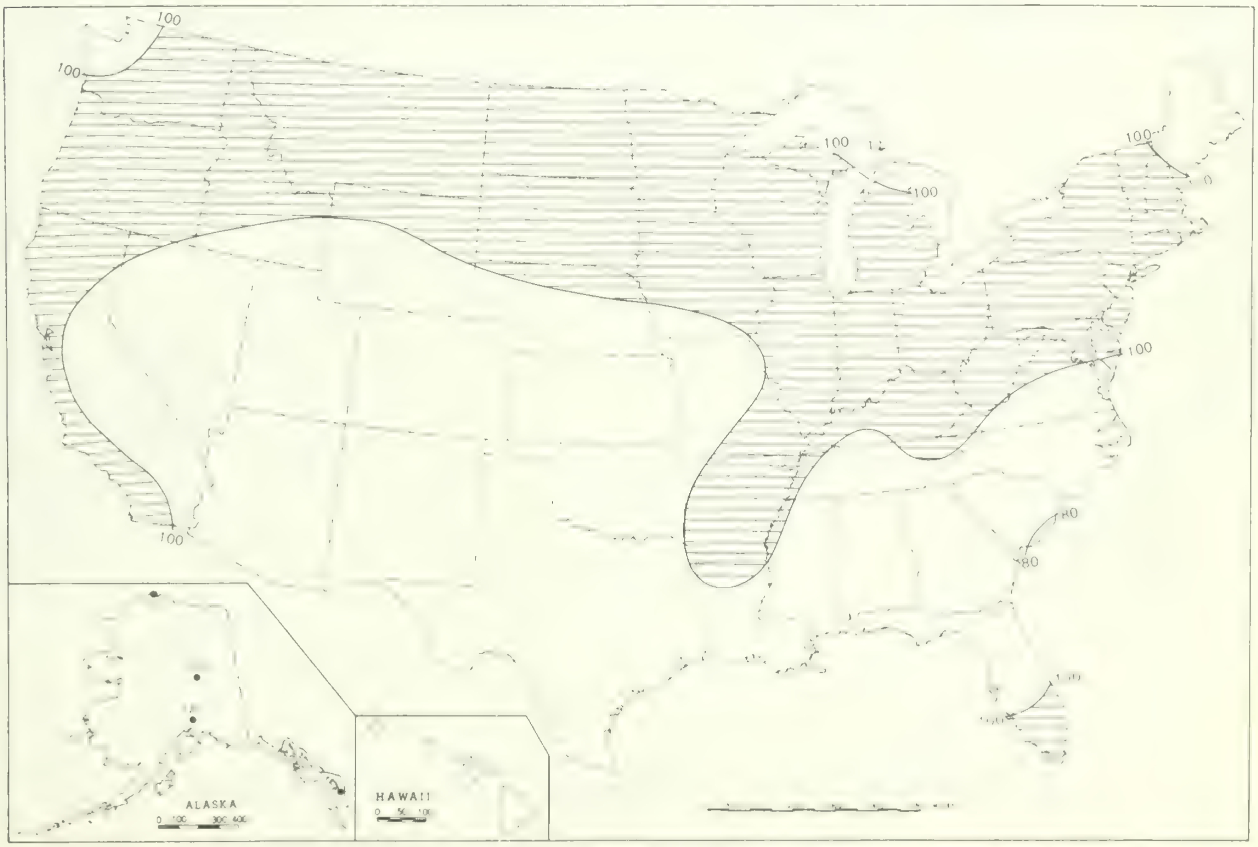


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, August 1969.

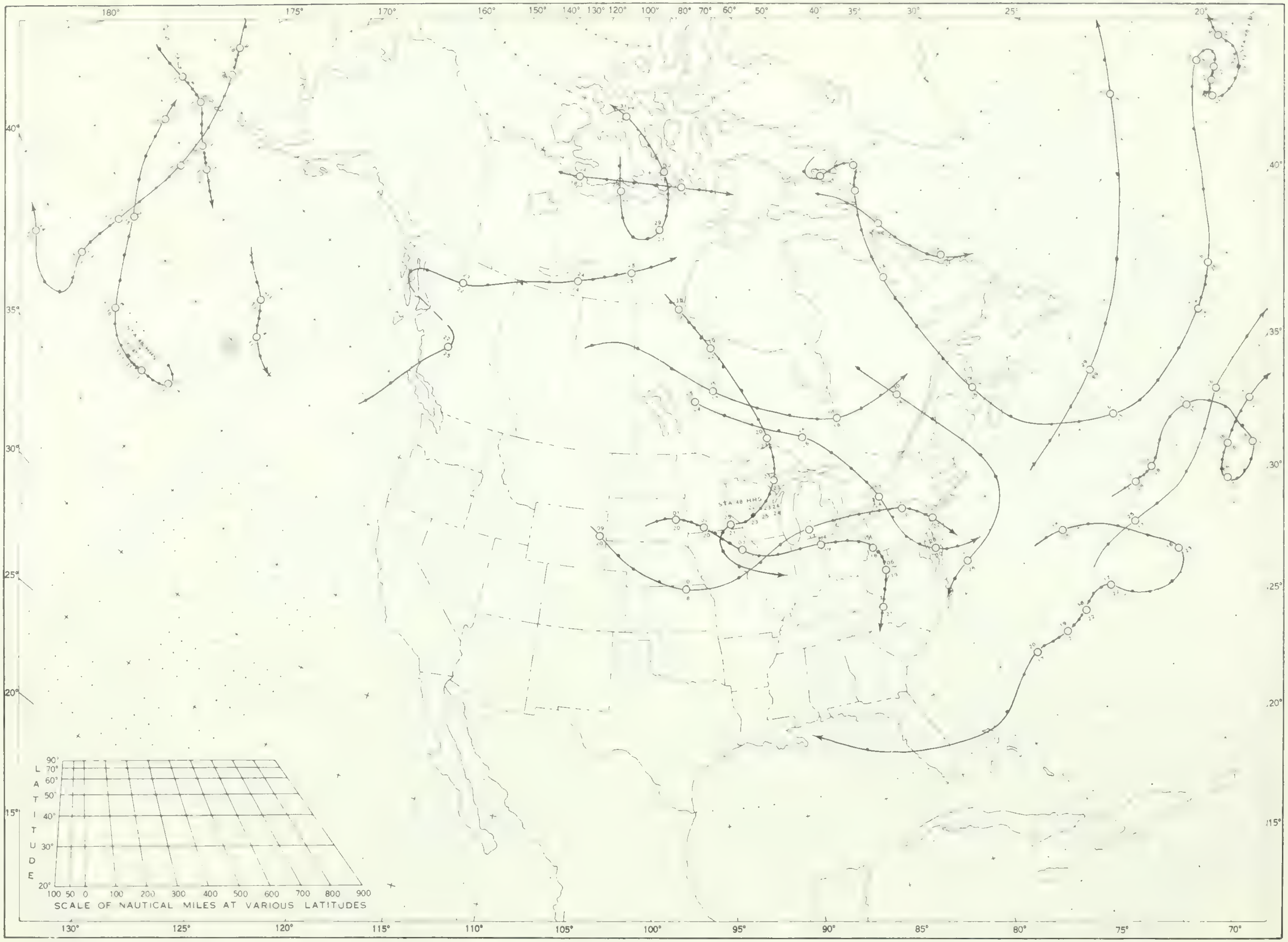


B. Percentage of Mean Daily Solar Radiation, August 1969.



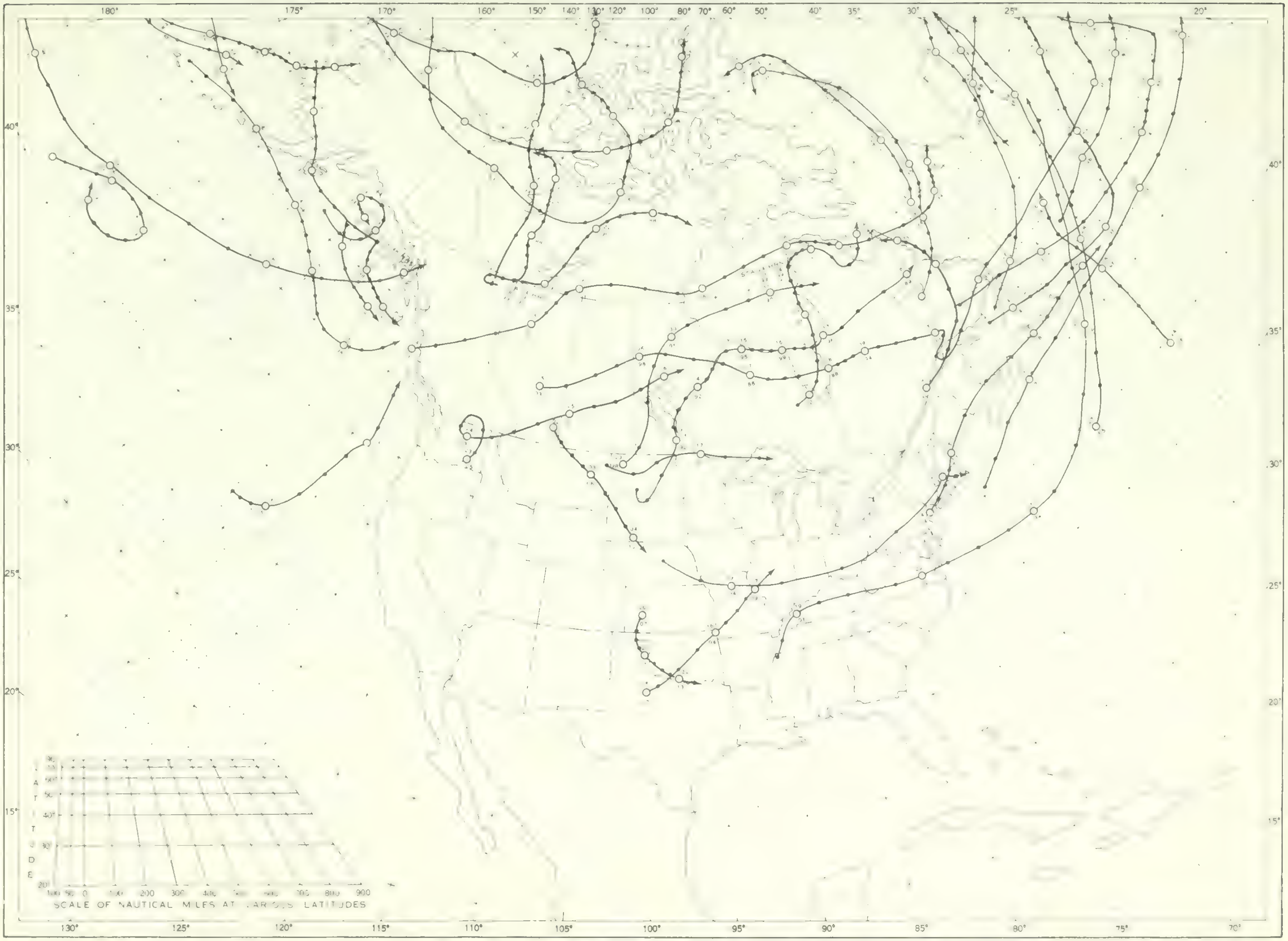
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII Tracks of Centers of Anticyclones at Sea Level, August 1969.



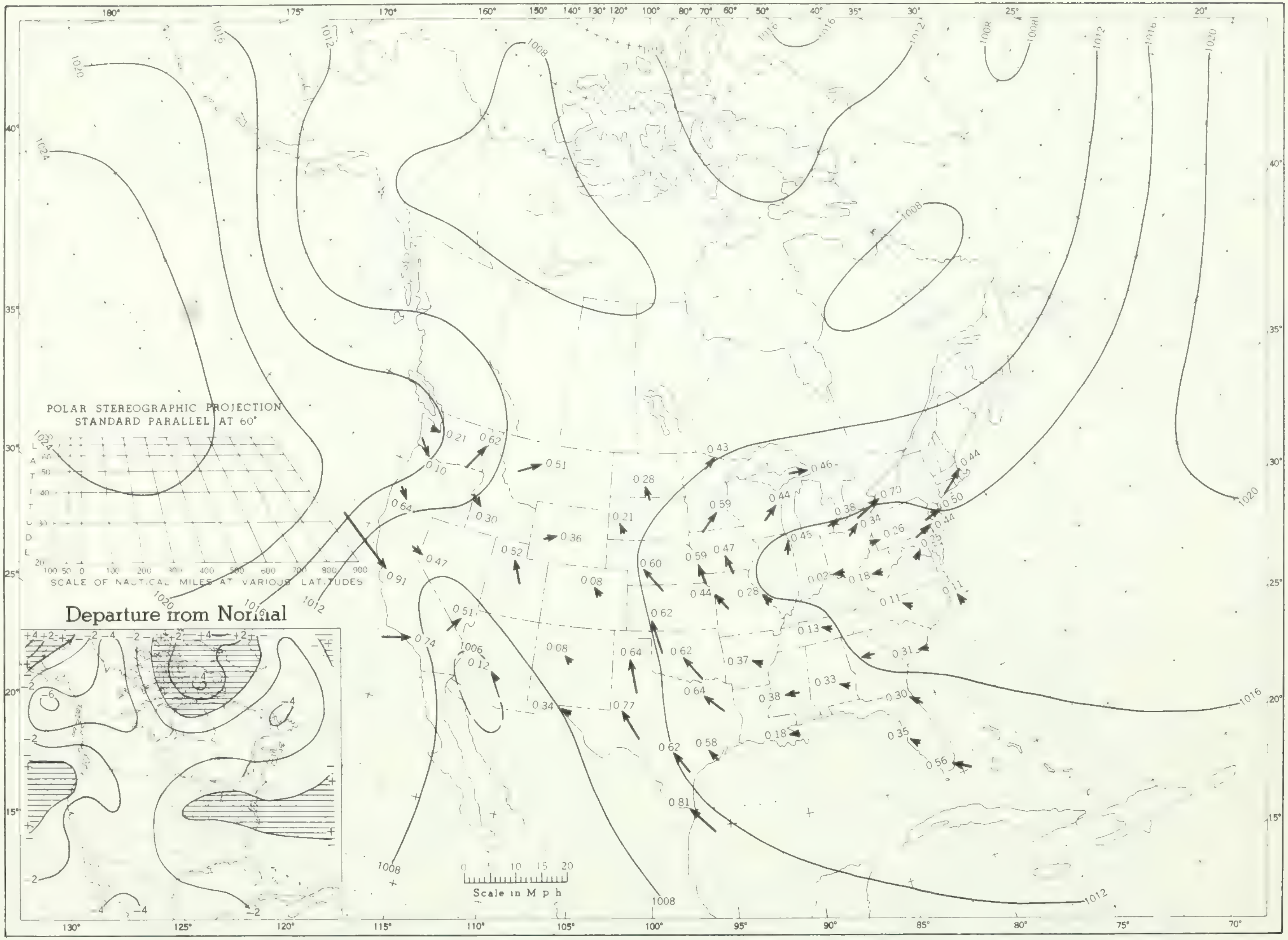
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX Tracks of Centers of Cyclones at Sea Level, August 1969.



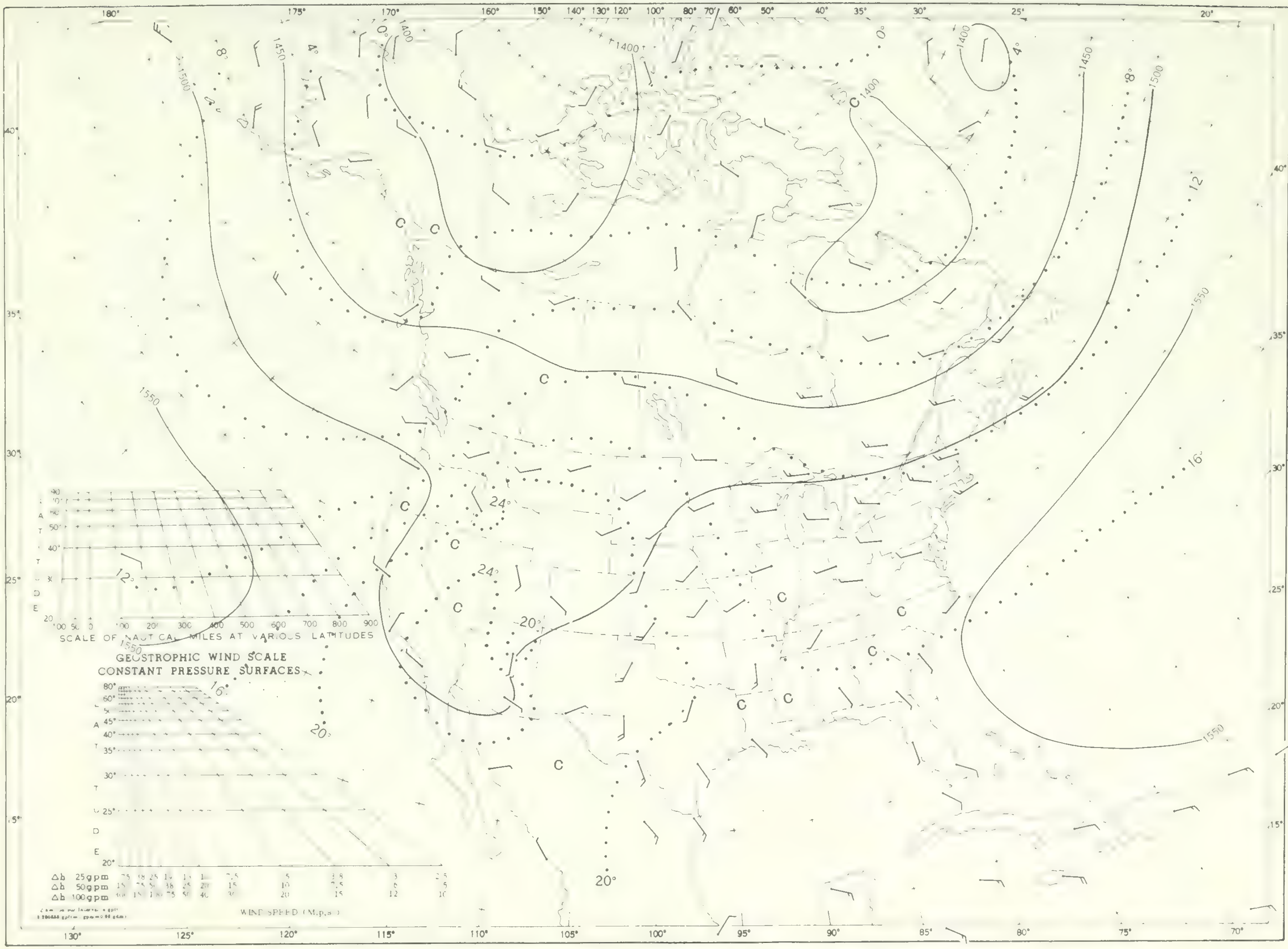
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X Average Sea Level Pressure (mb) and Resultant Surface Wind, August 1969. Inset Departure of Average Pressure (mb) from Normal, August 1969.



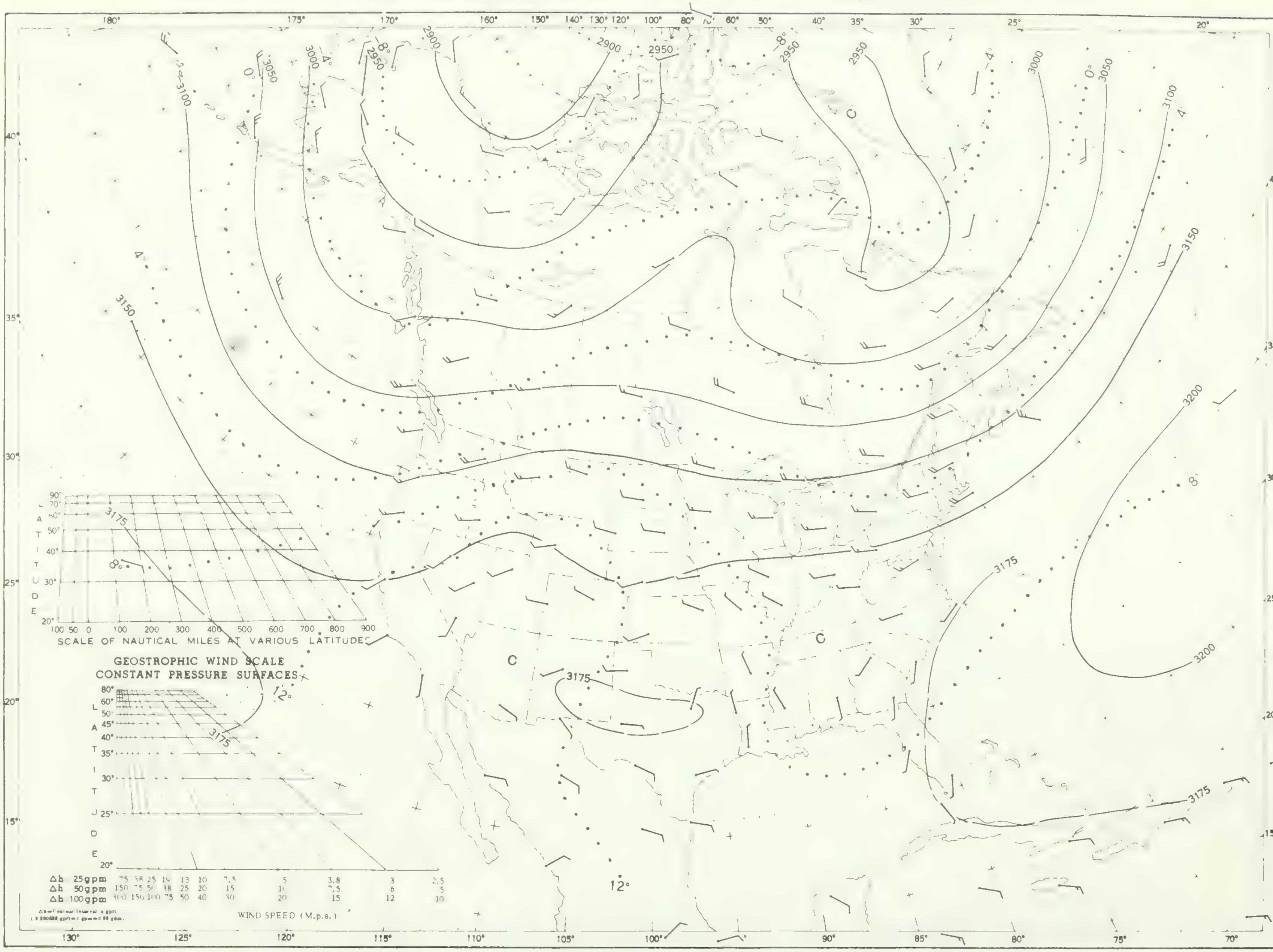
Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10 intersections in a diamond grid over the oceans.

Chart XI 350-mb Surface, 1200 GMT, **August 1969**. Average Height and Temperature, and Resultant Winds.



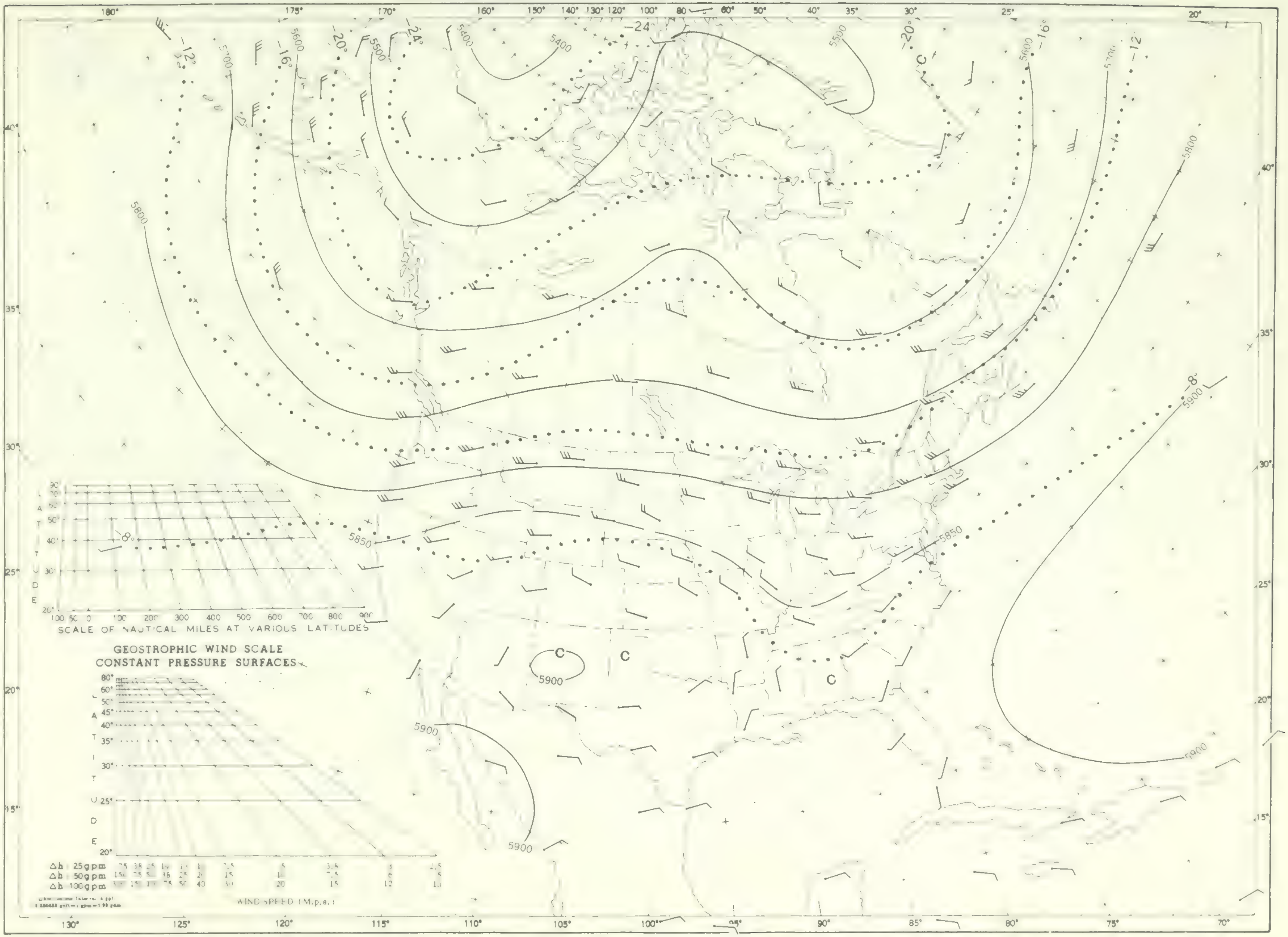
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, **August 1969**. Average Height and Temperature, and Resultant Winds



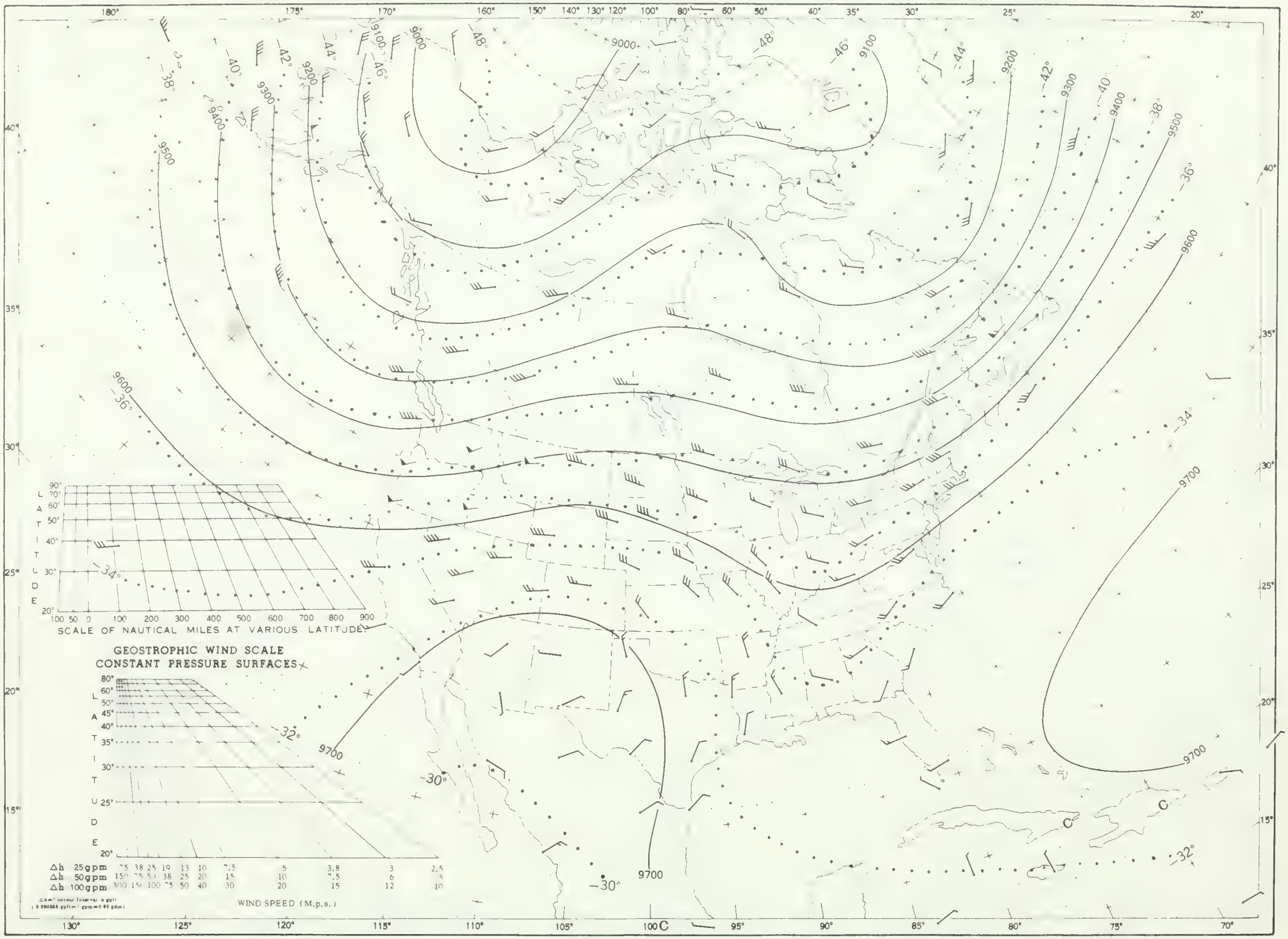
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, **August 1969**. Average Height and Temperature, and Resultant Winds



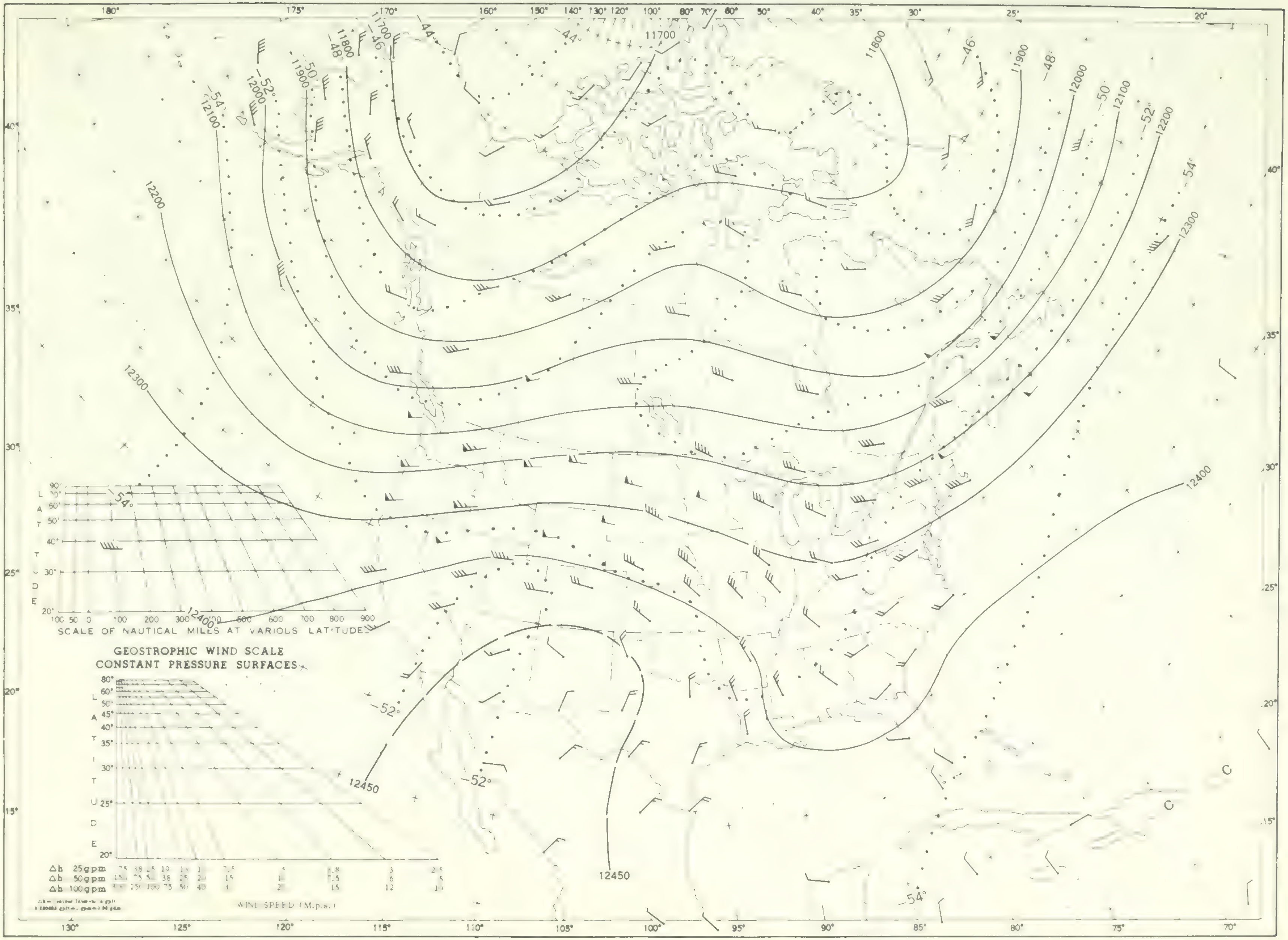
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, August 1969. Average Height and Temperature, and Resultant Winds.



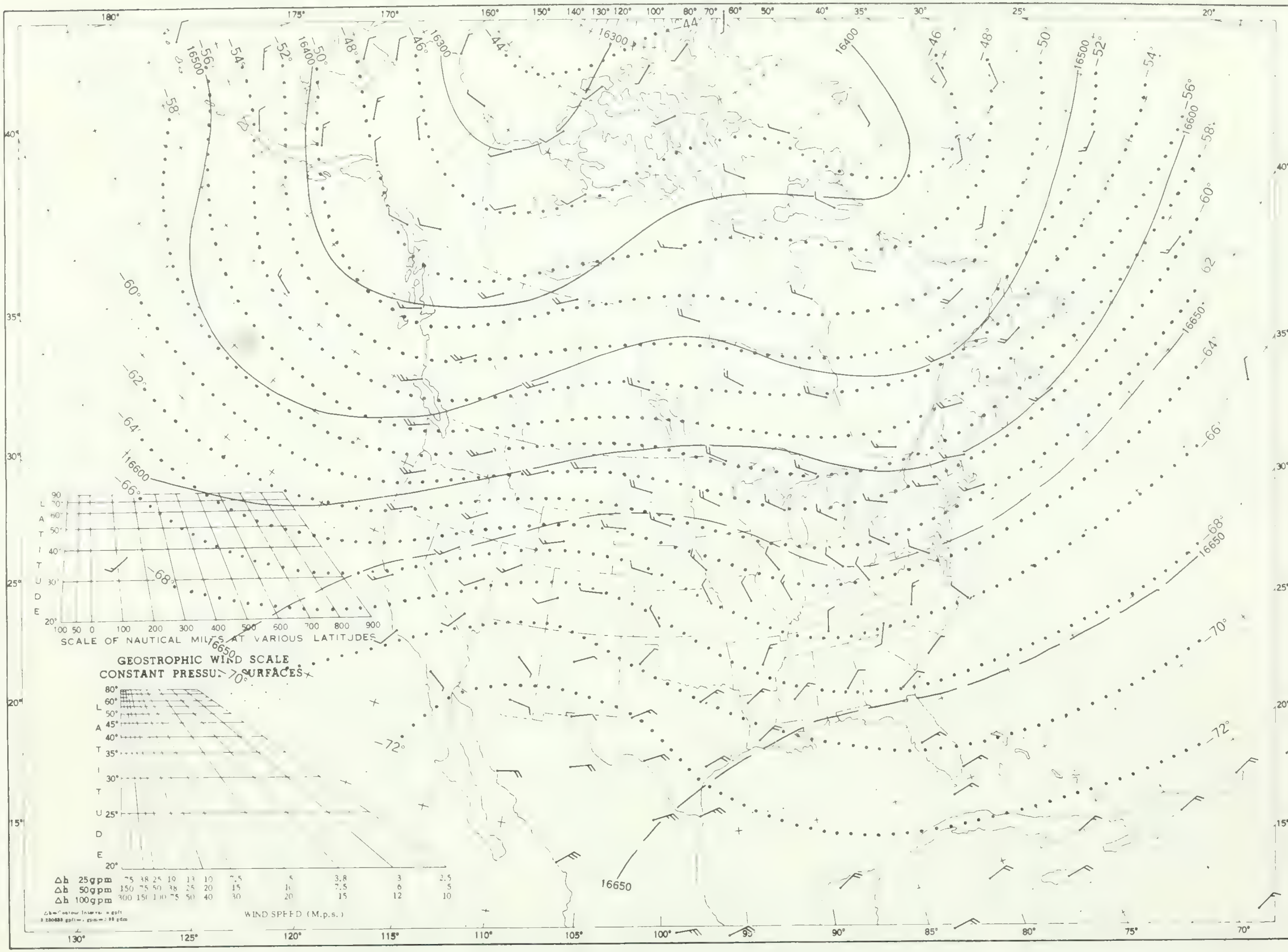
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, August 1969. Average Height and Temperature, and Resultant Winds



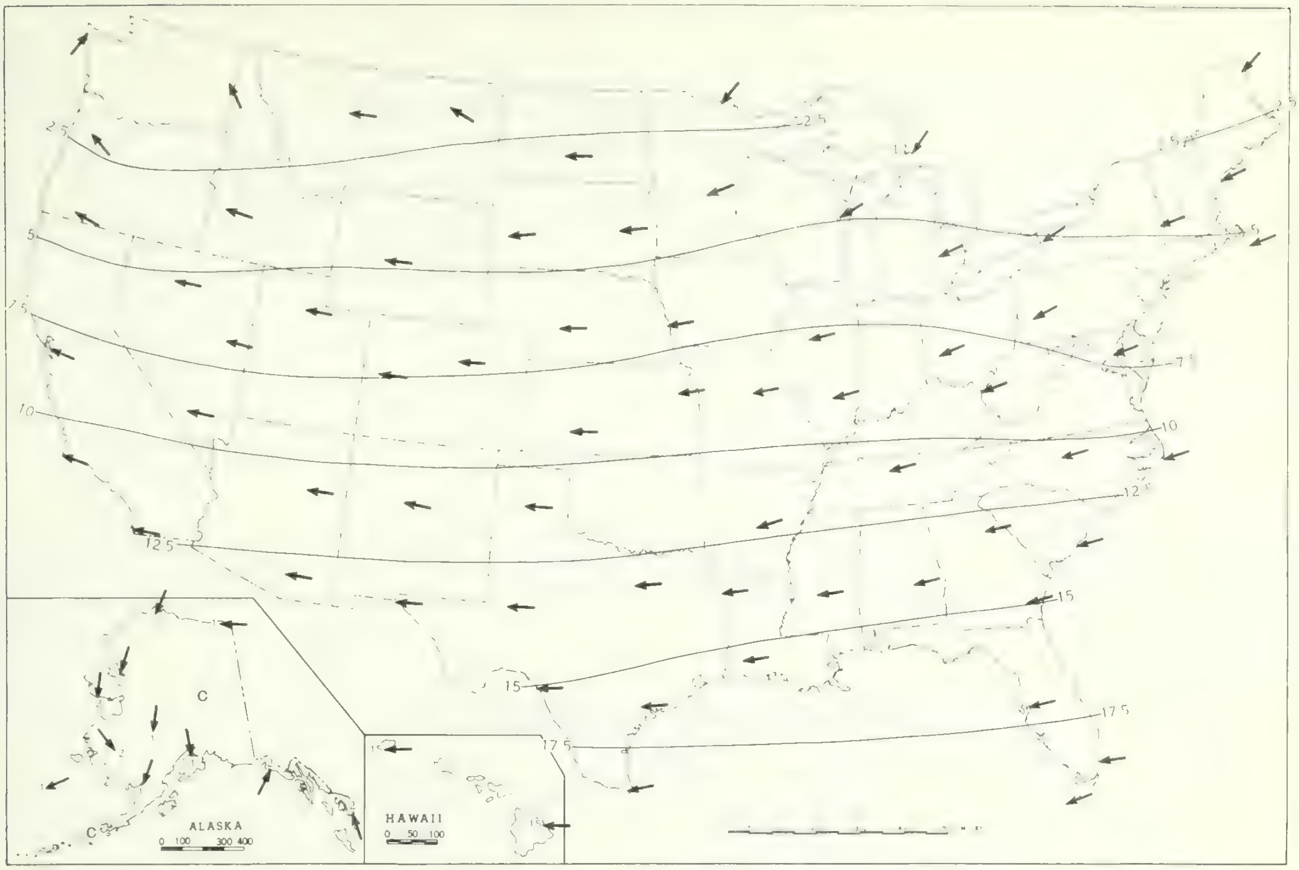
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, August 1969. Average Height and Temperature, and Resultant Winds

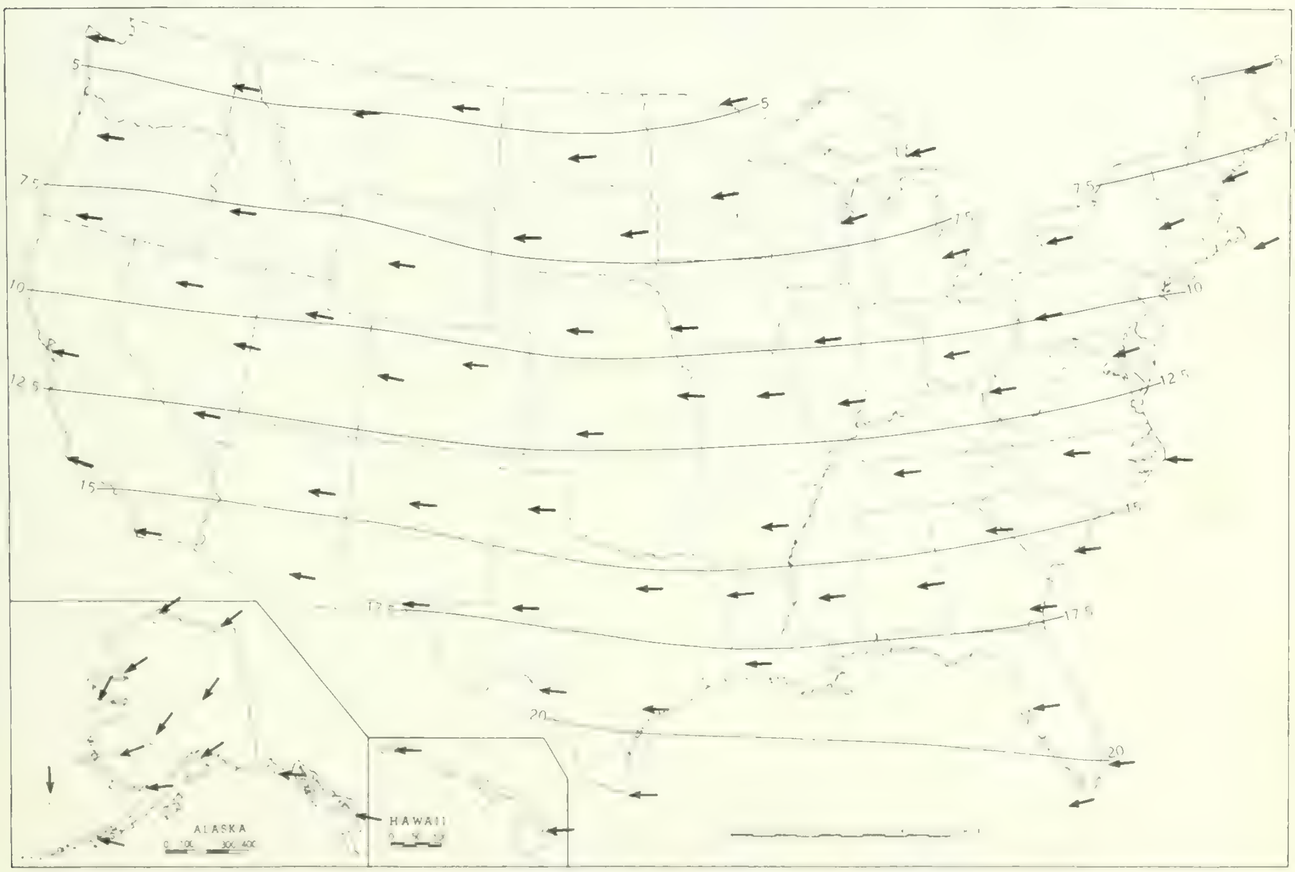


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, August 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, August 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

Clemson University Library

N-Free

Science, Technology & Agric. Div.

Clemson, South Carolina 29631

UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

U.S. DEPARTMENT OF COMMERCE

MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

SEPTEMBER 1969

Volume 20 No. 9

Asheville 1970

C O N T E N T S

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 9 SEPTEMBER 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. In general, September was warm and dry over the West and North Central (except wet in the Far Northwest) and cool over the East.
2. Rainfall ranged widely in the East, from less than 1 inch in a few widely separated spots to over 8 inches in much of Florida. A few monthly totals approached 20 inches. Wewahitchka, Fla., received 22.21 inches.

TEMPERATURE.--September continued the warm-weather pattern over much of the western United States. Bakersfield, Calif., Casper, Wyo., and Salt Lake City, Utah, recorded the highest average temperatures for any September of record and at Bismarck, N. Dak., September 1969 was the warmest September since 1952. Red Bluff, Calif., reported that a stretch of 77 consecutive days with maximum temperatures 90° or higher ended on September 13 and Sacramento, Calif., registered 90° or higher on 18 days in September, the greatest number in 35 years.

Temperatures over parts of the Great Basin averaged 3° to 6° above normal. Over the West, the warm Weather prevailed throughout most of the month. The main exceptions were the 1st week when the Far Northwest was slightly cooler than most Septembers and the 3d week when the Pacific States were relatively cool. Temperatures in the southwestern deserts climbed to 110° or higher early in September. Thermal, Calif., registered 114° on the 2d. At the other extreme, subfreezing temperatures occurred in the higher valleys in the northern and central Rocky Mountains. Big Piney, Wyo., registered 17° on September 5. Southerly winds on the west side of a High carried warm moist air to the central and southern Rockies in the 2d week of September. The Far West cooled in the 3d week but warmed in the last week of the month.

Most of the East averaged cooler than normal. Temperatures over the southern Appalachians averaged 2° to 6° below normal. The East was warm the 1st week, but cool weather persisted the rest of the month except for some warming along the Gulf coast after midmonth. A series of fronts kept most of the East supplied with cool, fresh, dry air in the last half of the month.

PRECIPITATION.--Showers and thunderstorms covered the southeastern half of the United States in connection with a cold front that stretched from the Northeast to the Texas Panhandle and in the hot, humid air southeast of the front. Storm totals ranged widely from a fraction of an inch to about 4 inches, with a few totals approaching 6 inches. On September 3, a 6-inch rain, the largest 1-day total in the last quarter century, at New York City caused local flooding from Staten Island to Yonkers. The water flooded basements, highways, expressways, and low-lying areas. The high water hampered subway and rail traffic in the metropolitan area, and the reduced visibility during the rains halted air traffic at the major terminals.

The almost-daily showers continued along the Atlantic coast into the 2d week of September. Hurricane Gerda, moving northeastward off the northern Atlantic coast, dumped up to 4 inches along the coastal portions of New England, causing considerable washing and flooding in some areas.

Generous showers continued over parts of Texas through the first 3 weeks of September. Heavy downpours on the afternoon and evening of September 1 caused flooding and washing of highways in the El Paso area. Torrential rains on the 18th inundated streets and flooded about 400 homes and apartments in southwest Lubbock. Shortly after midmonth, heavy showers caused flash floods along some streams in Kansas, Oklahoma, Missouri, and Illinois.

Torrential rains from September 20 to 23 in northwestern Florida flooded low-lying areas and damaged roads and bridges. Crop damage was estimated at over $1/2 million and damage to real and personal property was judged to exceed $2 million.

Pacific storms moved into the Far Northwest about mid-September, with the cloudy, rainy weather continuing to the end of the month with a few monthly totals exceeding 10 inches. Seattle, Wash., received 5 1/2 inches in the month, setting a new record for September. Salem, Ore., also set a new record with 3.58 inches. A station northeast of Aberdeen, Wash., received 14.81 inches for a monthly total.

Many areas in the West were quite dry. One dry area, extending from California to the northern Great Plains, received less than 1 inch of rain. Most of California and Nevada received less than 50% of their normal rainfall in the 3-month period, July to September.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

SEPTEMBER 1969

STATE	Temperature: Monthly extremes: Station	Highest	Date	Station	Lowest	Date	Precipitation: Monthly extremes: Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Fayette	99	7	Valley Head	40	11+	Andalusia 1NW	13.67	Fort Morgan	0.20
Alaska	West Fork	78	2	Chandalar Lake	4	25	Little Port Walter	25.48	Goose Bay Nike Site	.00
Arizona	2 Stations	115	11+	2 Stations	29	25+	Tempe Citrus Exp Sta	5.70	5 Stations	.00
Arkansas	Texarkana FAA AP	99	6	Calico Rock	39	25	Salem	4.71	Eudora	.17
California	2 Stations	118	3+	2 Stations	20	22+	Fort Dick	4.45	159 Stations	.00
Colorado	3 Stations	97	6+	Fraser	18	29+	Eads	5.71	Julesburg	.00
Connecticut	2 Stations	93	2+	Coventry	30	22+	West Thompson Dam	6.87	Wigwam Reservoir	2.59
Delaware	do	91	2+	Milford 2WSW	36	30	Dover	11.85	Georgetown 5SW	1.36
Florida	9 Stations	96	24+	De Funiak Springs	48	13	Wewahitchka	22.21	Pensacola FAA AP	3.09
Georgia	4 Stations	95	9+	Tallapoosa 2N	41	11	La Fayette	14.20	Swainsboro	1.39
Hawaii	Mauna Kea Beach 98	94	3	Mauna Loa Slope Obs.	32	16	Mount Waialeale 1047	34.39	7 Stations	.00
Idaho	Riggins Ranger Sta	103	1	Grouse	15	15	Sandpoint Exp Station	3.44	American Falls 1SW	.08
Illinois	Albion	96	1	Mount Carroll	35	28	Pana	10.25	Golconda Dam 51	.41
Indiana	2 Stations	94	8+	Waterloo	34	29	Hartford City 4NW	8.40	Vevay	.12
Iowa	do	92	30+	2 Stations	32	24+	Knoxville	6.70	Sanborn	.33
Kansas	Oberlin	100	6	Atwood	38	23	Newton 2SW	9.80	2 Stations	.00
Kentucky	Louisville	94	1	Falmouth 5WNW	33	29	Lloyd Greenup Dam	4.79	Georgetown Water Works	.12
Louisiana	St Francisville 6SE	99	25	2 Stations	47	30+	Woodworth State Forest	7.87	Sugartown	.30
Maine	Saco	95	1	Squa Pan Dam	24	21	Bridgewater	7.48	South Andover	2.06
Maryland	3 Stations	94	1	3 Stations	33	29+	Aberdeen Phillips Fld	10.49	Hancock Fruit Lab	1.11
Massachusetts	8 Stations	95	2+	Chester 2	27	20	Northbridge 2	9.24	Adams	1.93
Michigan	Mount Clemens AFB	93	1	Vanderbilt Trout Sta	26	20+	Maple City	5.74	Hastings Fisheries	.21
Minnesota	Beardsley	98	14	4 Stations	24	30+	Babbitt 2SE	5.73	Beardsley	.21
Mississippi	Pelahatchie	99	15	2 Stations	42	30+	Calhoun City	6.45	Rockport	.29
Missouri	Ozark Beach	96	7	do	35	25+	Chillicothe Radio KCHI	11.12	Ozark Beach	.75
Montana	Loma 1WNW	101	2	Wisdom	12	15	Troy 18N	3.92	2 Stations	.00
Nebraska	Benkelman	99	7	Agate 3E	27	23	Bertrand	5.31	do	.00
Nevada	Sunrise Manor Las Vegas	110	1	Mountain City RS	18	4	Searchlight	1.15	17 Stations	.00
New Hampshire	2 Stations	95	2+	Mount Washington	21	30	Milford	4.97	West Rumney	1.23
New Jersey	do	94	2+	Sussex 1SE	31	30	Cranford	9.47	Bass River St Forest	.61
New Mexico	do	98	7+	Eagle Nest	25	29	Porter	7.17	Hatch	.13
New York	New York Laurel Hill	96	1	Gabriels	27	19	NY Westerleigh Stat Is	8.82	Elmira	.57
North Carolina	Chapel Hill 2W	95	1	Celo 2S	29	29	Morganton	10.68	Kenansville	1.47
North Dakota	4 Stations	98	14+	2 Stations	25	30	Cooperstown	5.61	Watauga S Dak 8N	T
Ohio	2 Stations	93	1	Lancaster 2NW	28	28	Lima Sewage Plant	7.61	Lancaster 2NW	.35
Oklahoma	4 Stations	102	7	Grove 1E	41	24	Frederick	8.43	Haskell	.55
Oregon	2 Stations	103	8+	2 Stations	14	15+	Nehalem 9NE	8.48	3 Stations	T
Pennsylvania	Phoenixville 1E	96	7	Coudersport 5NW	21	19	Hanover	7.35	Donora	.02
Puerto Rico	Arecibo 2ESE	96	30	Barranquitas	58	8+	Rio Blanco Upper	16.33	3 Stations	1.75
Rhode Island	Providence WBAP	93	1	Kingston	32	22	Woonsocket	5.03	Providence WBAP	3.09
South Carolina	Andrews	102	16	2 Stations	43	30	Hogback Mountain	14.10	Rimini	.95
South Dakota	3 Stations	99	14+	Ralph	26	23	Pickstown	3.73	3 Stations	.00
Tennessee	Newbern	95	8	Mountain City No 2	31	29	Ashwood	6.65	Waverly 4W	.39
Texas	Candelaria	103	6	Jaspar	43	30	San Benito	11.09	Catarina	.00
Utah	Saint George	107	1	Soldier Creek	20	23+	Cedar Breaks Nat Mon	2.41	2 Stations	.00
Vermont	Vernon	95	1	2 Stations	27	20+	Wardsboro	4.08	Waterbury 1NNE	1.28
Virginia	Chase City	95	7	Burkes Garden	28	29	Newport News Press Bld	7.32	Tangier Island	.55
Washington	Lower Granite Dam Near	101	9	Mount Spokane Summit	20	4	Aberdeen 20NNE	14.81	Eltopia 7WNW	.21
West Virginia	Williamson	96	2	2 Stations	29	30+	Hacker Valley	7.98	New Cumberland	.42
Wisconsin	Burlington	92	1	4 Stations	25	28+	Cashton 2S	6.85	Ellsworth	T
Wyoming	Arvada 3N	99	3	Lamar Ranger Station	14	16	Snake River	2.36	3 Stations	.00

\+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	994.9	1017.1	81	61	70.9	- 5.4	91	18+	48	11	5	0	62	78	6.85	3.52	3.14	10	7	0.0	0	3.1	6	21	SW	4	9	10	11	5.7	62
HUNTSVILLE	624	994.9	1017.8	81	61	70.8	- 3.7	89	18+	45	11	0	0	63	80	4.39	1.30	1.41	9	6	0.0	0	2.9	8	29	31	7	12	6	12	5.5	
MOBILE	211	1007.5	1015.4	87	68	77.5	- [illegible].4	92	19	60	12+	8	0	66	73	1.95	- 4.30	1.15	7	3	0.0	0	4.3	4	21	36	21	8	13	9	5.3	
MONTGOMERY	183	1009.1	1016.4	85	62	73.4	- 2.7	94	18	51	11	9	0	62	75	6.06	2.09	4.00	8	3	0.0	0	2.6	4	21	N	21+	10	10	10	5.4	44
ALASKA												5																				
ANCHORAGE	114	1002.7	1007.6	57	41	48.9	0.9	63	21	3[illegible]	26	0	0	4[illegible]	73	0.78	- 1.72	0.29	6	0	0.0	0	1.2	17	21	20	13	4	11	15	6.9	49
ANNETTE	110	1007.5	1011.3	64	52	57.8	3.7	72	18	44	15	3	0	50	80	4.90	- 4.98	0.95	16	0	0.0	0	3.0	13	3[illegible]	15	11	[illegible]	4	26	9.3	
BARROW	31	1015.6	1016.3	33	26	29.8	- 0.7	51	14+	17	29	0	30	28	95	0.01	- 0.63	0.01	1	0	0.1	T	9.[illegible]	8	24	11	17+	3	6	21	8.1	
BARTER ISLAND	39	1013.9	1015.6	35	26	30.4	- 1.7	48	3	16	26	0	28	28	90	0.07	- 0.87	0.03	5	0	0.8	1	6.4	9	35	10	11+	8	5	17	7.[illegible]	
BETHEL	125	1000.[illegible]	1005.[illegible]	57	39	47.6	3.0	64	1	38	26+	0	0	41	80	0.77	- 1.82	0.26	10	0	0.0	0	[illegible].5	5	30	18	[illegible]	4	8	18	7.[illegible]	
BETTLES	644	987.1	1012.4	56	34	44.8		70	2	9	25	1	10	32	64	0.36		0.18	5	0	0.0	0	4.8	3	23	9	9	11	6	13	5.4	
BIG DELTA	1268	962.4	1008.9	59	35	46.7		67	2	19	26	0	11	34	63	0.45		0.31	6	0	0.0	0	3.9	14	[illegible]	12	29+	13	5	12	5.[illegible]	
COLD BAY	96	1000.3	1003.8	55	46	50.2	2.7	60	14+	34	25	0	0	46	86	5.18	0.86	1.62	21	[illegible]	0.0	0	5.0	25	55	15	26	1	5	24	8.9	
FAIRBANKS	436	992.6	1009.4	63	35	49.1	5.5	72	2	21	26	1	9	32	57	0.28	- 0.62	0.15	2	0	0.0	0	3.4	3	23	6	9	14	7	9	4.7	
GULKANA	1572	951.6	1008.9	58	29	43.6		65	2	14	25	0	20	30	63	0.07		0.06	2	0	0.0		1.9	16	23	18	14+	8	9	13	5.8	
HOMER	67			56	39	47.1		61	17	31	26+	0	3			0.83	- 1.93	0.35	8	0	0.0	0						4	9	17	7.1	
ILIAMNA	186			57	40	48.7		66	21	33	25	0	0			2.22		1.08	11	0	T	T						8	8	14	6.[illegible]	
JUNEAU	12	1009.8	1010.6	55	40	47.4	- 1.5	63	17	29	16	0	1	45	94	5.44	- 1.23	1.35	20	0	0.0	0	2.9	10	31	12	10	[illegible]	[illegible]	27	8.9	34
KING SALMON	49	1001.7	1003.8	57	39	48.1	[illegible]	66	[illegible]	3[illegible]	7	0	2	39	72	1.28	- 1.80	0.31	12	0	0.0	0	4.9	10	32	9	14	1	7	22	8.1	
KOTZEBUE	16	1009.5	1010.2	52	39	45.5	4.6	66	2	29	24	0	4	38	78	0.05	- 1.17	0.[illegible]2	4	0	T	0	6.1	8	29	11	2	12	4	14	5.4	
McGRATH	344	994.9	1007.5	59	33	45.9	2.0	66	17	24	25	0	14	31	60	0.19	- 2.42	0.09	4	0	0.0	0	1.1	1	20	9	27+	13	5	12	5.2	
NOME	13	1006.8	1007.4	54	39	46.5	4.6	62	18+	30	30+	0	4	36	68	0.56	- 2.11	0.21	10	0	0.0	0	3.5	8	24	10	1	9	6	15	5.9	42
ST. PAUL ISLAND	22	1002.0	1002.8	50	43	46.5	1.9	54	15	33	30	0	0	44	88	1.44	1.63	0.49	19	0	0.0	0	2.7	4	46	12	26	[illegible]	5	25	[illegible]	
SHEMYA	122	1002.7	1006.5	53	46	49.1	0.8	56	15	38	26	0	0	46	89	3.03	0.78	0.80	16	0	0.0	0	5.8	22	38	19	13	1	7	22	8.4	
SUMMIT	2401	922.8	1008.6	55	31	42.6		51	1	22	26	0	19	30	65	0.29		0.25	4	0	0.0	0	2.6	5	24	24	2	9	8	13	[illegible]	
TALKEETNA	345	994.9	1008.3	61	31	46.0	0.0	67	16+	24	25	0	20	35	71	0.91	3.55	0.49	5	1	0.0	0	[illegible]	1	21	[illegible]	[illegible]	11	10	9	[illegible]	
UNALAKLEET	15	1006.8	1007.5	56	39	47.4		65	9	31	22	0	1	37	70	0.78		0.39	8	0	0.0	0	6.4	5	26	8	26	6	11	13	6.1	
YAKUTAT	28	1008.1	1009.2	56	40	48.0	- 1.2	66	16	28	16	0	2	44	88	[illegible]	- 7.3[illegible]	2.76	17	0	0.0	0	[illegible]	11	26	12	10+	1	7	22	[illegible]	
ARIZONA																																
FLAGSTAFF	7006	790.7	1016.5	74	42	58.2	- 0.3	82	10+	33	25	0	0	38	52	1.34	- 0.24	0.52	8	12	0.0	0	1.8	22	17	20	21+	1[illegible]	14	[illegible]	4.1	
PHOENIX	1117	975.9	1008.5	99	73	86.0	3.2	108	9	65	25	28	0	55	38	2.11	1.38	1.33	6	8	0.0	0	2.3	11	[illegible]	W	15	2[illegible]	2	2	1.7	89
TUCSON	2584	923.8	1009.6	94	69	81.2	0.8	101	9	61	23+	23	0	51	41	2.51	0.51	0.62	5	7	0.0	0	4.5	16	29	[illegible]	6	2[illegible]	5	4	1.[illegible]	84
WINSLOW	4895	852.4	1013.5	87	54	70.5	- 0.2	95	10	44	23	9	0	43	44	0.26	- 0.65	0.15	5	8	0.0	0	2.3	20	28	34	13	15	12	3	1.[illegible]	
YUMA	194	1000.7	1007.7	102	76	88.8	2.5	112	9+	66	22	30	0	6[illegible]	42	[illegible]	0.15	0.20	2	2	0.0	0	[illegible]	17	42	SE	6	2[illegible]	7	1	1.8	90
ARKANSAS																																
FORT SMITH	447	1000.3	1016.7	87	62	74.4	- 0.5	94	6	51	25+	11	0	61	68	2.19	- 1.45	1.26	6	2	0.0	0	2.5	9	27	NE	7	11	6	13	5.2	66
LITTLE ROCK	257	1007.5	1017.0	85	61	72.9	- 1.4	92	6	51	25+	4	0	63	74	2.33	- 0.90	1.22	4	3	0.0	0	1.6	10	27	NW	7	11	6	13	5.4	63
CALIFORNIA																																
BAKERSFIELD	475	993.6	1010.8	94	67	80.8	4.[illegible]	108	3	57	21	23	0	51	35	T	- 0.08	T	[illegible]	[illegible]	0.0	[illegible]	2.7	33	18	31	6	2[illegible]	[illegible]	[illegible]	[illegible]	
BISHOP	4108	872.3		91	48	69.4	1.2	99	2	41	22	17	0			T	- 0.19	T	0		0.0	[illegible]						2[illegible]	5	[illegible]	1.[illegible]	
BLUE CANYON	5280			74	56	65.0	2.1	86	1	44	20	0	0			0.11	- 0.52	0.11	1		0.0	0			22	19	14	2[illegible]	5	3	[illegible]	
EUREKA	43			62	51	56.[illegible]	0.1	75	8	44	16	0	0			0.36	- 0.28	0.17	5		0.0				19	NW	3	7	9	14	6.[illegible]	64
FRESNO	328	999.0	1010.7	93	59	75.7	1.5	103	1	51	15	22	0	55	55	0.04	- 0.06	0.04	1	[illegible]	0.0		3.1	30	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97
LONG BEACH	34	1011.[illegible]	1012.3	81	61	71.3	0.[illegible]	94	29	58	12+	1	0	57	70	[illegible]	- 0.14	[illegible]	1	1	0.0		[illegible]	29	1[illegible]	26	22+	12	15	[illegible]	[illegible]	
LOS ANGELES	97	1008.1	1011.7	72	62	67.1	- 1.4	82	30	59	12+	0	0	60	82	0.01	- 0.16	[illegible]	1		0.0		5.5	26	[illegible]	W	[illegible]	8	11	10	5.6	
LOS ANGELES	270			80	64	71.7	- [illegible]	[illegible]	30	56	12	0	0			T	0.2[illegible]	T	[illegible]		0.0				18	W	22	[illegible]	13	0	[illegible]	92
MT. SHASTA	3544	891.0	1013.6	77	47	62.0	0.5	91	6+	35	15	3	0	41	50	0.13	- 0.74	[illegible]	3		0.0		0.7	3								
OAKLAND	6	1012.9	1013.1	71	57	63.9	- 1.[illegible]	84	7	53	22+	0	0	55	78	T	- 0.20	T	[illegible]	[illegible]	0.0		[illegible]	[illegible]	[illegible]	30	22+	17	10	3	[illegible]	
RED BLUFF	342	998.6	1011.[illegible]	93	62	77.3	1.3	106	6	51	15	17	0	46	38	0.00	- 0.37	0.00	0	[illegible]	0.0	[illegible]	[illegible]	21	[illegible]	[illegible]	[illegible]	20	5	[illegible]	[illegible]	91
SACRAMENTO	17	1010.5	1011.3	91	57	74.0	2.4	104	2+	49	15	18	0	54	55	0.02	- 0.17	[illegible]	1		0.0	[illegible]	[illegible]	[illegible]	[illegible]	W	6	24	6	0	1.[illegible]	98
SANDBERG	4517			80	59	69.7	0.4	92	2+	44	21+	2	0	43	46	[illegible]	- 0.[illegible]	0.01	1		0.0		[illegible]	21	[illegible]	[illegible]	30	25	5	[illegible]	1.7	
SAN DIEGO	13	1010.8	1011.8	75	65	69.9	0.0	83	30	61	10	0	0	61	76	T	- 0.16	T	[illegible]	[illegible]	0.0	[illegible]	[illegible]	[illegible]	[illegible]	NW		14	6	10	[illegible]	64
SAN FRANCISCO	8	1012.5	1013.[illegible]	7[illegible]	55	63.9	0.0	86	25+	5[illegible]	15	0	0	53	76	[illegible]	- 0.17	[illegible]	1	[illegible]	0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	4	[illegible]	
SAN FRANCISCO	52			67	55	6[illegible].9	- 1.1	82	25	51	[illegible]	0	0			[illegible]	- 0.21	[illegible]	1		0.0				16	W	[illegible]					76
SANTA MARIA	236			72	53	62.7	[illegible].1	84	3	43	22	0	0			[illegible]	- 0.[illegible]	0.09	[illegible]		0.0							1[illegible]	1[illegible]	5	[illegible]	
STOCKTON	22	1010.8	1011.8	91	59	74.9	2.[illegible]	104	2	51	15	17	0	51	47	[illegible]	0.0[illegible]	[illegible]	1	1	0.0		[illegible]	[illegible]	21	[illegible]	[illegible]	24	6	0	1.[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	775.8		72	38	54.9	- 0.8	82	6	30	24	0	6			1.29	.51	0.50	10		0.0	0						9	14	7	4.3	
COLORADO SPRINGS	6145	814.4	1015.8	75	49	61.9	0.3	86	6	40	23	0	0	44	62	1.13	0.06	0.33	11	12	0.0	0	2.0	5	30	30	30	10	10	10	5.8	
DENVER	5283	838.1	1013.7	74	50	64.5	1.5	89	6+	42	25	0	0	44	55	1.67	0.54	1.30	3	3	0.0	0	2.6	19	42	31	4	11	6	13	5.5	71
GRAND JUNCTION	4843	853.4	1013.4	[illegible]	55	67.2	1.5	92	7	43	25	6	0	42	42	1.45	0.54	0.78	11	11	0.0	0	5.9	14	40	W	15	15	9	6	4.0	71
PUEBLO	4684	857.1	1015.5	84	56	69.8	3.2	93	6	47	24+	6	0	49	53	1.28	0.44	0.83	7	4	0.0	0	1.3	7	38	NW	30	10	12	8	[illegible]	73
CONNECTICUT																																
BRIDGEPORT	7	1018.0	1018.7	74	56	64.9	- 0.6	87	2+	42	30	0	0	57	77	4.33	0.88	2.10	9	3	0.0	0	1.5	35	[illegible]	32	9	[illegible]	13	7	5.1	
HARTFORD	169	1011.9	1018.4	75	53	63.8	0.5	93	1	38	21	1	0	54	76	3.33	- 0.12	1.52	10	2	0.0	0	1.7	28	22	SW	15	[illegible]	8	[illegible]	[illegible]	58
DELAWARE																																
WILMINGTON	74	1016.3	1019.1	78	59	68.2	.6	90	1	45	30	1	0	57	71	6.84	2.89	5.37	6	5	0.0	0	1.3	29	23	34	28	6	11	13	5.8	
DIST. OF COLUMBIA																																
WASH NATL AP	10	1016.9	1019.2	79	61	70.1	0.4	91	7	48	30	2	0	58	69	5.07	1.24	3.04	11	6	0.0	0	0.3	25	43	W	8	9	8	[illegible]	6.0	51
FLORIDA																																
APALACHICOLA U	13			84	71	77.6	- 1.3	91	9+	62	11	3	0			12.34	3.81	7.10	8	4	0.0	0			29	NE	30+	9	[illegible]	11	5.8	57
DAYTONA BEACH	31	1013.9	1015.1	86	73	79.7	0.5	92	10	70	26	1	0	72	81	8.89	1.89	4.02	18	[illegible]	0.0	0	[illegible]	7	23	10	19	[illegible]	9	21	[illegible]	
FORT MYERS	15	1013.5	1013.8	87	75	[illegible]	- 0.6	91	1	72	13	4	0	74	85	16.60	8.10	5.72	19	[illegible]	0.0	0	[illegible]	7	[illegible]	17	15	[illegible]	[illegible]	18	7.6	
JACKSONVILLE	20	1014.6	1015.7	86	71	78.3	- 1.1	93	9	65	14	3	0	71	83	10.33	2.77	3.80	17	8	0.0	0	4.9	6	36	NE	29	2	[illegible]	18	7.5	53
KEY WEST	4	1012.5	1013.1	87	79	83.0	0.7	89	24+	73	14	0	0	75	77	10.21	3.48	2.29	20	18	0.0	0	[illegible]	11	28	SE	19	[illegible]	11	19	8.1	61
LAKELAND U	214			87	72	79.7	0.5	92	2	67	23	7	0			8.90	2.35	3.17	17		0.0	0						[illegible]	12	16	[illegible]	47
MIAMI	7	1012.9	1013.3	88	77	82.5	1.2	92	9	74	29+	8	0	72	75	8.24	- 1.23	1.50	13	10	0.0		2.5	12	22	12	20	[illegible]	10	20	8.0	
ORLANDO	108	1010.5	1014.7	89	74	[illegible]	1.2	92	10+	72	29+	15	0	72	78	6.44	- 0.79	[illegible]	15	13	0.0	0	[illegible]	6	46	24	[illegible]	[illegible]	10	20	8.0	
TALLAHASSEE	55	1013.2	1015.4	88	66	77.1	- 1.0	96	8	51	11	13	0	69	81	15.92	10.41	9.47	10	7	0.0	0	3.8	5	18	4	30+	7	9	14	6.5	
TAMPA	19	1013.5	1013.9	88	73	80.5	0.0	93	6+	70	26+	9	0	71	79	4.09	- 2.80	2.07	14	11	0.0	0	3.5	7	20	15	18	2	9	19	7.8	73
WEST PALM BEACH	15	1012.9	1013.6	87	74	80.5	- 1.6	91	10+	70	25+	4	0	73	81	14.56	4.90	2.43	20	17	0.0	0	[illegible]	10	35	31	24	0	12	18	8.2	
GEORGIA																																
ATHENS	802	988.8	1017.6	80	62	70.7	- 2.8	91	18	53	30+	1	0	62	78	5.19	2.17	2.68	10	6	0.0	0	3.3	5	17	7	22	9	[illegible]	11	5.8	
ATLANTA	1010	981.0	1017.5	80	62	70.9	- 2.2	90	18	49	10	1	0	62	79	3.74	[illegible]	1.89	5	3	0.0	0	4.0	7	25	E	22	9	8	13	6.1	58
AUGUSTA	136	1011.9	1017.1	81	62	71.6	- 3.7	89	8+	50	14	0	0	64	83	7.03	4.03	4.93	8	3	0.0		2.5	5	17	8	19	6	7	17	6.9	
COLUMBUS	385	1002.7		83	64	73.4	- 2.6	91	8+	55	14+	4	0	65	79	6.32	[illegible]	3.30	[illegible]	5	0.0		4.6	5	23	7	21	[illegible]	8	[illegible]	[illegible]	
MACON	354	1004.4	1017.2	83	61	72.1	- 4.3	93	18	50	13	7	0	63	80	1.55	[illegible]	0.73	10	3	0.0		4.1	5	18	E	22+	9	9	12	6.0	57
ROME	637			81	59	70.1	- 2.3	92	18	46	13	1	0			5.10	1.80	3.88	7		0.0											
SAVANNAH	46	1014.9	1016.5	83	68	75.4	- 1.3	89	9	57	13	0	0	68	81	3.74	- 1.51	[illegible]	15	2	0.0		4.9	5	17	NE	30+	3	5	22	7.9	47
HAWAII																																
HILO	27	1014.6	1015.8	82	68	75.0	- 0.5	84	15	65	30+	0	0	69	83	7.24	- 1.26	2.42	29	0	0.0	0	0.5	28	16	NE	25	0	14	16	8.0	[illegible]
HONOLULU	7	1014.9	1015.3	89	75	82.0	2.8	91	15+	72	23	11	0	67	63	0.87	- 0.12	0.57	11	0	0.0		13.1	5	29	NE	2	0	19	11	6.6	67
KAHULUI	48	1012.5	1015.0	87	69	77.9	- 0.5	90	24+	61	7	3	0	67	71	0.49	0.24	0.16	13		0.0	0	[illegible]	5	29	NE	1	6	12	12	6.2	71
LIHUE	103	1011.5	1016.8	85	74	79.5	1.4	86	25+	69	10	0	0	69	73	1.49	- 0.59	0.53	16		0.0	0	12.6	6	26	E	29+	0	11	19	7.8	51
IDAHO																																
BOISE	2838	914.3	1013.1	78	50	64.2	1.5	94	8	36	5	4	0	38	43	0.68	0.29	0.32	4	1	0.0	0	[illegible]	9	28	NW	3	15	7	8	4.5	[illegible]
LEWISTON	1413			76	52	64.3	0.8	96	1	40	15	3	0			1.38	0.48	0.55	8		0.0	0						6	6	18	7.0	
POCATELLO	4454	863.2	1013.8	78	46	62.1	1.8	92	1	33	22	2	0	35	40	0.14	- 0.47	0.09	5	5	0.0	0	4.8	23	37	W	29	12	11	7	4.5	80
ILLINOIS																																
CAIRO U	314			81	63	71.7	- 0.8	90	6	53	29+	1	0			2.50	- 0.51	2.03	8		0.0	0			32	N	6	14	9	7	4.2	68
CHICAGO O HARE	658	994.6	1018.8	74	57	65.3	1.7	83	3	42	28	0	0	53	66	[illegible]	0.27	2.06	8	2	0.0	0	[illegible]	33	24	7	4	8	11	11	5.8	
CHICAGO MIDWAY	607	996.3	1018.9	75	58	66.4	0.3	84	22+	46	28+	0	0	54	66	1.31	- 1.42	0.34	10	3	0.0	0	0.5	14	24	NE	17	6	14	10	5.9	58
MOLINE	582	997.0	1018.5	76	54	64.9	- 0.4	84	13+	41	28+	0	0	54	71	2.50	- 0.75	0.96	11	5	0.0	0	0.9	10	30	W	6	12	5	13	5.8	59
PEORIA	652	994.9	1018.7	75	55	64.8	- 1.6	84	3	42	28	0	0	55	72	3.31	0.26	0.94	12	5	0.0	0	1.1	9	29	NW	27	7	10	13	6.0	59
ROCKFORD	724	991.5	1018.4	73	53	63.1	- 0.7	82	13	40	28	0	0	53	72	1.87	- 1.64	0.92	11	3	0.0	0	0.5	10	20	19	29+	8	9	13	6.0	
SPRINGFIELD	588	995.9	1018.1	78	55	66.4	- 1.2	87	13	41	25	0	0	56	72	3.97	1.04	2.15	12	5	0.0	0	1.2	11	22	NW	26	11	6	13	5.4	72
INDIANA																																
EVANSVILLE	381	1004.4	1018.2	80	56	68.3	- 1.8	90	6	43	29	1	0	57	71	2.66	- 0.21	[illegible]	8	4	0.0	0	1.5	2	19	N	17+	9	9	12	5.5	77

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb	F	F.	F.	F.	F.		F.				F.	%	In	In	In.			In	In.	M.p.h.		M.p.h.							%
INDIANA																																
FORT WAYNE	[illegible]	98[illegible]	1019.[illegible]	76	54	65.[illegible]	0.4	93	6	38	29	1	0	54	7[illegible]	3.49	0.82	1.91	10	4	0.0	0	0.7	27	29	NW	6	[illegible]	13	12	6.7	63
INDIANAPOLIS	[illegible]	98[illegible]	1018.5	76	54	65.[illegible]	- 1.3	90	6	4[illegible]	10	1	0	57	7[illegible]	2.89	- [illegible].39	1.75	9	2	0.0	[illegible]	[illegible].8	9	[illegible]	N	17	7	11	1[illegible]	6.1	6[illegible]
SOUTH BEND	77[illegible]	[illegible]	1018.7	[illegible]	5[illegible]	63.6	- [illegible]	83	15+	4[illegible]	29	0	0	55	77	1.42	- 1.65	0.43	9	3	0.0	[illegible]	1.2	22	26	26	6	[illegible]	13	14	7.[illegible]	
IOWA																																
BURLINGTON	[illegible]			[illegible]	[illegible]	64.[illegible]	- [illegible].1	84	1[illegible]	41	14	0	[illegible]	56	71	[illegible].17	- [illegible]		6	4	0.0		1.3	11	[illegible]	18	14	[illegible]	1[illegible]	10	[illegible]	
DES MOINES	[illegible]	[illegible]	1018.4	[illegible]	[illegible]	66.1	[illegible].7	85	5	38	24	0	0	53	66	[illegible]	- [illegible].45	0.82	[illegible]	1[illegible]	0.0	[illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	13	1[illegible]	10	10	[illegible]	6[illegible]
DUBUQUE	[illegible]	[illegible]		7[illegible]	[illegible]	[illegible]	[illegible]	83	1[illegible]	4[illegible]	[illegible]+	[illegible]	0			1.04	- [illegible].70	[illegible].38	1[illegible]		0.0	[illegible]						[illegible]	[illegible]	13	6.[illegible]	
SIOUX CITY	[illegible]	9[illegible]	1016.8	[illegible]	54	64.8	[illegible].7	86	5	4[illegible]	14	[illegible]	[illegible]	57	77	[illegible]	- 1.51	0.76	8	6	0.0	0	4.6	14	[illegible]	[illegible]	30	1[illegible]	5	10	4.6	70
WATERLOO	868	98[illegible]	1018.6	73	49	61.1	- 1.8	82	13+	37	28+	0	0	53	78	1.35	- 2.45	0.34	8	[illegible]	0.0	[illegible]	[illegible]	14	31	21	13	9	11	10	5.6	
KANSAS																																
CONCORDIA	14[illegible]	[illegible]	1015.7	81	57	68.9	- [illegible]	94	30	47	14+	[illegible]	0	59	74	1.3[illegible]	- 1.4[illegible]	1.16	4	[illegible]	[illegible]		[illegible].6	15	[illegible]	NW	4	17	7	6	4.1	67
DODGE CITY	[illegible]	[illegible]	1015.[illegible]	81	6[illegible]	70.[illegible]	[illegible]	94	29	5[illegible]	[illegible]	5	0	59	7[illegible]	[illegible]	- [illegible]	0.88	[illegible]	[illegible]	[illegible]		[illegible]	1[illegible]	[illegible]	[illegible]	21	1[illegible]	7	12	[illegible]	[illegible]
GOODLAND	36[illegible]	[illegible]	10[illegible]	80	56	68.1	[illegible]	93	6	43	27	3	[illegible]	52	64	[illegible].36	- 0.88	0.25	6	[illegible]	[illegible]		6.3	17	[illegible]1	17	20	[illegible]	8	13	5.6	
TOPEKA	876	9[illegible]	1016.9	[illegible]	58	69.[illegible]	- [illegible].4	94	6	42	24	2	0	59	7[illegible]	2.03	- [illegible]	1.18	4	4	[illegible]		3.1	14	28	NW	5	8	1[illegible]	1[illegible]	5.7	5[illegible]
WICHITA	13[illegible]	[illegible]	10[illegible]	8[illegible]	61	71.9	[illegible].6	94	5+	51	24	5	0	59	6[illegible]	4.77	1.5[illegible]	[illegible]	9	[illegible]	[illegible]	[illegible]	4.5	17	[illegible]	SW	30	1[illegible]	[illegible]	14	[illegible]	[illegible]
KENTUCKY																																
COVINGTON	[illegible]	[illegible]7.8	1019.[illegible]	7[illegible]	[illegible]	66.[illegible]	- [illegible].7	89	1	42	28	0	0	56	74	[illegible].57	[illegible]	[illegible]	7	[illegible]	0.0	0	[illegible].5	[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]	16	6.[illegible]	
LEXINGTON	[illegible]	[illegible]3.[illegible]	1019.0	78	57	67.8	- 1.5	85	30+	43	28	0	0	55	68	[illegible].49	- 2.31	[illegible]	5	1	0.0	[illegible]	1.0	13	17	24	17+	8	6	16	6.4	
LOUISVILLE	[illegible]	[illegible]0.7	1018.[illegible]	78	57	67.5	- [illegible].0	88	6	43	29	0	0	57	73	1.[illegible]8	- 1.55	0.5[illegible]	8	[illegible]	0.0	[illegible]	[illegible].7	4	[illegible]	NW	17+	8	7	15	6.[illegible]	68
LOUISIANA																																
BATON ROUGE	[illegible]	0[illegible]	1015.6	88	66	77.3	- [illegible].6	93	7	56	12	12	0	65	7[illegible]	[illegible].99	- [illegible].53	[illegible].14	[illegible]	7	0.0	[illegible]	[illegible].6	4	[illegible]	18	7	1[illegible]	1[illegible]	[illegible]	4.[illegible]	
LAKE CHARLES	[illegible]	01[illegible]	101[illegible].2	88	[illegible]	7[illegible]	- 1.5	[illegible]	17+	57	30+	11	0	66	75	[illegible]	- [illegible].7[illegible]	[illegible]	[illegible]	5	0.0	[illegible]	[illegible]	[illegible]	[illegible]	16	4+	[illegible]	15	[illegible]	4.[illegible]	
NEW ORLEANS	[illegible]	01[illegible]	1015.5	8[illegible]	[illegible]	76.7	- 1.6	91	17+	57	13+	[illegible]	0	[illegible]	75	1.[illegible]	- [illegible]	[illegible].72	4	4	0.0	[illegible]	4.[illegible]	4	17	5	30+	[illegible]	14	[illegible]	[illegible]	
SHREVEPORT	[illegible]	[illegible]	1016.0	[illegible]	6[illegible]	75.[illegible]	- [illegible].6	97	7+	57	30+	16	0	62	64	[illegible].97	- 1.31	[illegible].48	5	4	0.0	[illegible]	[illegible].1	[illegible]	[illegible]	13	1[illegible]	[illegible]	13	9	5.[illegible]	[illegible]
MAINE																																
CARIBOU	[illegible]	[illegible]		63	43	52.8	- 1.0	79	1	29	2[illegible]	0	3			6.80	3.27	3.[illegible]	17		0.[illegible]	0						4	9	17	7.[illegible]	
PORTLAND	[illegible]	[illegible]	1018.1	70	52	60.9	2.2	93	1	36	3[illegible]	1	0	54	79	5.28	1.76	4.09	9	1	0.0	0	[illegible]	24	[illegible]	[illegible]	[illegible]	1[illegible]	7	[illegible]	[illegible]	[illegible]
MARYLAND																																
BALTIMORE	[illegible]	[illegible]	[illegible]	80	59	69.[illegible]	1.4	94	1	44	30	4	0	56	6[illegible]	[illegible].50	- 0.7[illegible]	[illegible]	6	3	0.[illegible]	[illegible]	1.2	[illegible]	[illegible]	N	1[illegible]+	[illegible]	1[illegible]	11	[illegible]	[illegible]
MASSACHUSETTS																																
BLUE HILL OBSY	[illegible]			7[illegible]	53	61.7	- [illegible].7	93	1	4[illegible]	19	1	[illegible]			4.87	[illegible].72	[illegible]	1[illegible]		0.[illegible]	0			[illegible]9	NW	[illegible]					5[illegible]
BOSTON	[illegible]	101[illegible]	1018.[illegible]	71	57	6[illegible].7	- 1.5	95	1	46	21	1	0	55	75	4.4[illegible]	[illegible].76	[illegible]	[illegible]	[illegible]	0.[illegible]	0	[illegible].1	[illegible]9	[illegible]8	NW	[illegible]	10	8	12	[illegible]	[illegible]
NANTUCKET	[illegible]	101[illegible]		71	[illegible]6	6[illegible]	[illegible]	83	2	4[illegible]	[illegible]	[illegible]	[illegible]			7.8[illegible]	4.29	[illegible]	6	[illegible]	0.[illegible]	0			40	[illegible]	[illegible]	7	9	14	6.8	[illegible]7
WORCESTER	[illegible]	[illegible]	1019.4	7[illegible]	52	6[illegible].8	[illegible]	88	1	40	21	[illegible]	[illegible]	54	81	6.16	2.24	[illegible]	11	[illegible]	0.[illegible]	0	[illegible]	28	[illegible]2	3[illegible]	[illegible]	13	7	[illegible]	5.1	
MICHIGAN																																
ALPENA	[illegible]	[illegible]	[illegible]8.6	6[illegible]	46	56.9	[illegible].9	85	6	3[illegible]	29	[illegible]	[illegible]	[illegible]1	8[illegible]	2.18	- 1.4[illegible]	0.[illegible]	1[illegible]	[illegible]	[illegible].0	[illegible]	[illegible].8	26	[illegible]	SW	14	4	14	[illegible]	[illegible]	[illegible]
DETROIT	[illegible]			74	5[illegible]	6[illegible].5	[illegible].4	88	1	4[illegible]	29	[illegible]	[illegible]	5[illegible]	66	[illegible]	- 1.71	[illegible]	4	[illegible]	[illegible].0		[illegible]	2[illegible]	[illegible]	2[illegible]	[illegible]					
DETROIT W WAYNE CO	[illegible]	[illegible]	[illegible]	[illegible]	5[illegible]	64.8	[illegible].5	86	5	39	29	[illegible]	[illegible]	5[illegible]	7[illegible]	[illegible].58	- 1.64	[illegible].44	5	[illegible]	[illegible].0	[illegible]	[illegible].8	29	[illegible]	W	6	[illegible]	1[illegible]	1[illegible]	6.[illegible]	5[illegible]
FLINT	[illegible]	[illegible]	[illegible]	[illegible]	5[illegible]	[illegible].5	[illegible]	86	[illegible]	35	29+	[illegible]	0	51	7[illegible]	[illegible].33	- 2.61	0.13	[illegible]	[illegible]	[illegible].0	[illegible]	1.6	24	[illegible]	2[illegible]	[illegible]	[illegible]	8	14	6.[illegible]	
GRAND RAPIDS	[illegible]	[illegible]	1018.7	[illegible]	51	62.4	[illegible]	88	1	[illegible]	29	0	0	[illegible]	69	[illegible]	- 2.0[illegible]	0.[illegible]	[illegible]	[illegible]	[illegible].0	[illegible]	1.6	2[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	14	6.7	[illegible]
HOUGHTON LAKE	11[illegible]	[illegible]	[illegible]	68	4[illegible]	57.2	- [illegible].1	81	6	3[illegible]	[illegible]	[illegible]	1	51	[illegible]	1.63	- 1.[illegible]1	[illegible]	[illegible]	[illegible]	[illegible].0	[illegible]	1.6	[illegible]8	[illegible]	1[illegible]	1	[illegible]	[illegible]	17	6.7	
LANSING	841	[illegible]	1018.7	[illegible]	5[illegible]	64.2	[illegible]	9[illegible]	6+	3[illegible]	29	[illegible]	0	54	72	1.07	- 0.[illegible]	1.[illegible]	5	[illegible]	[illegible].0	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	12	13	6.7	5[illegible]
MARQUETTE	[illegible]			66	5[illegible]	57.3	1.6	8[illegible]	[illegible]	41	[illegible]	[illegible]	0			1.[illegible]3	- [illegible]	1.0[illegible]	14		[illegible].0	[illegible]			[illegible]8	SW	[illegible]1	[illegible]	[illegible]	14	6.[illegible]	5[illegible]
MUSKEGON	[illegible]	[illegible]	1018.4	[illegible]	[illegible]	6[illegible].5	[illegible]	88	4	[illegible]	[illegible]	[illegible]	0	5[illegible]	75	1.57	- 1.49	0.[illegible]	[illegible]	[illegible]	[illegible].0	[illegible]	0.4	[illegible]7	[illegible]	24	6	[illegible]	1[illegible]	11	6.4	
SAULT STE MARIE	7[illegible]	[illegible]91.[illegible]	101[illegible].5	6[illegible]	4[illegible]	55.8	[illegible]	83	6	31	29	[illegible]	2	48	76	[illegible].56	- 1.25	0.78	1[illegible]	4	T	T	1.7	3[illegible]	[illegible]5	NW	7	6	7	17	6.9	54
MINNESOTA																																
DULUTH	[illegible]	[illegible]	[illegible]	6[illegible]	4[illegible]	5[illegible].7	[illegible]	84	1[illegible]	34	[illegible]4	0	[illegible]	4[illegible]	7[illegible]	4.1[illegible]	1.[illegible]7	0.59	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible].1	2[illegible]	3[illegible]	NW	7	[illegible]	13	1[illegible]	6.6	58
INTERNATIONAL FALLS	117[illegible]	[illegible]	[illegible]	66	44	54.9	[illegible]	84	1[illegible]	3[illegible]	28+	0	[illegible]	49	8[illegible]	[illegible].77	- 1.[illegible]	[illegible].7	[illegible]	[illegible]	T	T	[illegible].4	[illegible]1	[illegible]	[illegible]7	1[illegible]	4	8	1[illegible]	[illegible].6	
MINNEAPOLIS	[illegible]34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	1[illegible]	3[illegible]	[illegible]+	0	[illegible]	[illegible]	[illegible]	[illegible].49	- 1.94	[illegible].9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]7	[illegible]	[illegible]1	1[illegible]	11	9	[illegible].1	66
ROCHESTER	[illegible]97	[illegible]	1018.4	[illegible]	4[illegible]	6[illegible]	[illegible].7	[illegible]	12+	3[illegible]	28	0	[illegible]	49	7[illegible]	[illegible].59	- 1.51	[illegible].5	[illegible]	4	[illegible]	[illegible]	[illegible].7	19	[illegible]4	1[illegible]	14	1[illegible]	10	10	[illegible].1	
ST CLOUD	[illegible]34			71	4[illegible]	6[illegible]	[illegible].4	87	14	34	28	0	[illegible]			1.71	- [illegible]	[illegible].10	6		[illegible]	[illegible]						[illegible]	13	8	[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MISSISSIPPI																																
JACKSON	310	1004.7	1016.5	88	63	75.2	- 1.3	95	18	50	27+	11	0	64	74	0.36	- 1.97	0.19	6	7	0.0	0	2.7	5	17	[illegible]	4	9	9	12	[illegible]	64
MERIDIAN	290	1005.4	1016.5	85	62	73.5	- 2.4	92	18+	48	12	8	0	64	77	3.64	0.51	2.50	6	5	0.0	0	2.3	2	24	2	7	9	10	11	5.5	
MISSOURI																																
COLUMBIA	778	989.5	1017.4	79	59	69.0	- 0.3	89	5	45	24	0	0	58	71	5.53	1.65	2.69	10	6	0.0	0	2.6	11	26	SE	7	11	7	12	5.5	69
KANSAS CITY	742	990.5	1017.2	81	63	71.8	0.5	94	6	49	24	3	0	59	68	3.67	0.42	1.02	10	9	0.0	0	3.1	12	29	NE	6	9	9	12	5.5	64
ST JOSEPH	811			82	59	70.6	[illegible]	91	30	47	24	2	0	58	72	2.18	- 1.26		12		0.0		2.0	14	25	36	7+	11	10	9	5.2	
ST LOUIS	535	998.0	1018.3	80	58	69.3	- 1.2	92	6	44	25	3	0	59	72	5.03	2.27	1.85	12	5	0.0		1.9	13	29	N	6	11	6	13	5.5	68
SPRINGFIELD	1268	972.9	1017.6	81	57	69.0	- 1.4	92	6	42	24	1	0	56	70	2.44	- 1.41	1.01	6	6	0.0	0	3.1	15	38	NE	7	13	5	12	4.9	70
MONTANA																																
BILLINGS	3567	895.6	1013.0	77	48	62.7	2.3	95	3	38	25+	2	0	36	42	0.35	- 0.83	0.14	5	2	0.0	0	2.5	27	42	NW	3	8	11	11	5.7	77
GLASGOW	2284	932.3	1013.1	76	48	61.9	5.2	97	3	36	16	4	0	37	45	0.27	- 0.69	0.13	4	2	0.0	0	3.0	11	43	31	3	13	10	7	5.0	
GREAT FALLS	3662	887.2	1012.7	76	47	61.3	3.9	96	2	34	22+	7	0	34	39	0.13	- 1.07	0.09	2	1	0.0	0	5.9	24	34	SW	4	5	14	11	6.2	81
HAVRE	2584	921.4	1012.5	78	44	60.9	5.3	96	2	35	16+	6	0	34	41	0.07	- 0.94	0.05	3	1	0.0	0	1.9	25	35	NW	3	11	8	11	5.4	84
HELENA	3828	880.5	1014.4	74	43	58.0	2.0	92	1	30	15	2	1	38	53	0.33	- 0.62	0.26	5	2	0.0	0	3.3	27	37	W	3	7	8	15	6.3	76
KALISPELL	2965	910.6	1014.8	71	40	55.7	1.0	92	10+	25	15	3	4	38	58	1.44	0.40	0.45	13	4	0.0	0	1.9	20	25	25	13	8	4	18	6.8	
MILES CITY	2629	920.8	1012.2	81	51	66.0	5.0	99	3	40	25	6	0	41	43	0.05	- 0.91		2	3	0.0		1.7	3								
MISSOULA	3190	904.2	1015.6	72	41	56.8	1.4	91	1	27	15	3	2	39	60	0.66	- 0.36	0.26	7	2	0.0	0	1.8	29	32	SE	10	4	9	17	6.7	54
NEBRASKA																																
GRAND ISLAND	1841	950.9	1016.1	79	55	67.3	2.1	90	14	44	23	1	0	56	71	2.01	- 0.14	1.20	4	2	0.0	0	4.9	16	35	27	4	15	8	7	4.3	
LINCOLN U	1150			79	58	68.7	0.5	92	30	47	24	2	0			0.77	- 2.10	0.63	4		0.0	0			42	S	28	13	9	8	4.8	71
NORFOLK	1544			77	54	65.4	0.4	89	5	44	24	0	0			1.62	- 0.63	1.13	5		0.0	0						15	5	10	4.6	
NORTH PLATTE	2775	918.4	1014.8	81	51	65.8	2.1	93	14	36	23	4	0	52	67	0.80	- 0.87	0.72	4	3	0.0	0	4.9	15	28	W	24	13	7	10	4.9	73
OMAHA	977	981.7	1016.7	79	57	67.7	0.8	88	14+	43	24	0	0	57	72	1.33	- 1.30	0.71	5	4	0.0	0	3.1	15	25	SE	6	11	9	10	5.3	75
SCOTTSBLUFF	3957	879.8	1013.5	83	50	66.7	4.4	91	28+	40	27+	4	0	47	57	0.79	- 0.42	0.53	5	3	0.0	0	4.2	13	26	18	27	16	6	8	4.0	
VALENTINE	2587			82	52	66.7	4.9	96	14	36	23	4	0			0.63	- 0.62	0.42	3		0.0	0			50	S	12	16	7	7	4.1	78
NEVADA																																
ELY	6253	810.4	1012.6	80	42	60.7	3.2	87	6	28	22	0	1	32	40	0.37	- 0.17	0.23	6	4	0.0	0	6.8	21	34	E	1	16	13	1	3.3	82
LAS VEGAS	2162	935.3	1009.9	97	68	82.5	2.5	106	1	58	23	27	0	45	31	0.08	- 0.26	0.05	2	3	0.0	0	3.8	22	38	SW	6	23	5	2	2.0	89
RENO	4404	865.6	1012.9	86	41	63.4	4.6	94	2+	34	22+	7	0	36	40	0.01	- 0.22	0.01	1	[illegible]	0.0	0	2.2	28	26	NW	7+	23	5	2	2.2	98
WINNEMUCCA	4301	867.3	1013.0	86	40	63.0	4.4	96	1	29	4	9	4	27	28	0.01	- 0.33	0.01	1	1	0.0	0	1.8	26	26	SW	29+	16	11	3	3.1	91
NEW HAMPSHIRE																																
CONCORD	342	1006.1	1018.8	71	49	59.7	0.4	90	1	31	30	1	2	54	83	4.43	0.68	1.61	10	2	0.0	0	0.4	26	29	NW	2	5	13	12	6.5	52
MT WASHINGTON OBS	6262			48	38	43.0	2.0	59	1	21	30	0	8			4.17	- 2.83	1.32	16	1	T	T			79Y	W	12	4	9	17	7.7	28
NEW JERSEY																																
ATLANTIC CITY	64	1016.3	1018.8	78	53	65.5	- 1.7	93	1	32	30	3	1	56	75	1.65	- 1.66	1.15	6	2	0.0	0	1.9	26	21	31	9	8	9	13	5.9	57
ATLANTIC CITY U	11			75	63	69.3	0.9	87	7	51	30	0	0			2.46	- 0.94	2.00	6						25	SW	17					
NEWARK	7	1017.6	1018.7	76	59	67.5	0.2	91	1	49	30	1	0	56	68	6.63	2.87	4.60	8	1	0.0	0	2.2	28	28	29	9	11	11	8	5.1	
TRENTON U	56			76	59	67.4	0.3	91	1	46	30	1	0			6.66	3.16	3.40	8		0.0	0			38	NW	7	10	12	8	5.0	62
NEW MEXICO																																
ALBUQUERQUE	5311	840.2	1013.9	83	57	70.0	0.0	91	7+	49	24	3	0	45	47	1.08	0.13	0.76	6	6	0.0	0	1.2	13	32	E	1	17	3	10	4.1	78
CLAYTON	4969			77	55	65.9	- 0.1	88	6	47	23	0	0			3.59	1.94	1.23	11		0.0	0						11	9	10	5.0	
ROSWELL	3617			86	58	71.9	2.2	95	7+	49	30+	8	0			2.67	0.85	1.63	10		0.0	0			25	NW	4					61
NEW YORK																																
ALBANY	275	1008.1	1018.8	75	50	62.4	0.8	91	1	35	21	1	0	52	75	2.06	- 1.52	1.27	8	3	0.0	0	1.3	24	29	W	7	3	9	18	7.3	44
BINGHAMTON	1590	961.1	1019.7	69	51	60.1	0.6	85	1	38	22+	0	0	53	81	1.84	- 1.11	1.35	8	2	0.0	0	2.5	25	26	NW	6	5	9	16	6.9	65
BUFFALO	705	993.2	1018.6	70	54	62.2	0.8	85	1	41	19	0	0	54	75	2.04	- 1.09	1.08	6	3	0.0	0	3.6	25	30	SW	12	4	8	18	7.4	51
J.F. KENNEDY	13	1018.0	1018.9	77	60	68.5	0.7	91	1	47	30	1	0	57	70	3.80	- 0.36	2.40	9	4	0.0	0	0.8	30	23	1	17	11	11	8	5.1	
NEW YORK U	132	1015.2	1018.4	77	61	69.0	0.5	93	1	51	29+	1	0	56	66	8.32	4.45	5.80	8	1	0.0	0	1.2	31	22	NE	18					66
NEW YORK LA GUARDIA	11	1017.3	1019.0	75	61	67.7	- 1.1	90	1	50	19	1	0	54	64	7.35	3.43	4.52	8	5	0.0	0	1.3	34	26	N	9	9	12	9	5.2	
ROCHESTER	547	999.0	1019.3	74	53	63.6	1.2	90	1	39	19	1	0	53	71	1.77	- 0.76	1.23	5	1	0.0	0	3.5	24	32	SW	12	5	11	14	6.7	51
SYRACUSE	410	1003.7	1018.6	74	53	63.8	1.4	89	1	39	20+	0	0	51	66	1.13	- 1.71	0.50	8	2	0.0	0	2.4	26	25	W	12	5	8	17	7.0	55

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊘	Pressure: Sea level	Temp: Average maximum	Temp: Average minimum	Temp: Average	Temp: Departure from normal	Temp: Highest	Date	Temp: Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min 32 F. or below	Average dew point	Average relative humidity	Precip: Total	Precip: Departure from normal	Precip: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h							%
NORTH CAROLINA																																
ASHEVILLE	[illegible]14[illegible]	943.4	1019.1	76	56	65.8	- 0.1	85	18	4[illegible]	29	0	0	59	87	3.04	- 0.58	0.71	13	5	0.0	0	1.4	34	21	36	28+	5	11	14	6.6	57
CAPE HATTERAS	7	1017.6	1018.0	79	67	73.[illegible]	- 1.1	87	7	52	24	0	0	66	79	4.41	- 1.48	1.32	12	5	0.0	0	6.7	5	34	ENE	20	4	14	12	6.5	59
CHARLOTTE	736	991.2	1018.3	77	61	69.[illegible]	- 3.9	87	7	49	30	0	0	61	77	4.83	1.34	1.79	8	3	0.0	0	2.8	4	18	NW	[illegible]	7	[illegible]	16	[illegible]	[illegible]
GREENSBORO	897	987.5	1019.1	78	59	68.6	- 1.5	89	7	45	30	0	[illegible]	58	73	3.44	- 0.22	[illegible]	9	1	0.0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	7	16	6.[illegible]	56
RALEIGH	434	1002.7	1018.5	78	57	67.5	- 3.7	87	7+	43	30	0	0	6[illegible]	83	6.21	2.36	[illegible]	6	[illegible]	0.0	[illegible]	[illegible]	5	18	[illegible]	[illegible]0	5	5	17	6.[illegible]	63
WILMINGTON	28	1016.6	1017.[illegible]	8[illegible]	[illegible]	7[illegible]	- 3.0	89	7	[illegible]4	30+	0	0	65	83	2.59	- 3.70	0.79	8	1	0.0	0	[illegible]	5	[illegible]	NE	[illegible]	3	10	17	7.4	[illegible]
NORTH DAKOTA																																
BISMARCK	1647	935.6	1014.8	77	47	61.9	3.2	95	12	35	27	4	0	4[illegible]	58	0.49	- [illegible].70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].7	13	[illegible]	S[illegible]	19+	13	[illegible]	[illegible]	5.[illegible]	74
FARGO	896	983.4	1016.0	71	47	59.[illegible]	0.2	89	12	33	27+	0	0	50	75	1.[illegible]	[illegible]	[illegible].84	6	[illegible]	[illegible]		[illegible].7	17	[illegible]	SE	28+	10	[illegible]	13	[illegible].8	7[illegible]
WILLISTON	1899	945.8	1013.8	7[illegible]	46	60.8	3.6	94	2	35	27	4	0	41	54	1.14	0.02	[illegible].35	4	3	0.[illegible]		[illegible].8	13	33	NW	21	12	[illegible]	9	5.[illegible]	78
OHIO																																
AKRON	1208	974.9	1019.4	72	53	62.5	- 1.4	85	1	4[illegible]	29	[illegible]	[illegible]	54	76	1.51	- 1.11	0.97	7	3	0.0	0	1.3	22	21	[illegible]2	17+	7	7	16	6.7	
CINCINNATI	761			77	56	66.3	- 2.7	8[illegible]	6+	44	29	0	0			3.47	0.76	0.78	11		0.0	0			14	NE	17					9[illegible]
CLEVELAND	777	990.[illegible]	1019.4	7[illegible]	55	65.6	- 0.5	88	1	4[illegible]	29	[illegible]	[illegible]	54	74	4.9[illegible]	2.[illegible]	[illegible].26	11	3	0.0	0	[illegible].7	2[illegible]	18	SW	1[illegible]	4	1[illegible]	16	7.[illegible]	[illegible]
COLUMBUS	812	989.5	1019.5	7[illegible]	53	63.8	- 2.1	88	1	36	29	[illegible]	[illegible]	55	76	1.4[illegible]	- 1.25	0.57	7	2	0.0	0	1.2	9	28	N	6	5	7	18	7.[illegible]	63
DAYTON	1002	983.1	1019.0	77	56	66.4	- 0.4	89	6+	42	29	0	0	54	70	1.1[illegible]	- 1.46	0.64	7	2	0.0	0	0.4	21	24	NW	6	7	7	16	6.[illegible]	74
MANSFIELD	1295			74	56	64.8	1.5	89	1	43	29	0		53	71	2.7[illegible]	- 0.28	1.35	8	2	0.0	0	2.5	22	20	35	27	5	1[illegible]	14	6.[illegible]	
TOLEDO	669	994.2	1019.4	74	52	62.9	- [illegible]	88	1	35	29	0	0	54	75	2.7[illegible]	[illegible].57	1.15	[illegible]	4	0.0	0	1.6	27	47	NW	6	[illegible]	7	16	6.[illegible]	47
YOUNGSTOWN	1178	977.[illegible]	1019.6	71	51	61.4	- 1.1	85	1	35	29	0	0	53	79	1.9[illegible]	- 0.94	1.05	8	2	0.0	0	1.9	20	18	28	9	5	1[illegible]	15	6.7	
OKLAHOMA																																
OKLAHOMA CITY	1285	[illegible]0.5	1016.5	8[illegible]	63	73.[illegible]	- [illegible].5	9[illegible]	7	54	24	3	0	62	72	6.51	3.49	2.[illegible]	6	7	0.0	0	3.7	15	3[illegible]	NW	16	1[illegible]	7	1[illegible]	4.[illegible]	74
TULSA	650	[illegible]2.6	1016.5	87	63	74.9	1.1	97	5	[illegible]	24	12	0	61	67	1.67	- 2.34	[illegible].19	7	3	0.0	[illegible]	2.4	18	25	SW	15+	14	7	[illegible]	4.[illegible]	[illegible]
OREGON																																
ASTORIA	8	1014.6	1015.3	63	5[illegible]	57.2	- [illegible].8	79	7	38	15	0	0	52	84	6.55	3.42	1.60	18	0	0.0	[illegible]	3.[illegible]	[illegible]	[illegible]5	[illegible]	30	5	4	21	7.7	
BURNS	4151	872.7	1014.2	76	43	59.9	1.1	93	1	31	4	1	1	35	45	0.12	- 0.[illegible]8	0.14	4		0.0	[illegible]	2.6	3[illegible]				11	8	11	[illegible]	
EUGENE	359	1001.7	1015.[illegible]	74	48	61.3	- 0.[illegible]	9[illegible]	10+	36	15	[illegible]	[illegible]	50	71	2.15	0.78	1.0[illegible]	[illegible]	[illegible]	0.0	[illegible]	1.2	[illegible]	[illegible]	16	18	[illegible]	[illegible]	1[illegible]	[illegible]	
MEACHAM	[illegible]	876.7	1014.3	67	45	56.1	[illegible].4	87	1	34	15	[illegible]	[illegible]	35	60	1.44	0.[illegible]	0.[illegible]	[illegible]		0.0	[illegible]	1.5	[illegible]	[illegible]7	[illegible]	1[illegible]+	[illegible]	[illegible]	1[illegible]	[illegible]	
MEDFORD	1298	967.5	1014.6	81	49	64.9	[illegible].7	98	1	38	15+	8	0	46	60	0.62	0.02	0.28	5	[illegible]	0.0	[illegible]	1.8	32	16	27	8	13	1[illegible]	7	4.[illegible]	
PENDLETON	1482	961.4	1014.4	77	52	64.7	0.5	93	1	40	15	4	0	42	50	0.42	- 0.[illegible]1	0.[illegible]	[illegible]	[illegible]	0.0	[illegible]	3.3	26	31	27	3	9	11	1[illegible]	5.[illegible]	
PORTLAND	21	1014.5	1014.8	7[illegible]	5[illegible]	63.4	1.[illegible]	9[illegible]	7	42	15+	3	0	52	70	3.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0		[illegible]	[illegible]	[illegible]8		[illegible]0	[illegible]	[illegible]	17	[illegible]	[illegible]
SALEM	196	1017.8	1015.[illegible]	7[illegible]	48	61.1	- 1.4	94	7	34	15	3	0	[illegible]	7[illegible]	[illegible].58	2.2[illegible]	1.76	1[illegible]	[illegible]	0.0	[illegible]	[illegible]	[illegible]	31	18	[illegible]0	7	6	17	6.[illegible]	
SEXTON SUMMIT	3836	884.[illegible]	1014.1	6[illegible]	50	59.2	- [illegible].5	87	1	41	14+	0	0			1.[illegible]5	0.00	0.82	6		0.0	[illegible]			[illegible]	[illegible]	19	24	[illegible]	6	[illegible]	
PACIFIC AREA																																
JOHNSTON	7	1011.9	1012.5	86	76	81.2	- 0.4	88	2	72	2[illegible]	[illegible]	0	73	76	1.[illegible]	- 0.75	0.60	17	[illegible]	0.0	[illegible]	14.5	[illegible]	[illegible]	[illegible]	1[illegible]+	[illegible]	1[illegible]	[illegible]	[illegible]	68
KOROR	94	1005.4	1009.[illegible]	8[illegible]	7[illegible]	81.3	[illegible]	88	15+	72	18	[illegible]	0	76	84	14.[illegible]	0.33	3.[illegible]8	22	3	0.0		6.[illegible]	26	[illegible]	N	[illegible]	1	1[illegible]	18	[illegible]	46
KWAJALEIN	8	1008.5	1009.2	88	77	82.4	[illegible].5	91	19	74	4	3	0	76	81	9.71	- [illegible].28	1.78	2[illegible]	[illegible]	0.0		4.9	9	[illegible]	[illegible]	6+	[illegible]	[illegible]	[illegible]	[illegible]	
MAJURO	[illegible]	1009.1	1009.3	86	77	81.5	1.1	9[illegible]	2[illegible]	7[illegible]	30	1	0	75	8[illegible]	15.[illegible]	3.59	3.[illegible]	21	[illegible]	0.0		4.[illegible]	[illegible]	[illegible]	NE	[illegible]	[illegible]	1[illegible]	17	[illegible]	[illegible]
PAGO PAGO	12	1011.9	1012.0	84	7[illegible]	78.7		87	29+	64	11	[illegible]	0	71	78	2.26		1.80	9	0	0.0		7.[illegible]	12	3[illegible]	[illegible]	8	3	18	[illegible]	[illegible].1	[illegible]
PONAPE	12[illegible]	1003.7	1009.1	88	72	79.8	0.3	91	7	68	29+	7	0	75	87	18.[illegible]1	2.[illegible]	3.[illegible]	24	4	0.0		1.7	17	17	[illegible]	6	1	7	[illegible]	[illegible].1	[illegible]
TAGUAC GUAM	3[illegible]1	995.2	1008.3	87	73	79.8	[illegible].5	89	18	69	20+	0	0	75	88	6.79	- 0.57	1.[illegible]	2[illegible]		0.0		[illegible].8	13	[illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TRUK MOEN ISLAND	[illegible]	1008.5	1008.8	87	75	81.[illegible]	0.5	89	29+	72	18	[illegible]	0	7[illegible]	84	12.26	- 0.32	2.[illegible]	24	[illegible]	0.0		[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WAKE	11	1010.8	1011.[illegible]	89	78	83.7	1.2	92	13+	74	2	15	0	74	77	4.18	1.[illegible]6	1.[illegible]	1[illegible]	11	0.0		13.5	[illegible]1	[illegible]5	[illegible]	1[illegible]	[illegible]	15	1[illegible]	[illegible]	[illegible]
YAP	44	1006.[illegible]	1007.[illegible]	86	74	80.1	- 1.3	89	3[illegible]	72	21+	[illegible]	0	76	86	17.[illegible]	5.[illegible]	[illegible].1[illegible]	28	[illegible]	0.0		[illegible].4	[illegible]7	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PENNSYLVANIA																																
ALLENTOWN	387	1005.1	1019.1	74	53	63.6	- 1.1	89	1	38	30	0	0	55	77	3.87	0.1[illegible]	1.[illegible]	[illegible]	[illegible]	0.0		1.1	2[illegible]	[illegible]	24	17+	1[illegible]	[illegible]	[illegible]	[illegible]	
ERIE	731	9[illegible].6	1019.[illegible]	70	54	61.7	- 1.6	86	5	3[illegible]	29			51	71	1.99	1.[illegible]	[illegible]	[illegible]	[illegible]	0.0		[illegible].7	21	[illegible]	[illegible]	1[illegible]+	[illegible]	[illegible]	[illegible]	[illegible]	
HARRISBURG	338	1006.4	1019.1	7[illegible]	56	65.6	- [illegible].3	91	1	42	23+	1		[illegible]	75	2.[illegible]	- [illegible]	0.79	1[illegible]	[illegible]	0.0		1.[illegible]	28	[illegible]	NW	[illegible]	7	11	[illegible]	5.4	54
PHILADELPHIA	[illegible]	1017.6	1018.5	77	58	67.[illegible]	[illegible]	9[illegible]	1	42	30	1	0	56	71	4.18	0.9[illegible]	[illegible].47	8	2	0.0		1.[illegible]	[illegible]	[illegible]	N	18+	1[illegible]	8	11	[illegible]	60
PITTSBURGH	[illegible]	[illegible]75.6	1019.[illegible]	7[illegible]	5[illegible]	6[illegible].0	- [illegible]	88	1	[illegible]	29			52	[illegible]	[illegible].91	- 1.6[illegible]	[illegible]	8	1	0.0		[illegible]	17	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1[illegible]	[illegible]	47
SCRANTON	[illegible]	[illegible]5.5	1019.5	[illegible]	[illegible]	62.7	[illegible].2	86	1	39	30			52	7[illegible]	1.[illegible]	1.[illegible]	[illegible].58	[illegible]	[illegible]	0.0		[illegible].6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1[illegible]	11	5.[illegible]	52
WILLIAMSPORT	524	100[illegible].7	1019.[illegible]	74	54	64.[illegible]	[illegible].1	89	1	41	30			57	82	1.81	- 1.46	[illegible]	1[illegible]	[illegible]	0.0		1.[illegible]	19	15	26	[illegible]	[illegible]	1[illegible]	14	6.[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ∅	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
RHODE ISLAND																																
BLOCK ISLAND	110			70	59	64.3	0.3	85	2	43	30	0	0			3.87	0.67	2.05	7		0.0	0										
PROVIDENCE	51	1016.5	1018.7	75	54	64.6	0.8	93	1	37	21	2	0	54	74	3.09	- 0.43	2.17	8	1	0.0	0	2.3	30	29	31	9	13	7	10	5.0	63
SOUTH CAROLINA																																
CHARLESTON	40	1015.2	1017.1	81	66	73.7	- 1.9	88	18+	56	13	0	0	66	81	5.37	- 0.46	2.22	13	7	0.0	0	4.2	5	33Y	SW	9	4	9	17	7.5	54
CHARLESTON U	9			80	69	74.6	- 2.5	86	18	62	11	0	0			4.49	- 1.83	1.04	15		0.0	0			26	E	15+					
COLUMBIA	213	1009.8	1017.9	82	64	72.8	- 2.5	91	7	51	14+	3	0	64	80	3.17	- 1.14	0.83	10	5	0.0	0	3.0	6	18	17	5	7	9	14	6.7	46
GNVLE-SPARTANBURG	957	984.4	1018.7	79	61	69.8	- 2.9	89	18	50	30+	0	0	63	85	3.68	- 0.20	1.58	10	2	0.0	0	4.0	4	22	NE	19	8	7	15	6.5	55
SOUTH DAKOTA																																
ABERDEEN	1296	968.8	1015.2	78	48	63.2	2.6	97	14	34	16	2	0	48	63	0.38	- 1.02	0.18	3	3	0.0	0	3.0	14	25	16	28	13	8	9	4.7	
HURON	1281	969.2	1015.4	77	48	62.7	0.8	94	14	37	27+	1	0	50	67	0.67	- 0.86	0.22	5	6	0.0	0	5.5	16	36	NE	15	14	8	8	4.3	76
RAPID CITY	3162	904.2	1013.4	81	48	64.8	3.2	93	2	36	13	[illegible]	0	43	49	0.35	- 0.60	0.25	6	4	0.0	0	1.4	9	38	NW	28	15	13	2	3.9	82
SIOUX FALLS	1418	965.5	1016.6	75	49	62.5	0.5	87	14	37	26	0	0	51	70	2.41	- 0.20	1.19	6	7	0.0	0	4.0	15	25	15	30	16	6	8	4.0	
TENNESSEE																																
BRISTOL	1507	965.1	1018.8	77	55	66.2	- 2.9	85	7+	39	29	0	0	57	78	4.31	1.69	1.87	8	5	0.0	0	1.5	7	15	4	28	6	12	12	6.1	
CHATTANOOGA	665	992.9	1017.5	79	58	68.3	- 5.5	87	3	47	26+	0	0	61	85	4.70	1.60	1.50	13	6	0.0	0	0.9	4	19	NE	10	7	11	12	6.2	56
KNOXVILLE	980	983.4	1018.0	79	60	69.3	- 2.9	88	7	49	30	0	0	59	75	3.03	0.49	1.90	9	6	0.0	0	2.3	3	20	N	8	7	9	14	6.3	76
MEMPHIS	258	1007.1	1017.2	83	63	72.9	- 1.0	91	6	52	29	1	0	63	75	0.90	- 1.92	0.32	6	2	0.0	0	1.2	7	26	E	2	10	11	9	5.2	61
NASHVILLE	59	996.3	1017.8	82	60	70.8	- 2.0	91	6	45	29	2	0	61	77	2.06	- 0.81	0.70	11	4	0.0	0	1.1	10	19	S	2	9	9	12	5.5	64
OAK RIDGE R	905			79	58	68.5	- 2.5	87	16+	46	11	0	0			4.08	0.78	2.74	8		0.0	0			25Y		4	9	7	14	6.4	
TEXAS																																
ABILENE	1762	954.6	1015.0	85	67	75.9	0.0	94	7	58	28+	6	0	62	66	4.10	2.03	1.78	8	7	0.0	0	5.3	16	28	N	23	11	7	12	5.5	59
AMARILLO	3604	893.[illegible]	1014.1	81	61	71.1	- 0.7	92	5	54	25	2	0	58	68	2.77	0.88	1.05	8	5	0.0	0	7.7	18	50	NW	15	13	6	11	5.0	59
AUSTIN	597	993.2	1014.9	90	69	79.7	0.6	95	8	60	13	20	0	66	69	1.17	- 2.27	0.56	6	2	0.0	0	2.3	11	31	NE	16	12	15	3	4.3	67
BROWNSVILLE	19	1012.9	1013.4	90	74	81.8	0.6	92	23+	66	30	17	0	72	76	2.80	- 2.19	0.77	12	3	0.0	0	4.0	8	23	NE	19	6	20	4	5.2	61
CORPUS CHRISTI	41	1012.9	1014.3	90	73	81.3	0.5	94	16	64	30	17	0	71	74	2.05	- 2.35	0.70	10	3	0.0	0	6.0	9	28	E	10	9	15	6	4.7	71
DALLAS	481	998.6	1015.7	88	69	78.6	0.7	95	7+	61	24	13	0	64	64	3.84	1.02	1.71	8	6	0.0	0	3.6	12	34	NW	7	9	9	12	5.3	59
DEL RIO	1026	978.7	1014.0	90	70	79.9	0.0	94	16+	61	30	18	0	66	66	0.78	- 1.83	0.52	4	5	0.0	0	8.1	13	24	4	17	10	17	3	4.6	
EL PASO	3918	882.5	1011.5	90	65	77.1	2.6	98	7	55	30+	13	0	53	47	0.43	- 0.71	0.24	3	4	0.0	0	0.8	9	30	N	4	17	10	3	2.9	81
FORT WORTH	537	995.6	1015.7	87	67	77.1	- 1.3	93	16+	59	28	12	0	67	75	4.55	2.01	2.24	7	8	0.0	0	2.2	13	29	32	3	10	10	10	5.2	
GALVESTON U	7			86	77	81.2	1.1	93	8	71	29+	1	0			0.28	- 4.81	0.21	2		0.0	0			22	E	19					82
HOUSTON	98	1011.5	1015.3	90	67	78.2	- 0.1	95	8+	56	30	16	0	68	77	6.08	2.03	2.53	8	10	0.0	0	2.4	8	29	8	2	11	15	4	4.2	71
LUBBOCK	3254	905.5	1015.2	80	60	70.2	- 1.2	89	7	53	30	0	0	59	74	4.93	2.57	1.76	10	8	0.0	0	4.4	15	29	34	21	13	4	13	5.2	
MIDLAND	2851	917.4	1014.1	86	62	74.2	- 1.2	93	25+	52	29	8	0	58	64	1.53	- 0.26	0.79	8	2	0.0	0	4.7	12	29	12	22	13	10	7	4.5	
PORT ARTHUR	16	1014.6	1015.4	89	68	78.4	0.2	94	27+	55	30	17	0	69	79	1.50	- 3.38	0.97	6	5	0.0	0	3.6	8	32	E	7	15	11	4	3.9	61
SAN ANGELO	1903	948.9	1014.4	86	64	75.2	- 3.1	94	16	55	29	8	0	64	73	5.74	3.08	2.26	9	6	0.0	0	3.7	15	23	19	3	10	9	11	5.5	
SAN ANTONIO	788	987.5	1015.1	90	69	79.6	1.0	94	29+	58	30	22	0	64	64	1.32	- 2.17	0.51	7	4	0.0	0	3.0	9	31	SE	9+	11	14	5	4.5	79
VICTORIA	104	1010.5	1014.7	90	71	80.5	1.4	95	8	63	30	19	0	70	75	6.71	2.48	3.30	9	9	0.0	0	3.6	8	53Y	S	5	15	13	2	3.8	
WACO	501	998.0	1015.6	91	70	80.5	1.5	100	7	63	30+	20	0	67	69	4.70	-1.93	2.20	7	5	0.0	0	2.7	11	35	36	23	11	13	6	4.6	
WICHITA FALLS	994	979.3	1015.5	87	64	75.4	- 2.0	101	7	55	24	11	0	64	72	4.61	2.28	2.28	6	4	0.0	0	4.7	14	35	35	22	13	8	9	4.9	
UTAH																																
MILFORD	5028	846.6		85	49	66.7	3.6	94	1	33	23	7	0			0.44	0.01	0.25	6		0.0	0						19	9	2	2.9	
SALT LAKE CITY	4220	871.3	1012.5	85	54	69.7	5.3	95	1	43	22	6	0	40	38	0.18	- 0.35	0.09	5	6	0.0	0	5.5	16	31	W	29	16	9	5	3.6	88
WENDOVER	4237	870.6	1013.6	81	57	68.8	2.1	91	2	44	23	3	0			0.20	- 0.12	0.12	2		0.0	0										
VERMONT																																
BURLINGTON	332	1005.8	1018.3	68	48	57.9	- 0.5	87	1	32	30	0	1	52	83	1.88	- 1.43	0.68	13	3	0.0	0	1.7	20	24	S	30+	6	6	18	6.9	55
VIRGINIA																																
LYNCHBURG	916			76	56	65.9	- 2.8	88	7+	44	30	0	0			2.29	- 1.07	0.95	8		0.0	0			17	NE	20+	10	10	10	5.8	54
NORFOLK	22	1017.6	1018.6	79	63	71.1	- 1.5	92	7+	51	30	3	0	62	75	2.72	- 1.50	1.56	9	2	0.0	0	2.8	4	31	NE	20+	6	10	14	6.4	54
RICHMOND	164	1013.2	1019.1	79	58	68.1	- 2.1	90	7+	43	30	2	0	61	82	3.89	0.24	2.03	7	2	0.0	0	0.9	6	22	S	2	7	10	13	6.2	54
ROANOKE	1149	977.7	1019.3	78	56	66.7	- 2.4	89	7+	42	29	0	0	56	74	2.79	- 0.47	1.34	11	4	0.0	0	1.0	36	16	30	28+	6	9	15	6.3	
WALLOPS ISLAND	9			77	62	69.4		90	6	48	30	1	0			1.62		0.67	8		0.0	0			32Y	NNE	21					

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In	In.			In	In.	M.p.h.		M.p.h							%
WASHINGTON																																
OLYMPIA	[illegible]	[illegible]	[illegible]	[illegible]	47	58.9	0.4	86	11	32	15	0	1			[illegible]	3.14	[illegible]	14	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	
QUILLAYUTE	179	1007.1	[illegible]	64	48	56.1	- 1.[illegible]	84	7	34	15	[illegible]	[illegible]	52	88	[illegible]	[illegible]	[illegible].47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEATTLE TACOMA	[illegible]	998.6	[illegible]	[illegible]	[illegible]	61.[illegible]	[illegible].1	85	7	43	15	[illegible]	[illegible]	[illegible]	78	5.57	3.5[illegible]	1.3[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SPOKANE	[illegible]	[illegible]	[illegible]	[illegible]	48	[illegible].8	- 1.1	91	1	36	15	1	[illegible]	[illegible]	51	0.71	- 0.04	[illegible]	[illegible]	1	[illegible]	0	4.8	19	[illegible]	SW	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]
STAMPEDE PASS	[illegible]	87[illegible].1		[illegible]	44	[illegible]	- 1.[illegible]	78	[illegible]	34	15+	0	[illegible]			7.51	3.1[illegible]	1.88	[illegible]		[illegible]	[illegible]						[illegible]	[illegible]		[illegible]	
WALLA WALLA	[illegible]			[illegible]	[illegible]	66.1	[illegible].1	[illegible]	1	[illegible]	15	4	[illegible]			[illegible]	- [illegible]	[illegible]	[illegible]		[illegible]	[illegible]			[illegible]	SW	30	[illegible]	7	[illegible]	[illegible]	[illegible]
YAKIMA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	61.[illegible]	- [illegible].1	[illegible]	11	[illegible]	[illegible]+	1	0	[illegible]	[illegible]	[illegible]	- [illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	4.4	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
WEST INDIES																																
SAN JUAN P.R.	13	1010.8	[illegible]13.4	[illegible]	76	81.[illegible]	[illegible].7	[illegible]	29+	74	18+	[illegible]	[illegible]	[illegible]	[illegible]	4.86	- 1.9[illegible]	[illegible].85	[illegible]	11	0.0	[illegible]	4.1	[illegible]	[illegible]	N[illegible]	16	[illegible]	[illegible]	14	[illegible]	[illegible]
SWAN ISLAND	[illegible]8			87	77	8[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]+	[illegible]	[illegible]			7.[illegible]	[illegible]	[illegible].44	[illegible]		0.0	[illegible]						[illegible]	[illegible]	[illegible]	[illegible]	
WEST VIRGINIA																																
BECKLEY	[illegible]	[illegible]	[illegible]	[illegible]	51	60.8	- 3.[illegible]	81	6	[illegible]	29	[illegible]	0	[illegible]	[illegible]	[illegible].19	- [illegible]	1.27	[illegible]	4	0.0	[illegible]	[illegible]	[illegible]	[illegible]	14	0+	[illegible]	[illegible]	[illegible]	[illegible]	
CHARLESTON	[illegible]	[illegible]	[illegible]	74	54	64.[illegible]	- 4.1	[illegible]	7+	[illegible]	29	[illegible]	[illegible]	57	84	3.[illegible]7	[illegible]	1.0[illegible]	[illegible]	[illegible]	0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]+	[illegible]	[illegible]	[illegible]	[illegible]	
ELKINS	[illegible]	[illegible]		[illegible]	[illegible]	61.[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	2.87	[illegible].44	16	[illegible]	0.0	[illegible]						[illegible]	8	[illegible]	[illegible]	
HUNTINGTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	66.[illegible]	- 1.[illegible]	89	[illegible]	[illegible]	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.37	[illegible]	[illegible]	[illegible]	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	
PARKERSBURG	[illegible]			[illegible]	[illegible]	[illegible]	- [illegible]	87	[illegible]	41	[illegible]	[illegible]	[illegible]			[illegible]	- [illegible]	[illegible].7	[illegible]		0.[illegible]	[illegible]			[illegible]	[illegible]	17					[illegible]
WISCONSIN																																
GREEN BAY	682	992.9	1018.6	[illegible]	48	58.7	- 1.8	84	[illegible]	[illegible]	[illegible]+	[illegible]	0	[illegible]	74	[illegible]	- 0.89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]0
LA CROSSE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 1.16		8	[illegible]	[illegible]		1.6	14								
MADISON	[illegible]	[illegible]	[illegible]8.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	- 1.[illegible]	[illegible].74	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]9
MILWAUKEE	[illegible]	[illegible].6	[illegible]8.7	[illegible]	[illegible]	[illegible]	1.7	[illegible]	15+	41	[illegible]	[illegible]	[illegible]	53	75	[illegible]	- [illegible]	1.04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]8
WYOMING																																
CASPER	[illegible]	838.1	1012.6	81	45	[illegible]	[illegible]	91	[illegible]	[illegible]	15	1	[illegible]	33	[illegible]	0.[illegible]	- [illegible].74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]0+	[illegible]	[illegible]	6	[illegible]	
CHEYENNE	[illegible]	[illegible]	[illegible]14.8	[illegible]	47	[illegible]	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]8	[illegible]	0.[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]
LANDER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]3	[illegible]	0.[illegible]	- 1.[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]
SHERIDAN	3964	878.4	[illegible]13.7	[illegible]	44	[illegible]	1.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	38	45	0.[illegible]	- 1.[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible].5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]0	[illegible]	[illegible]

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C		°C.				C.	%	Mm.	Mm.	Mm			Mm	Mm.	M.p.s.		M.p.s							%
ALABAMA																																
BIRMINGHAM	189	994.9	1017.1	27.8	15.6	21.6	- 3.0	32.8	18+	8.9	11	5	0	16.7	78	174	89	80	10	7	0	0	1.4	6	9.4	SW	3	9	10	11	5.7	62
HUNTSVILLE	190	994.9	1017.8	27.2	16.1	21.6	- 2.1	31.7	18+	7.2	11	0	0	17.2	80	112	33	36	9	6	0	0	1.3	8	13.0	31	7	12	6	12	5.5	
MOBILE	64	1007.5	1015.4	30.6	20.0	25.3	- 0.2	33.3	19	15.6	12+	8	0	18.9	73	50	-109	29	7	3	0	0	1.9	4	9.4	36	21	8	13	9	5.3	
MONTGOMERY	56	1009.1	1016.4	29.4	16.7	23.0	- 2.1	34.4	18	10.6	11	9	0	17.2	75	154	53	102	8	3	0	0	1.2	4	9.4	N	21+	10	10	10	5.4	44
ALASKA																																
ANCHORAGE	35	1002.7	1007.6	13.9	5.0	9.4	0.5	17.2	21	0.6	26	0	0	4.4	73	20	- 44	7	6	0	0	0	0.5	17	9.4	20	13	4	11	15	6.9	49
ANNETTE	34	1007.5	1011.3	17.8	11.1	14.3	2.1	22.2	18	6.7	15	3	0	10.0	80	124	-126	24	16	0	0	0	1.3	13	13.4	15	11	0	4	26	9.0	
BARROW	9	1015.6	1016.3	0.6	- 3.3	- 1.2	- 0.4	10.6	14+	- 8.3	29	0	30	- 2.2	95	T	- 16	T	1	0	T	T	4.0	8	10.7	11	17+	3	6	21	8.1	
BARTER ISLAND	12	1013.9	1015.6	1.7	- 3.3	- 0.9	- 0.9	8.9	3	- 8.9	26	0	29	- 2.2	90	2	22	1	5	0	20	25	2.9	9	15.6	10	11+	8	5	17	7.0	
BETHEL	38	1000.0	1005.5	13.9	3.9	8.7	1.7	17.8	1	0.6	26+	0	0	5.0	80	20	- 46	7	10	0	0	0	1.6	5	13.4	18	3	4	8	18	7.3	
BETTLES	196	987.1	1012.4	13.3	1.1	7.1		21.1	2	-12.8	25	1	10	0.0	64	9		5	5	0	0	0	2.1	3	10.3	9	9	11	6	13	5.4	
BIG DELTA	386	962.4	1008.9	15.0	1.7	8.2		19.4	2	- 7.2	26	0	11	1.1	63	11		8	6	0	0	0	1.7	14	9.8	12	29+	13	5	12	5.3	
COLD BAY	29	1000.3	1003.8	12.8	7.8	10.1	1.5	15.6	14+	1.1	25	0	0	7.8	86	132	22	41	21	0	0	0	2.2	25	24.6	15	26	1	5	24	8.9	
FAIRBANKS	133	992.6	1009.4	17.2	1.7	9.5	3.1	22.2	2	- 6.1	26	1	9	0.0	57	7	- 21	4	2	0	0	0	1.5	3	10.3	6	9	14	7	9	4.7	
GULKANA	479	951.6	1008.9	14.4	- 1.7	6.4		18.3	2	-10.0	25	0	20	- 1.1	63	2		2	2	0	0		0.8	16	10.3	18	14+	8	9	13	5.8	
HOMER	20			13.3	3.9	8.4		16.1	17	- 0.6	26+	0	3			21	- 49	9	8	0	0	0						4	9	17	7.1	
ILIAMNA	57			13.9	4.4	9.3		18.9	21	0.6	25	0	0			56		27	11	0	T	T						8	8	14	6.0	
JUNEAU	4	1009.8	1010.6	12.8	4.4	8.6	- 0.8	17.2	17	- 1.7	16	0	1	7.2	94	138	- 31	34	20	0	0	0	1.3	10	13.9	12	10	1	2	27	8.9	34
KING SALMON	15	1001.7	1003.8	13.9	3.9	8.9	0.1	18.9	22	- 1.1	7	0	2	3.9	72	33	- 46	8	12	0	0	0	2.2	10	14.3	9	14	1	7	22	8.1	
KOTZEBUE	3	1009.5	1010.2	11.1	3.9	7.5	2.6	18.9	2	- 1.7	24	0	4	3.3	78	1	- 30	1	4	0	T	0	2.7	8	13.0	11	2	12	4	14	5.4	
MC GRATH	105	994.9	1007.5	15.0	0.6	7.7	1.1	18.9	17	- 4.4	25	0	14	- 0.6	60	5	- 61	2	4	0	0	0	0.5	1	8.9	9	27+	13	5	12	5.2	
NOME	4	1006.8	1007.4	12.2	3.9	8.1	2.6	16.7	18+	- 1.1	30+	0	4	2.2	68	14	- 54	5	10	0	0	0	1.6	8	10.7	10	1	9	6	15	5.9	42
ST. PAUL ISLAND	7	1002.0	1002.8	10.0	6.1	8.1	1.1	12.2	15	0.6	30	0	0	6.7	88	37	- 41	12	19	0	0	0	1.2	4	20.6	12	26	0	5	25	9.0	
SHEMYA	37	1002.7	1006.5	11.7	7.8	9.5	0.4	13.3	15	3.3	26	0	0	7.8	89	77	20	20	16	0	0	0	2.6	22	17.0	19	13	1	7	22	8.4	
SUMMIT	732	922.8	1008.6	12.8	- 0.6	5.9		16.1	1	- 5.6	26	0	19	- 1.1	65	7		6	4	0	0	0	1.2	5	10.7	24	2	9	8	13	5.7	
TALKEETNA	105	994.9	1008.3	16.1	- 0.6	7.8	0.0	19.4	16+	- 4.4	25	0	20	1.7	71	23	- 90	12	5	1	0	0	0.3	1	9.4	3	9	11	10	9	5.3	
UNALAKLEET	5	1006.8	1007.5	13.3	3.9	8.6		18.3	9	- 0.6	22	0	1	2.8	70	20		10	8	0	0	0	3.8	8	11.6	8	26	6	11	13	6.1	
YAKUTAT	9	1008.1	1009.2	13.3	4.4	8.9	- 0.7	18.9	16	- 2.2	16	0	2	6.7	88	233	-187	70	17	0	0	0	1.3	11	11.6	12	10+	1	7	22	8.6	
ARIZONA																																
FLAGSTAFF	2135	790.7	1016.5	23.3	5.6	14.6	- 0.2	27.8	10+	0.6	25	0	0	3.3	52	34	- 6	13	8	12	0	0	0.8	22	7.6	20	21+	13	14	3	4.1	
PHOENIX	340	970.9	1008.6	37.2	22.8	30.0	1.8	42.2	9	18.3	25	28	0	12.8	38	54	35	34	6	8	0	0	1.0	11	26.8Y	W	16	26	2	2	1.7	89
TUCSON	788	923.8	1009.6	34.4	20.6	27.3	0.4	38.3	9	16.1	23+	23	0	10.6	41	33	8	16	5	7	0	0	2.0	16	13.0	E	6	20	6	4	3.0	94
WINSLOW	1492	852.4	1013.5	30.6	12.2	21.4	- 0.1	35.0	10	6.7	23	9	0	6.1	44	7	- 17	4	5	8	0	0	1.0	20	12.5	34	13	15	12	3	3.9	
YUMA	59	1000.7	1007.7	38.9	24.4	31.6	1.4	44.4	9+	18.9	22	30	0	15.6	42	6	- 4	5	2	3	0	0	1.3	17	18.8	SE	6	22	7	1	1.8	90
ARKANSAS																																
FORT SMITH	136	1000.3	1016.7	30.6	16.7	23.6	- 0.3	34.4	6	10.6	25+	11	0	16.1	68	56	- 37	32	6	2	0	0	1.1	9	12.1	NE	7	11	8	11	5.2	66
LITTLE ROCK	78	1007.5	1017.0	29.4	16.1	22.7	- 0.8	33.3	6	10.6	29+	4	0	17.2	74	59	- 23	31	4	3	0	0	0.7	10	12.1	NW	7	11	6	13	5.4	63
CALIFORNIA																																
BAKERSFIELD	145	993.6	1010.8	34.4	19.4	27.1	2.4	42.2	3	13.9	21	23	0	10.6	38	T	- 2	T	0	0	0	0	1.2	33	8.0	31	6	27	3	0	0.8	
BISHOP	1252	872.3		32.8	8.9	20.8	0.7	37.2	2	5.0	22	17	0			T	- 5	T	0		0	0						24	6	0	1.5	
BLUE CANYON	1609			23.3	13.3	18.3	1.2	30.0	1	6.1	20	0	0			3	- 13	3	1		0	0			9.8	19	14	22	5	3	2.0	
EUREKA U	13			16.7	10.6	13.6	0.1	23.9	8	6.7	16	0	0			9	- 7	4	5		0				13.0	NW	3	7	9	14	6.3	64
FRESNO	100	999.0	1010.7	33.9	15.0	24.3	0.8	39.4	1	10.6	15	22	0	12.8	55	1	- 2	1	1	2	0	0	1.4	30	9.4	W	6	26	4	0	0.9	97
LONG BEACH	10	1011.2	1012.3	27.2	16.1	21.8	0.0	34.4	29	14.4	12+	1	0	13.9	70	1	- 1	1	1	1	0	0	1.7	29	7.6	26	22+	12	15	3	3.9	
LOS ANGELES	30	1008.1	1011.7	22.2	16.7	19.5	- 0.8	27.8	30	15.0	12+	0	0	15.6	82	T	- 4	T	1	0	0	0	3.0	25	11.2Y	W	2	8	12	10	5.6	
LOS ANGELES U	82			26.7	17.8	22.1	- 0.1	31.7	30	13.3	12	0	0			T	- 6	T	0		0	0			7.6	W	22	20	10	0	2.3	92
MT SHASTA R	1080	891.0	1013.6	25.0	8.3	16.7	0.3	32.8	6+	1.7	15	3	0	5.0	50	3	- 19	2	3		0	0	0.3	3								
OAKLAND	2	1012.9	1013.1	21.7	13.9	17.7	- 0.7	28.9	7	11.7	22+	0	0	12.8	78	T	- 5	T	0	1	0	0	3.1	30	8.9	30	27+	17	10	3	3.0	
RED BLUFF	104	998.6	1011.2	33.9	16.7	25.2	0.7	41.1	6	10.6	15	17	0	7.8	38	0	- 9	0	0	0	0	0	0.4	21	10.7	SE	18	20	5	5	2.7	91
SACRAMENTO	5	1010.5	1011.3	32.8	13.9	23.3	1.3	40.0	2+	9.4	15	18	0	12.2	58	1	- 4	1	1	0	0	0	2.3	21	9.4	W	6	24	6	0	1.5	98
SANDBERG R	1377			26.7	15.0	20.9	0.2	33.3	2+	6.7	21+	2	0	6.1	46	T	- 5	T	1		0	0	1.2	21	10.3	33	30	25	5	0	1.7	
SAN DIEGO	4	1010.8	1011.8	23.9	18.3	21.1	0.0	28.3	30	16.1	10	0	0	16.1	76	T	- 4	T	0	0	0	0	2.7	30	9.4	NW	7	14	6	10	5.0	64
SAN FRANCISCO	2	1012.5	1013.2	22.8	12.8	17.7	0.0	30.0	25+	10.0	15	0	0	11.7	76	1	- 4	1	1	1	0	0	4.8	30	13.0	27	23	22	4	4	2.6	
SAN FRANCISCO U	16			19.4	12.8	16.1	- 0.6	27.8	25	10.6	2	0	0			T	- 5	T	1		0	0			11.6	W	26					76
SANTA MARIA	72			22.2	11.7	17.1	- 0.1	28.9	30	6.1	22	0	0			3	- 1	2	2		0	0						13	12	5	4.3	
STOCKTON	7	1010.8	1011.8	32.8	15.0	23.8	1.2	40.0	2	10.6	15	17	0	10.6	49	6	1	6	1	1	0	0	2.3	31	9.4	6	7	24	6	0	1.5	
COLORADO																																
ALAMOSA	2297	775.8		22.2	3.3	12.7	- 0.4	27.8	6	- 1.1	24	0	6			33	13	13	10		0	0						9	14	7	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
COLORADO SPRINGS	1873	814.4	1015.8	23.9	9.4	16.6	0.2	30.0	6	4.4	23	0	0	6.7	62	29	2	8	11	12	0	0	0.9	5	13.4	30	30	10	10	10	5.6	
DENVER	1610	838.1	1013.7	26.1	10.0	18.1	0.8	31.7	6+	5.6	25	0	0	6.7	55	42	14	33	3	3	0	0	1.2	19	18.8	31	4	11	6	13	5.5	71
GRAND JUNCTION	1476	853.4	1013.4	28.3	12.8	20.7	0.8	33.3	7	6.1	23	6	0	5.6	42	37	14	20	11	11	0	0	2.6	14	17.9	W	15	15	9	6	4.0	71
PUEBLO	1428	857.1	1013.5	28.9	13.3	21.0	1.8	33.9	6	8.3	24+	6	0	9.4	53	33	11	21	7	4	0	0	0.6	7	17.0	NW	30	10	12	8	5.0	73
CONNECTICUT																																
BRIDGEPORT	2	1018.0	1018.7	23.3	13.3	18.3	- 0.3	30.6	2+	5.6	30	0	0	13.9	77	123	22	53	9	3	0	0	0.7	35	13.4	32	9	10	13	7	5.1	
HARTFORD	52	1011.9	1018.4	23.9	11.7	17.7	0.3	33.9	1	3.3	21	1	0	12.2	76	90	- 3	39	10	2	0	0	0.8	28	9.8	SW	15	10	8	12	6.2	58
DELAWARE																																
WILMINGTON	23	1016.3	1019.1	25.6	15.0	20.1	0.3	32.2	1	7.2	30	1	0	13.9	71	174	73	136	6	5	0	0	0.6	29	8.9	34	28	6	11	13	5.8	
DIST.OF COLUMBIA																																
WASH NATL AP	3	1016.9	1019.2	26.1	16.1	21.2	0.2	32.8	7	8.9	30	2	0	14.4	69	129	31	77	11	6	0	0	0.1	25	19.2	W	8	9	8	13	6.0	61
FLORIDA																																
APALACHICOLA U	4			28.9	21.7	25.3	- 0.7	32.8	9+	16.7	11	3	0			313	97	180	8	4	0	0			13.0	NE	30+	9	10	11	5.8	57
DAYTONA BEACH	9	1013.9	1015.1	30.0	22.8	26.5	0.3	33.3	10	21.1	26	1	0	22.2	81	226	48	102	18	10	0	0	1.6	7	10.3	10	29	0	9	21	8.0	
FORT MYERS	5	1013.5	1013.8	30.6	23.9	27.1	- 0.3	32.8	1	22.2	13	4	0	23.3	85	422	206	145	19	18	0	0	1.3	7	12.5	17	15	2	10	18	7.6	
JACKSONVILLE	6	1014.6	1015.7	30.0	21.7	25.7	- 0.6	33.9	9	18.3	14	3	0	21.7	83	262	70	97	17	8	0	0	2.2	6	16.1	NE	29	2	10	18	7.5	53
KEY WEST	1	1012.5	1013.1	30.6	26.1	28.3	0.4	31.7	24+	22.8	14	0	0	23.9	77	259	88	58	20	18	0	0	2.6	11	17.0	SE	19	0	11	19	8.1	61
LAKELAND U	65			30.6	22.2	26.5	- 0.3	33.3	2	19.4	23	7	0			226	60	55	17		0	0						2	12	16	7.0	47
MIAMI	2	1012.9	1015.3	31.1	25.0	28.1	0.7	33.3	9	23.3	29+	8	0	22.2	75	209	- 31	38	13	10	0		1.6	12	8.9	12	20	0	10	20	8.0	
ORLANDO	33	1010.5	1014.7	31.7	23.3	27.3	0.7	33.3	10+	22.2	29+	15	0	22.2	78	164	20	68	15	13	0	0	1.4	6	20.6	24	23	0	10	20	8.0	
TALLAHASSEE	17	1013.2	1015.4	31.1	18.9	25.1	- 0.6	35.6	8	10.6	11	13	0	20.6	81	404	264	241	10	7	0	0	1.7	5	8.0	4	30+	7	9	14	6.5	
TAMPA	6	1013.5	1013.9	31.1	22.8	26.9	0.0	33.9	6+	21.1	26+	9	0	21.7	79	104	- 71	53	14	11	0	0	1.6	7	8.9	15	18	2	9	19	7.8	73
WEST PALM BEACH	5	1012.9	1013.6	30.6	23.3	26.9	- 0.9	32.8	10+	21.1	25+	4	0	22.8	81	370	124	62	20	17	0	0	1.7	10	15.6	31	24	0	12	18	8.2	
GEORGIA																																
ATHENS	244	988.8	1017.6	26.7	16.7	21.5	- 1.6	32.8	18	11.7	30+	1	0	16.7	78	132	55	68	10	6	0	0	1.5	5	7.6	7	22	9	10	11	5.8	
ATLANTA	308	981.0	1017.5	26.7	16.7	21.6	- 1.2	32.2	18	9.4	10	1	0	16.7	79	95	12	48	6	3	0	0	1.8	7	11.2	E	22	9	8	13	6.1	58
AUGUSTA	41	1011.9	1017.1	27.2	16.7	22.0	- 2.1	31.7	8+	10.0	14	0	0	17.8	83	179	102	125	8	3	0	0	1.1	5	7.6	8	19	6	7	17	6.9	
COLUMBUS	117	1002.7		28.3	17.8	23.0	- 1.4	32.8	8+	12.8	14+	4	0	18.3	79	161	90	84	12	6	0	0	2.1	5	10.3	7	21	9	8	13	6.0	
MACON	108	1004.4	1017.2	28.3	16.1	22.3	- 2.4	33.9	18	10.0	13	7	0	17.2	80	39	- 31	19	10	3	0	0	1.8	5	8.0	E	22+	9	9	12	6.0	57
ROME	194			27.2	15.0	21.2	- 1.3	33.3	18	7.8	13	1	0			130	46	99	7		0	0										
SAVANNAH	14	1014.9	1016.5	28.3	20.0	24.1	- 0.7	31.7	9	13.9	13	0	0	20.0	81	95	- 38	27	15	5	0		2.2	5	7.6	NE	30+	3	5	22	7.9	47
HAWAII																																
HILO	8	1014.6	1015.8	27.8	20.0	23.9	- 0.3	28.9	15	18.3	30+	0	0	20.6	83	184	- 32	61	29	0	0	0	0.2	28	7.2	NE	25	0	14	16	8.0	34
HONOLULU	2	1014.9	1015.3	31.7	23.9	27.8	1.6	32.8	15+	22.2	23	11	0	19.4	63	22	- 3	14	11	0	0	0	5.9	5	13.0	NE	2	0	19	11	6.6	67
KAHULUI	15	1012.5	1015.0	30.6	20.6	25.5	- 0.3	32.2	24+	16.1	7	3	0	19.4	71	12	6	4	13	0	0	0	5.4	5	13.0	NE	1	6	12	12	6.2	71
LIHUE	31	1011.5	1016.8	29.4	23.3	26.4	0.8	30.0	25+	20.6	10	0	0	20.6	73	38	- 15	13	16	0	0	0	5.6	6	11.6	E	29+	0	11	19	7.8	51
IDAHO																																
BOISE	865	914.3	1013.1	25.6	10.0	17.9	0.8	34.4	8	2.2	5	4	0	3.3	43	17	7	8	4	1	0	0	0.4	9	12.5	NW	3	15	7	8	4.5	80
LEWISTON	431			24.4	11.1	17.9	0.4	35.6	1	4.4	15	3	0			35	12	14	8		0	0						6	6	18	7.0	
POCATELLO	1358	863.2	1013.8	25.6	7.8	16.7	1.0	33.3	1	0.6	22	2	0	1.7	40	4	- 12	2	5	5	0	0	2.1	23	16.5	W	29	12	11	7	4.5	80
ILLINOIS																																
CAIRO U	96			27.2	17.2	22.1	- 0.4	32.2	6	11.7	29+	1	0			64	- 13	52	8		0	0			14.3	N	6	14	9	7	4.2	68
CHICAGO O HARE	201	994.6	1018.8	23.3	13.9	18.5	0.9	28.3	3	5.6	28	0	0	11.7	66	76	7	52	8	2	0	0	0.1	33	10.7	7	4	8	11	11	5.8	
CHICAGO MIDWAY	185	996.3	1018.9	23.9	14.4	19.1	0.2	28.9	22+	7.8	28+	0	0	12.2	66	33	- 36	9	10	3	0	0	0.2	14	10.7	NE	17	6	14	10	5.9	58
MOLINE	177	997.0	1018.5	24.4	12.2	18.3	- 0.2	28.9	13+	5.0	28+	0	0	12.2	71	64	- 19	24	11	5	0	0	0.4	10	13.4	W	6	12	5	13	5.8	59
PEORIA	199	994.9	1018.7	23.9	12.8	18.2	- 0.9	28.9	3	5.6	28	0	0	12.8	72	84	7	24	12	5	0	0	0.5	9	13.0	NW	27	7	10	13	6.0	59
ROCKFORD	221	991.5	1018.4	22.8	11.7	17.3	0.4	27.8	13	4.4	28	0	0	11.7	72	47	- 42	23	11	3	0	0	0.2	10	8.9	19	29+	8	9	13	6.0	
SPRINGFIELD	179	995.9	1018.1	25.6	12.8	19.1	- 0.7	30.6	13	5.0	25	0	0	13.3	72	101	26	55	12	5	0	0	0.5	11	9.8	NW	26	11	6	13	5.4	72
INDIANA																																
EVANSVILLE	116	1004.4	1018.2	26.7	13.3	20.2	- 1.0	32.2	6	6.1	29	1	0	13.9	71	68	- 5	53	8	4	0	0	0.7	2	8.5	N	17+	9	9	12	5.5	77
FORT WAYNE	241	989.5	1019.3	24.4	12.2	18.4	0.2	33.9	6	3.3	29	1	0	12.2	72	89	21	49	10	4	0	0	0.3	27	13.0	NW	6	5	13	12	6.7	63
INDIANAPOLIS	241	989.5	1018.5	24.4	12.2	18.4	- 0.7	32.2	6	4.4	10	1	0	13.9	79	73	- 9	44	9	2	0	0	0.4	9	9.8	N	17	7	11	12	6.1	60
SOUTH BEND	236	990.9	1016.7	22.8	12.8	17.6	- 0.1	28.3	15+	4.4	29	0	0	12.8	77	36	42	11	9	3	0	0	0.5	22	11.6	26	6	3	13	14	7.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C.	C.	C.	C	C		C				C.	%	Mm.	Mm	Mm			Mm	Mm.	M.p.s		M.p.s							%
IOWA																																
BURLINGTON	211			23.9	12.8	18.3	-0.6	28.9	13	5.0	24	0	0	14.3	71	81	1		6	4	0		0.6	11	9.4	18	14	7	13	10	5.5	
DES MOINES	286	983.7	1018.4	24.4	13.3	18.9	0.4	30.0	5	3.3	24	0	0	11.7	66	62	11	21	9	10	0	0	1.4	13	15.6	[illegible]	13	10	10	10	5.4	65
DUBUQUE	322	979.7		22.8	10.6	16.6	0.1	28.3	13	4.4	25+	0	0			26	-69	10	10		0	0						7	10	13	6.2	
SIOUX CITY	334	977.3	1016.8	24.4	12.2	18.2	-0.4	30.0	5	4.4	24	0	0	11.9	77	31	-38	19	8	6	0	0	2.1	14	17.0	5	30	15	5	10	4.8	70
WATERLOO	265	986.8	1016.6	22.8	9.4	16.2	-1.0	27.8	13+	2.8	28+	0	0	11.7	78	34	-62	9	8	9	0	0	0.9	14	13.9	21	13	9	11	10	5.6	
KANSAS																																
CONCORDIA	448	963.4	1015.7	27.2	13.9	20.5	0.4	34.4	30	8.3	24+	2	0	15.0	74	33	-36	29	4	6	0	0	2.5	15	23.7	NW	4	17	7	6	4.1	67
DODGE CITY	787	925.8	1015.2	27.2	15.6	21.3	0.0	34.4	29	10.0	23	5	0	15.0	73	36	-3	22	5	5	0	0	2.9	17	13.4	5	21	11	7	12	5.5	59
GOODLAND	1114	889.3	1014.0	26.7	13.3	20.1	1.4	33.9	6	6.1	27	3	0	11.1	64	9	-22	6	6	5	0	0	2.8	17	13.9	17	20	9	8	13	5.6	
TOPEKA	267	985.4	1016.9	26.7	14.4	20.6	-0.2	34.4	6	5.6	24	2	0	15.0	73	52	-24	30	4	4	0	0	1.4	14	12.5	NW	5	8	10	12	5.7	56
WICHITA	403	968.8	1016.0	27.8	16.1	22.2	0.3	34.4	6+	10.6	24	5	0	15.0	69	121	39	66	9	5	0	0	2.0	17	13.0	SW	30	15	1	14	4.9	60
KENTUCKY																																
COVINGTON	265	987.8	1019.0	25.0	13.3	19.2	-0.4	31.7	1	5.6	28	0	0	13.3	74	73	1	25	7	5	0	0	0.2	6	9.4	36	6	5	9	16	6.9	
LEXINGTON	294	983.7	1019.0	25.6	13.9	19.9	-0.8	29.4	30+	6.1	28	0	0	12.8	68	12	-59	8	5	1	0	0	0.4	13	7.6	24	17+	8	6	16	6.4	
LOUISVILLE	145	1000.7	1018.2	25.6	13.7	19.7	-1.1	31.1	6	5.1	29	0	0	13.9	73	27	-39	15	8	3	0	0	0.3	4	9.8	NW	17+	8	7	15	6.2	68
LOUISIANA																																
BATON ROUGE	20	[illegible]	1015.6	31.1	18.9	25.2	-0.3	33.9	7	13.3	12	12	0	18.3	71	76	-13	29	9	7	0	0	1.6	4	13.4	18	7	12	15	3	4.2	
LAKE CHARLES	5	[illegible]	1015.2	31.1	18.9	25.1	-0.8	33.3	17+	13.9	30+	11	0	18.9	75	82	-20	34	5	5	0	0	1.7	7	8.9	16	4+	12	15	3	4.0	
NEW ORLEANS	1	1014.6	1015.5	30.6	19.4	24.8	-0.9	32.8	17+	13.9	13+	5	0	19.4	75	27	-100	23	4	4	0	0	2.0	4	7.6	5	10+	13	14	3	3.8	
SHREVEPORT	77	1006.8	1016.0	32.2	19.4	25.7	0.3	36.1	7+	13.9	30+	16	0	16.7	64	25	-33	12	5	4	0	0	1.4	7	11.6	33	16	8	13	9	5.3	77
MAINE																																
CARIBOU	190	994.6		17.2	6.1	11.6	-0.6	26.1	1	-1.7	20	0	[illegible]			173	83	76	17		0	0						4	9	17	7.0	
PORTLAND	14	1015.6	1018.1	21.1	11.1	16.1	1.2	33.9	1	2.2	30	1	0	12.2	79	134	45	104	9	1	0	0	0.4	24	11.2	N	9	11	7	12	5.9	48
MARYLAND																																
BALTIMORE	45	1013.5	1019.2	26.7	15.0	20.8	0.8	34.4	1	6.7	30	4	0	13.3	67	66	-19	55	6	3	0	0	0.5	29	9.4	N	18+	9	10	11	5.6	55
MASSACHUSETTS																																
BLUE HILL OBS R	192			21.1	11.7	16.5	-0.4	33.9	1	6.1	19	1	0			124	23	66	10		0	0			17.4	NW	9					58
BOSTON	5	1017.3	1018.3	21.7	13.9	17.6	-0.9	35.0	1	7.8	21	1	0	12.8	75	112	24	70	9	2	0	0	0.9	29	12.5	NW	9	10	8	12	5.2	62
NANTUCKET	13	1018.3		21.7	13.3	17.3	0.2	28.3	2	4.4	30	0	0			198	109	128	6	1	0	0			17.9	N	9	7	9	14	6.8	57
WORCESTER	301	982.4	1019.4	21.1	11.1	16.0	0.0	31.1	1	4.4	21	0	0	12.2	81	156	57	58	11	3	0	0	1.1	28	9.8	30	9	13	7	10	5.1	
MICHIGAN																																
ALPENA	210	993.2	1018.6	20.0	7.8	13.8	0.5	29.4	6	-1.1	29	0	2	10.6	82	55	-36	14	15	6	0	0	0.8	26	8.9	SW	14	4	14	12	6.5	54
DETROIT	189			23.3	13.9	18.6	0.2	31.1	1	7.2	29	0	0	11.7	66	13	-49	7	4	2	0		0.9	28	13.0	26	6					
DETROIT M WAYNE CO	193	994.2	1018.2	23.9	12.8	18.2	0.8	30.0	6	3.9	29	0	0	11.7	70	17	-42	11	8	1	0	0	0.8	29	13.4	W	6	5	10	15	6.8	52
FLINT	235	990.5	1018.3	22.8	11.1	16.9	0.3	30.0	6	2.2	29+	0	0	10.6	71	8	-66	3	5	2	0	0	0.7	24	10.3	26	6	8	8	14	6.5	
GRAND RAPIDS	239	989.5	1018.7	23.3	10.6	16.9	0.1	31.1	1	1.7	29	0	0	10.0	69	24	-52	9	8	3	0	0	0.7	23	15.6	W	26	6	10	14	6.7	53
HOUGHTON LAKE	350	977.3	1019.2	20.0	8.3	14.0	-0.1	27.2	6	0.0	29	0	1	10.6	80	41	-33	23	9	3	0	0	0.7	28	9.4	13	1	8	5	17	6.7	
LANSING	256	987.1	1018.7	24.4	11.1	17.9	1.2	32.2	6+	1.7	29	2	0	12.2	72	42	-24	39	5	3	0	0	1.0	25	24.1	W	6	5	12	13	6.7	55
MARQUETTE J	206			18.9	11.1	15.2	0.9	27.8	3	5.0	25	0	0			82	-1	46	14		0	0			12.5	SW	21	6	10	14	6.2	58
MUSKEGON	191	995.6	1018.4	22.2	11.7	16.9	-0.3	31.1	4	3.3	29	0	0	11.7	75	40	-38	16	9	5	0	0	0.2	27	10.3	24	6	8	11	11	6.4	
SAULT STE MARIE	220	991.2	1017.6	18.9	7.2	13.2	0.0	28.3	6	-0.6	29	0	2	8.9	76	65	-32	25	12	4	T	T	0.8	30	11.2	NW	7	6	7	17	6.9	54
MINNESOTA																																
DULUTH	435	966.8	1018.3	18.9	8.3	13.7	1.4	28.9	12	1.1	24	0	0	7.8	72	105	32	23	12	5	0	0	0.9	20	13.4	NW	7	5	13	12	6.6	58
INTERNATIONAL FALLS	359	973.6	1016.7	18.9	6.7	12.7	1.1	28.9	13	-1.1	28+	0	3	9.4	83	45	-29	9	13	8	T	T	1.1	21	11.2	17	19	4	8	18	7.6	
MINNEAPOLIS	254	987.5	1018.0	23.3	11.1	17.2	1.4	30.6	12	2.8	30+	0	0	10.0	67	12	-49	7	6	3	0	0	1.0	17	12.1	5	21	10	11	9	5.1	66
ROCHESTER	395	970.9	1018.4	22.2	8.9	15.6	-0.4	27.8	12+	1.7	28	0	0	9.4	72	40	-38	14	9	4	0	0	1.2	19	10.7	18	14	10	10	10	5.1	
ST CLOUD	315			21.7	9.4	15.7	0.8	30.6	14	1.1	28	0	0			43	-18	33	6		0	0						9	13	8	5.3	
MISSISSIPPI																																
JACKSON	94	1004.7	1016.5	31.1	17.2	24.0	-0.7	35.0	18	10.0	27+	11	0	17.8	74	14	-50	5	6	7	0	0	1.2	5	7.6	5	4	9	9	12	5.5	64
MERIDIAN	88	1005.4	1016.5	29.4	16.7	23.1	-1.3	33.3	18+	8.9	12	8	0	17.8	77	92	8	64	6	5	0	0	1.0	2	10.7	2	7	9	10	11	5.5	
MISSOURI																																
COLUMBIA	237	989.5	1017.4	26.1	15.0	20.6	-0.2	31.7	5	7.2	24	0	0	14.4	71	140	42	68	10	6	0	0	1.2	11	11.6	SE	7	11	7	12	5.5	69
KANSAS CITY	226	990.5	1017.2	27.2	17.2	22.1	0.3	34.4	6	9.4	24	3	0	15.0	68	93	11	26	10	9	0	0	1.4	12	13.0	NE	6	9	9	12	5.5	64

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M p.s.							%
MISSOURI																																
ST JOSEPH	247			27.8	15.0	21.4	1.1	32.8	30	8.3	24	2	0	14.4	72	55	32		12		0		0.9	14	10.3	36	7+	11	10	9	5.2	
ST LOUIS	163	998.0	1018.3	26.7	14.4	20.7	- 0.1	33.3	6	6.7	25	3	0	15.0	72	128	58	72	12	5	0	0	0.8	13	13.0	N	6	11	6	13	5.5	68
SPRINGFIELD	386	972.9	1017.6	27.2	13.9	20.6	0.8	33.3	6	5.6	24	1	0	13.3	70	62	- 36	26	6	6	0	0	1.4	15	17.0	NE	7	13	5	12	4.9	70
MONTANA																																
BILLINGS	1087	890.6	1013.0	25.0	8.9	17.1	1.3	35.0	3	3.3	25+	2	0	2.2	42	9	- 21	4	5	2	0	0	1.1	27	18.8	NW	3	8	11	11	5.7	77
GLASGOW	696	932.3	1013.1	24.4	8.9	16.6	2.9	36.1	3	2.2	16	4	0	2.8	45	7	18	3	4	2	0	0	1.3	11	19.2	31	3	13	10	7	5.0	
GREAT FALLS	1116	887.2	1012.7	24.4	8.3	16.3	2.2	35.6	2	1.1	22+	7	0	1.1	39	3	- 27	2	2	1	0	0	2.6	24	15.2	SW	4	5	14	11	6.2	81
HAVRE	788	921.4	1012.5	25.6	6.7	16.1	2.9	35.6	2	1.7	16+	6	0	1.1	41	2	- 24	1	3	1	0	0	0.8	25	15.6	NW	3	11	8	11	5.4	84
HELENA	1167	880.5	1014.4	23.3	6.1	14.4	1.1	33.3	1	1.1	15	2	1	3.3	53	8	- 16	7	5	2	0	0	1.5	27	16.5	W	3	7	8	15	6.3	76
KALISPELL	904	913.6	1014.8	21.7	4.4	13.2	0.6	33.3	10+	- 3.9	15	3	4	3.3	58	37	10	11	13	4	0	0	0.8	20	11.2	25	13	8	4	18	6.8	
MILES CITY	801	920.8	1012.2	27.2	10.6	18.9	2.8	37.2	3	4.4	25	6	0	5.0	43	1	- 23		2	3	0		0.8	3								
MISSOULA	972	904.2	1015.6	22.2	5.0	13.8	0.8	32.8	1	- 2.8	15	3	2	3.9	60	17	- 9	7	7	2	0	0	0.8	29	14.3	SE	10	4	9	17	6.7	54
NEBRASKA																																
GRAND ISLAND	561	950.9	1016.1	26.1	12.8	19.6	1.2	32.2	14	6.7	23	1	0	13.3	71	51	- 4	30	4	2	0	0	2.2	16	15.6	27	4	15	8	7	4.3	
LINCOLN	351			26.1	14.4	20.4	0.3	33.3	30	8.3	24	2	0			20	- 53	16	4		0	0			18.8	[illegible]	28	13	9	8	4.8	71
NORFOLK	471			25.0	12.2	18.6	0.2	31.7	5	6.7	24	0	0			41	- 16	29	5		0	0						15	5	10	4.6	
NORTH PLATTE	846	918.4	1014.8	27.2	10.6	18.8	1.2	33.9	14	2.2	23	4	0	11.1	67	20	- 22	18	4	4	0	0	2.2	15	12.5	W	24	13	7	10	4.9	73
OMAHA	298	981.7	1016.7	26.1	13.9	19.8	0.4	31.1	14+	6.1	24	0	0	13.9	72	34	- 33	18	5	4	0	0	1.4	15	11.2	SE	28	11	9	10	5.3	75
SCOTTSBLUFF	1206	879.8	1013.5	28.3	10.0	19.3	2.4	32.8	28+	4.4	27+	4	0	8.3	57	20	- 11	13	5	3	0	0	1.9	13	11.6	18	27	16	6	8	4.0	
VALENTINE	789			27.8	11.1	19.3	2.7	35.6	14	2.2	23	4	0			16	- 16	11	3		0	0			22.4		12	16	7	7	4.1	78
NEVADA																																
ELY	1906	810.4	1012.6	26.7	5.6	15.9	1.8	30.6	6	- 2.2	22	0	1	0.0	40	9	5	6	6	4	0	0	3.0	21	15.2	E	1	16	13	1	3.3	82
LAS VEGAS	659	935.3	1009.9	36.1	20.0	28.1	1.4	41.1	1	14.4	23	27	0	7.2	31	2	- 7	1	2	3	0	0	1.7	22	17.0	SW	6	23	5	2	2.0	89
RENO	1342	865.6	1012.9	30.0	5.0	17.4	2.6	34.4	2+	1.1	22+	7	0	2.2	40	T	6	T	1	0	0	0	1.0	28	11.6	NW	7+	23	5	2	2.2	98
WINNEMUCCA	1311	867.3	1013.0	30.0	4.4	17.2	2.4	35.6	1	- 1.7	4	9	4	- 2.8	28	T	8	T	1	1	0	0	0.8	26	11.6	SW	29+	16	11	3	3.1	91
NEW HAMPSHIRE																																
CONCORD	104	1006.1	1018.8	21.7	9.4	15.4	0.2	32.2	1	- 0.6	30	1	2	12.2	83	113	17	41	10	2	0	0	0.2	26	13.0	NW	2	5	13	12	6.5	52
MT WASHINGTON	1909			8.9	3.3	6.1	1.1	15.0	1	- 6.1	30	0	8			106	- 72	34	16	1	T	T			35.3Y	W	12	4	9	17	7.7	28
NEW JERSEY																																
ATLANTIC CITY	20	1016.3	1018.8	25.6	11.7	18.6	0.9	33.9	1	0.0	30	3	1	13.3	75	42	42	29	6	2	0	0	0.8	26	9.4	31	9	8	9	13	5.9	57
ATLANTIC CITY U	3			25.9	17.2	20.7	0.5	30.6	7	10.6	30	0	0			62	- 24	51	6						11.2	SW	17					
NEWARK	2	1017.6	1018.7	24.4	15.0	19.7	0.1	32.8	1	9.4	30	1	0	13.3	68	168	73	117	8	1	0	0	1.0	28	12.5	29	9	11	11	8	5.1	
TRENTON	17			24.4	15.0	19.7	0.2	32.8	1	7.8	30	1	0			169	80	86	8		0	0			17.0	NW	7	10	12	8	5.0	62
NEW MEXICO																																
ALBUQUERQUE	1619	840.2	1013.9	28.3	13.9	21.1	0.0	32.8	7+	9.4	24	3	0	7.2	47	27	3	19	6	6	0	0	0.5	13	14.3	[illegible]	1	17	3	10	4.1	78
CLAYTON	1515			25.0	12.8	18.8	- 0.1	31.1	6	8.3	23	0	0			91	49	31	11		0	0						11	9	10	5.0	
ROSWELL	1102			30.0	14.4	22.2	1.2	35.0	7+	9.4	30+	8	0			68	22	41	10		0	0			11.2	NW	4					61
NEW YORK																																
ALBANY	84	1008.1	1018.8	23.9	10.0	16.9	0.4	32.8	1	1.7	21	1	0	11.1	75	52	39	32	8	3	0	0	0.6	24	13.0	W	7	3	9	18	7.3	44
BINGHAMTON	485	961.1	1019.7	20.6	10.6	15.6	0.3	29.4	1	3.3	22+	0	0	11.7	81	47	- 28	34	8	2	0	0	1.1	25	11.6	NW	6	5	9	16	6.4	65
BUFFALO	215	993.2	1018.6	21.1	12.2	16.8	0.4	29.4	1	5.0	19	0	0	12.2	75	52	28	27	6	3	0	0	1.6	25	13.4	SW	12	4	8	18	7.4	51
J.F. KENNEDY	4	1018.0	1018.9	25.0	15.6	20.3	0.4	32.8	1	8.3	30	1	0	13.9	70	97	- 9	61	9	4	0	0	0.4	30	10.3	[illegible]	17	11	11	8	5.1	
NEW YORK	40	1015.2	1018.4	25.0	16.1	20.6	0.3	33.9	1	10.6	29+	1	0	13.3	66	211	113	147	8	1	0	0	0.5	31	9.8	NE	18					66
NEW YORK LA GUARDIA	3	1017.3	1019.0	23.9	16.1	19.8	- 0.6	32.2	1	10.0	19	1	0	12.2	64	187	87	115	8	5	0	0	0.6	34	11.6	N	9	9	12	9	5.2	
ROCHESTER	167	999.0	1019.3	23.3	11.7	17.6	0.7	32.2	1	3.9	19	1	0	11.7	71	45	- 19	31	5	1	0	0	1.6	24	14.3	SW	12	5	11	14	6.7	51
SYRACUSE	125	1003.7	1018.6	23.3	11.7	17.7	0.8	31.7	1	3.9	20+	0	0	10.6	66	29	- 43	13	8	2	0	0	1.1	26	11.2	W	12	5	8	17	7.0	55
NORTH CAROLINA																																
ASHEVILLE	652	943.4	1019.1	24.4	13.3	18.8	- 0.1	29.4	18	4.4	29	0	0	15.0	87	77	- 15	18	13	5	0	0	0.6	34	9.4	36	28+	5	11	14	6.6	57
CAPE HATTERAS	2	1017.6	1018.0	26.1	19.4	22.8	- 0.6	30.6	7	11.1	24	0	0	18.9	79	112	- 38	34	12	5	0	0	3.0	5	15.2	ENE	20	4	14	12	6.5	59
CHARLOTTE	224	991.2	1018.4	25.0	16.1	20.6	- 2.2	30.6	7	9.4	30	0	0	16.1	79	123	34	45	8	3	0	0	1.3	4	8.0	NW	8	7	7	16	6.6	52
GREENSBORO	273	987.5	1019.1	25.6	15.0	20.3	- 0.8	31.7	7	7.2	30	0	0	14.4	73	87	6	57	9	1	0	0	0.9	2	8.9	SE	5	7	7	16	6.5	56
RALEIGH	132	1002.7	1018.5	25.6	13.9	19.7	- 2.1	30.6	7+	6.1	30	0	0	15.6	83	158	60	60	6	1	0	0	1.1	5	8.0	[illegible]	20	8	5	17	6.6	63
WILMINGTON	9	1016.6	1017.9	27.2	17.2	22.3	- 1.7	31.7	7	12.2	30+	0	0	18.3	83	66	- 94	20	8	3	0	0	1.5	5	9.4	NE	19	3	10	17	7.4	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M.p.s.		M.p.s.							%
NORTH DAKOTA																																
BISMARCK	502	955.6	1014.8	25.0	8.3	16.6	1.8	35.0	12	1.7	27	4	0	7.2	58	12	- 18	9	5	5	0	0	1.2	13	15.2	SE	19+	13	7	10	5.0	74
FARGO	273	983.4	1016.0	21.7	8.3	15.0	0.1	31.7	12	0.6	27+	0	0	10.0	75	39	2	21	6	8	0	0	1.2	17	15.2	SE	28+	10	7	13	5.8	76
WILLISTON	579	945.8	1013.8	23.9	7.8	16.0	2.0	34.4	2	1.7	27	4	0	5.0	54	29	1	22	4	3	0	0	0.4	13	14.8	NW	21	12	9	9	5.0	78
OHIO																																
AKRON	368	974.9	1019.4	22.2	11.7	16.9	- 0.8	29.4	1	4.4	29	0	0	12.2	76	38	- 28	25	7	3	0	0	0.6	22	9.4	2	17+	7	7	16	6.7	
CINCINNATI OBS	232			25.0	13.3	19.1	- 1.5	31.7	6+	6.7	29	0	0			88	19	20	11		0	0			6.3	NE	17					52
CLEVELAND	237	990.2	1019.4	22.8	12.8	17.6	- 0.3	31.1	1	4.4	29	0	0	12.2	74	125	51	57	11	3	0	0	1.2	20	8.0	SW	15	4	10	16	7.0	50
COLUMBUS	247	989.5	1019.5	23.9	11.7	17.7	- 1.2	31.1	1	2.2	29	0	0	12.8	76	36	- 32	14	7	2	0	0	0.5	9	12.5	N	6	5	7	18	7.0	53
DAYTON	305	983.1	1019.0	25.0	13.3	19.1	- 0.2	31.7	6+	5.6	29	0	0	12.2	70	29	- 37	16	7	2	0	0	0.2	21	10.7	NW	6	7	7	16	6.7	74
MANSFIELD	395			23.3	13.3	18.2	0.8	31.7	1	6.1	29	0	0	11.7	71	69	- 7	34	8	2	0	0	1.1	22	8.9	35	17	6	10	14	6.7	
TOLEDO	204	994.2	1019.4	23.3	11.1	17.2	- 0.3	31.1	1	1.7	29	0	0	12.2	75	69	14	29	10	4	0	0	0.7	27	21.0	NW	6	5	9	16	6.9	47
YOUNGSTOWN	359	977.0	1019.6	21.7	10.6	16.3	- 0.6	29.4	1	1.7	29	0	0	11.7	78	50	- 24	27	8	2	0	0	0.8	20	8.0	28	9	5	10	15	6.7	
OKLAHOMA																																
OKLAHOMA CITY	392	970.5	1016.3	28.3	17.2	22.9	0.3	33.9	7	12.2	24	3	0	16.7	72	165	89	52	8	7	0	0	1.7	15	15.6	NW	16	13	7	10	4.9	74
TULSA	198	992.6	1016.5	30.6	17.2	23.8	0.6	36.1	5	10.0	24	12	0	16.1	67	42	- 59	30	7	3	0	0	1.1	18	11.2	SW	15+	14	7	9	4.6	62
OREGON																																
ASTORIA	2	1014.6	1015.3	18.3	10.0	14.0	- 0.4	26.1	7	3.3	15	0	0	11.1	84	166	87	41	18	0	0	0	1.3	20	11.6	20	30	5	4	21	7.7	
BURNS U	1265	872.7	1014.2	24.4	6.1	15.5	0.6	33.3	1	- 0.6	4	1	1	1.7	45	6	- 7	4	4		0	0	1.2	30				11	8	11	5.0	
EUGENE	109	1001.7	1015.2	23.3	8.9	16.3	- 0.1	32.2	10+	2.2	15	2	0	10.0	71	52	20	26	9	0	0	0	0.5	23	10.3	16	18	8	7	15	6.2	
MEACHAM	1234	876.7	1014.3	19.4	7.2	13.4	0.2	30.6	1	1.1	15	0	0	1.7	50	38	1	19	8		0	0	0.8	27	7.6	25	13+	9	6	15	5.9	
MEDFORD	396	967.5	1014.6	27.2	9.4	18.3	0.4	36.7	1	3.3	15+	8	0	7.8	60	16	1	7	5	0	0	0	0.8	32	7.2	27	8	13	10	7	4.2	
PENDLETON	452	961.4	1014.4	25.0	11.1	18.2	0.3	33.9	1	4.4	15	4	0	5.6	50	11	- 5	6	8	3	0	0	1.5	26	13.9	27	3	9	11	10	5.7	
PORTLAND	6	1013.5	1014.8	23.3	11.7	[illegible]	0.7	33.3	7	5.6	15+	3	0	11.1	70	98	57	57	15	1	0	0	0.7	25	12.5	5	30	7	6	17	6.7	57
SALEM	60	1007.8	1015.2	23.9	8.9	16.2	- 0.9	34.4	7	1.1	15	3	0	10.0	70	91	56	45	10	1	0	0	0.9	21	13.9	18	30	7	6	17	6.5	
SEXTON SUMMIT R	1169	884.2	1014.1	20.6	10.0	15.1	- 0.3	30.6	1	5.0	14+	0	0			32	0	21	6		0	0			14.8	1	10	14	10	6	3.9	
PACIFIC AREA																																
JOHNSTON	2	1011.9	1012.5	30.0	24.4	27.3	- 0.2	31.1	2	22.2	22	0	0	22.8	76	41	- 19	15	17	0	0	0	6.6	9	13.4	E	19+	3	13	14	7.4	68
KOROR R	29	1005.4	1009.0	30.0	24.4	27.4	0.2	31.1	26+	22.2	28	0	0	24.4	84	356	- 8	78	22	3	0	0	2.8	26	15.2	N	9	1	1	28	9.5	46
KWAJALEIN	2	1008.5	1009.2	31.1	25.0	28.0	0.3	32.8	19	23.3	4	3	0	24.4	81	252	- 7	50	22	3	0	0	2.2	9	12.5	8	6+	0	0	30	9.8	
MAJURO	3	1009.1	1009.3	30.0	25.0	27.5	0.6	32.2	22	22.2	30	1	0	23.9	80	398	91	90	21	3	0	0	1.8	8	11.2	NE	5	0	13	17	8.0	54
PAGO PAGO	4	1011.9	1012.0	28.9	22.8	25.9		30.6	29+	17.8	13	0	0	21.7	78	57		46	9	0	0	0	3.5	12	13.4	SE	8	3	18	9	6.1	86
PONAPE R	37	1003.7	1009.1	31.1	22.2	26.6	0.2	32.8	7	20.0	29+	7	0	23.9	87	457	56	99	24	4	0	0	0.8	17	7.6	NE	8	1	7	22	8.1	62
TAGUAC GUAM R	110	995.9	1008.3	30.6	22.8	26.6	0.3	31.7	18	20.6	20+	0	0	23.9	88	172	-167	32	24	7	0	0	1.7	13	9.4	SE	10	0	3	27	9.0	50
TRUK MOEN ISLAND	2	1008.5	1008.8	30.6	23.9	27.2	0.3	31.7	29+	22.2	18	0	0	23.9	84	311	- 8	52	24	2	0	0	1.5	19	13.4	SW	23	0	3	27	9.3	76
WAKE	3	1010.8	1011.1	31.7	25.6	28.7	0.7	33.3	13+	23.3	2	15	0	23.3	77	106	- 27	51	15	1	0	0	6.0	11	15.6	S	19	3	15	12	6.6	63
YAP R	13	1006.1	1007.9	30.0	23.3	26.7	- 0.7	31.7	30	22.2	21+	0	0	24.4	86	433	77	79	28	2	0	0	2.0	27	14.8	W	10	0	3	27	9.3	40
PENNSYLVANIA																																
ALLENTOWN	118	1005.1	1019.1	23.3	11.7	17.6	- 0.6	31.7	1	3.3	30	0	0	12.8	77	98	3	27	9	2	0	0	0.5	29	8.9	34	17+	12	8	10	5.2	
ERIE	223	992.6	1019.2	21.1	12.2	16.5	- 0.9	30.0	5	1.7	29	0	0	10.6	71	51	- 40	26	10	3	0	0	1.2	21	9.4	3	17+	6	9	15	6.7	
HARRISBURG	103	1006.4	1019.1	24.4	13.3	18.7	- 0.7	32.8	1	5.6	23+	1	0	13.3	75	59	- 13	20	12	5	0	0	0.6	28	8.9	NW	9	9	11	10	5.4	62
PHILADELPHIA	2	1017.6	1018.5	25.0	14.4	19.6	0.3	32.2	1	5.6	30	1	0	13.3	72	111	23	88	8	2	0	0	0.5	30	8.9	N	18+	11	8	11	5.5	60
PITTSBURGH	347	975.6	1019.3	22.8	11.7	17.2	- 0.7	30.0	1	1.7	29	0	0	11.1	70	23	- 41	8	8	1	0	0	0.5	27	8.0	36	27+	5	9	16	7.0	46
SCRANTON	283	985.8	1019.8	22.2	11.7	17.1	0.1	30.0	1	3.9	30	0	0	11.1	72	49	- 27	17	9	0	0	0	0.3	20	10.3	W	9	6	13	11	5.9	62
WILLIAMSPORT	160	1000.7	1019.7	23.3	12.2	17.9	0.1	31.7	1	5.0	30	0	0	13.9	82	46	- 37	26	10	1	0	0	0.8	29	8.0	26	9	6	10	14	6.8	
RHODE ISLAND																																
BLOCK ISLAND	34			21.1	15.0	17.9	0.2	29.4	2	6.1	30	0	0			98	17	52	7		0	0										
PROVIDENCE	16	1016.3	1018.7	23.9	12.2	17.8	0.4	33.9	1	2.8	21	2	0	12.2	74	78	- 11	55	8	1	0	0	1.0	30	13.0	31	9	13	7	10	5.0	63
SOUTH CAROLINA																																
CHARLESTON	12	1015.2	1017.1	27.2	18.9	23.2	- 1.1	31.1	18+	13.3	13	0	0	18.9	81	136	- 12	56	13	7	0	0	1.9	5	14.8Y	SW	9	4	9	17	7.5	54
CHARLESTON U	3			26.7	20.6	23.7	- 1.4	30.0	18	16.7	11	0	0			114	- 46	26	15		0	0			11.6	E	15+					
COLUMBIA	65	1009.8	1017.9	27.8	17.8	22.7	- 1.4	32.8	7	10.6	14+	3	0	17.8	80	81	- 29	21	10	5	0	0	1.3	6	8.0	17	5	7	9	14	6.7	46
GNVLE-SPARTANBURG	292	984.4	1018.7	26.1	16.1	21.0	- 1.6	31.7	18	10.0	30+	0	0	17.2	85	93	- 5	40	10	2	0	0	1.8	4	9.8	NE	19	8	7	15	6.5	55
SOUTH DAKOTA																																
ABERDEEN	395	968.8	1015.2	25.6	8.9	17.3	1.4	36.1	14	1.1	16	2	0	8.9	63	10	- 26	5	3	3	0	0	1.3	14	11.2	16	28	13	8	9	4.7	
HURON	390	969.2	1015.4	25.0	8.9	17.1	0.4	34.4	14	2.8	27+	1	0	10.0	67	17	- 22	6	5	6	0	0	2.5	16	16.1	NE	15	14	8	8	4.3	76

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb.	C	C.	C	C.	C		C				C	%
SOUTH DAKOTA															
RAPID CITY	964	904.2	1013.4	27.2	8.9	18.2	1.8	33.9	3	2.2	23	3	0	6.1	49
SIOUX FALLS	432	965.5	1016.0	23.4	9.4	16.8	0.3	30.6	14	2.8	26	0	0	10.6	70
TENNESSEE															
BRISTOL	459	961.1	1018.8	25.0	12.8	19.0	1.6	29.4	7+	3.9	29	0	0	13.9	78
CHATTANOOGA	2[illegible]	992.4	1017.5	26.1	14.4	20.2	3.1	30.6	3	8.3	26+	0	0	16.1	85
KNOXVILLE	299	981.4	1018.[illegible]	26.1	15.6	20.7	1.6	31.1	7	9.4	[illegible]	0	0	15.[illegible]	76
MEMPHIS	79	1007.1	1017.[illegible]	28.[illegible]	17.[illegible]	22.7	0.6	32.8	[illegible]	11.1	29	1	0	17.2	75
NASHVILLE	180	996.3	1017.8	27.8	15.6	21.6	- 1.1	32.8	6	7.2	29	2	0	16.1	77
OAK RIDGE R	276			26.1	14.4	20.3	- 1.4	30.6	16+	7.8	11	0	0		
TEXAS															
ABILENE	537	954.6	1015.0	29.4	19.4	24.4	0.0	34.4	7	14.4	28+	6	0	16.7	66
AMARILLO	1098	893.0	1014.1	27.2	16.1	21.7	- 0.4	33.3	5	12.2	25	2	0	14.4	68
AUSTIN	182	993.2	1014.9	32.2	20.6	26.5	0.3	35.0	8	15.6	13	20	0	18.9	69
BROWNSVILLE	6	1012.7	1013.4	32.2	23.3	27.7	0.3	33.3	23+	18.9	30	17	0	22.2	76
CORPUS CHRISTI	12	1012.7	1014.3	32.2	22.8	27.4	0.3	34.4	16	17.8	30	17	0	21.7	74
DALLAS	147	998.6	1015.7	31.1	20.6	25.9	0.4	35.0	7+	16.1	24	12	0	17.8	64
DEL RIO	313	978.7	1014.0	32.2	21.1	26.6	0.0	34.4	16+	16.1	30	18	0	18.9	66
EL PASO	1194	882.5	1011.5	32.2	18.3	25.3	1.4	36.7	7	12.8	30+	13	0	11.7	47
FORT WORTH	164	995.6	1015.7	30.6	19.4	25.0	0.7	33.9	16+	15.0	28	12	0	19.4	76
GALVESTON U	2			30.0	25.0	27.5	0.6	32.2	8	21.7	29+	1	0		
HOUSTON	30	1011.5	1015.3	32.2	19.4	25.7	0.1	35.0	8+	13.3	30	16	0	20.[illegible]	77
LUBBOCK	992	905.5	1015.2	26.7	15.6	21.2	0.7	31.7	7	11.7	30	0	0	15.[illegible]	74
MIDLAND	869	917.4	1014.1	30.0	16.7	23.4	0.7	33.9	25+	11.1	29	8	0	14.4	64
PORT ARTHUR	5	1014.6	1015.4	31.7	20.0	25.8	0.1	34.4	27+	12.8	30	17	0	20.6	79
SAN ANGELO	58[illegible]	948.9	1014.4	30.0	17.8	24.0	1.7	34.4	16	12.8	29	8	0	17.8	73
SAN ANTONIO	24[illegible]	987.5	1015.1	32.2	20.6	26.4	0.6	34.4	29+	14.4	30	22	0	17.8	64
VICTORIA	32	1011.5	1014.7	32.2	21.7	26.9	0.8	35.0	8	17.2	30	19	0	21.1	75
WACO	153	998.0	1015.6	32.8	21.1	26.9	0.8	37.8	7	17.2	30+	20	0	19.4	69
WICHITA FALLS	303	979.3	1015.5	30.6	17.8	24.2	- 1.1	38.3	7	12.8	24	11	0	17.8	72
UTAH															
MILFORD	1533	846.6		29.4	9.4	19.3	2.0	34.4	1	0.6	23	7	0		
SALT LAKE CITY	1286	871.3	1012.5	29.4	12.2	20.9	2.9	35.0	1	6.1	22	6	0	4.4	38
WENDOVER	1291	870.6	1013.6	27.2	13.9	20.4	1.2	32.8	2	6.7	23	3	0		
VERMONT															
BURLINGTON	1[illegible]1	1005.8	1018.3	20.0	8.9	14.4	- 0.3	30.6	1	0.0	30	0	1	11.1	88
VIRGINIA															
LYNCHBURG	279			24.4	13.3	18.8	- 1.6	31.1	7+	6.7	30	0	0		
NORFOLK	7	1017.6	1018.6	26.1	17.2	21.7	- 0.8	33.3	7+	10.6	30	3	0	16.7	75
RICHMOND	50	1013.2	1019.1	26.1	14.4	20.1	- 1.2	32.2	7+	6.1	30	2	0	16.1	82
ROANOKE	350	977.7	1019.3	25.6	13.3	19.3	- 1.3	31.7	7+	5.6	29	0	0	13.3	74
WALLOPS ISLAND	3			25.0	16.7	20.8		32.2	6	8.9	30	1	0		
WASHINGTON															
OLYMPIA	59	1007.8	1015.0	21.1	8.3	14.9	0.2	30.0	11	0.0	15	0	1		
QUILLAYUTE	55	1007.1	1014.6	17.8	8.9	13.4	- 0.6	28.9	7	1.1	15	0	0	11.1	88
SEATTLE TACOMA	122	998.6	1014.8	20.6	11.7	16.1	0.6	29.4	7	6.1	15	0	0	11.1	78
SPOKANE	718	930.2	1013.2	22.2	8.9	15.4	- 0.6	32.8	1	2.2	15	1	0	3.9	51
STAMPEDE PASS R	1206	879.1		13.3	6.7	10.0	- 1.1	25.6	10	1.1	15+	0	0		
WALLA WALLA U	289			25.0	12.8	18.9	0.1	33.3	1	6.1	15	4	0		
YAKIMA	321	975.3	1013.4	24.4	8.3	16.2	- 0.1	32.2	11	2.2	15+	1	0	5.6	52
WEST INDIES															
SAN JUAN P.R.	4	1013.8	1013.4	30.6	24.4	27.3	0.4	32.2	29+	23.3	18+	2	0	22.2	75
SWAN ISLAND	9			30.6	25.0	27.8	- 0.6	31.7	19	22.8	30+	0	0		
WEST VIRGINIA															
BECKLEY	763	9[illegible].9	1019.5	21.1	10.6	16.0	- 1.7	27.2	6	1.1	29	0	0	11.7	80
CHARLESTON	286	985.1	1019.0	23.3	12.2	17.8	- 2.3	29.4	7+	4.4	29	0	0	13.9	84

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm	Mm			Mm	Mm	M.p.s.		M.p.s							%
SOUTH DAKOTA																	
RAPID CITY	9	- 15	6	6	4	0	0	0.6	9	17.0	NW	28	15	13	2	5.9	82
SIOUX FALLS	61	5	30	6	7	0	0	1.8	15	11.2	15	30	16	6	8	4.0	
TENNESSEE																	
BRISTOL	109	43	47	8	5	0	0	0.7	7	6.7	4	28	6	12	12	6.1	
CHATTANOOGA	119	41	38	14	6	0	0	0.4	4	8.5	NE	10	7	11	12	6.2	56
KNOXVILLE	77	11	48	9	6	0	0	1.0	3	8.9	N	8	7	9	14	6.[illegible]	76
MEMPHIS	23	- 49	8	6	[illegible]	0	0	1.0		11.6	[illegible]	2	10	11	[illegible]	5.[illegible]	61
NASHVILLE	52	- 21	18	11	4	0	0	0.5	10	8.5	[illegible]	2	9	9	12	5.5	64
OAK RIDGE R	104	20	70	8		0	0			11.2Y		4	9	7	14	6.4	
TEXAS																	
ABILENE	134	52	5[illegible]	8	7	0	0	2.4	16	12.5	N	23	11	7	12	5.[illegible]	59
AMARILLO	70	12	27	8	5	0	0	3.4	18	22.4	NW	15	13	6	11	5.0	59
AUSTIN	30	- 58	14	6	2	0	0	1.0	11	13.9	NE	16	12	15	3	4.3	67
BROWNSVILLE	71	56	2[illegible]	12	3	0	0	1.8	8	10.3	NE	19	6	20	4	5.[illegible]	61
CORPUS CHRISTI	52	- 6[illegible]	18	10	3	0	0	2.7	7	12.5	[illegible]	10	9	15	6	4.7	71
DALLAS	98	26	43	6	6	0	0	1.6	12	15.2	NW	7	9	9	12	5.[illegible]	59
DEL RIO	20	- 46	13	4	5	0	0	3.6	13	10.7	4	17	10	17	[illegible]	4.6	
EL PASO	11	18	6	3	4	0	0	0.4	9	13.4	N	4	17	10	[illegible]	3.[illegible]	81
FORT WORTH	116	51	57	7	8	0	0	1.0	13	13.0	32	[illegible]	[illegible]	10	10	[illegible]	
GALVESTON U	7	- 122	5	2		0	0			9.8	[illegible]	19					62
HOUSTON	154	52	64	8	10	0	0	1.1	8	13.0	8	2	11	15	4	4.8	71
LUBBOCK	125	65	45	10	8	0	0	2.0	15	13.0	34	21	13	4	13	5.2	
MIDLAND	39	7	2[illegible]	8	2	0	0	[illegible]	12	13.0	12	[illegible]	13	10	7	4.[illegible]	
PORT ARTHUR	38	66	25	6	5	0	0	1.6	8	14.3		7	19	11	[illegible]	4.9	61
SAN ANGELO	146	78	57	9	6	0	0	1.7	15	10.3	19	3	10	9	11	5.5	
SAN ANTONIO	34	55	13	7	4	0	0	1.3	9	13.9	[illegible]	9+	11	14	5	4.5	76
VICTORIA	170	63	84	9	9	0	0	1.6	8	23.7Y	[illegible]	[illegible]	15	13	[illegible]	3.8	
WACO	119	49	56	[illegible]	6	0	0	1.2	11	15.6	35	23	11	[illegible]	6	4.[illegible]	
WICHITA FALLS	117	58	58	6	4	0	0	2.1	14	15.6	35	22	13	8	9	4.9	
UTAH																	
MILFORD	11	T	[illegible]	6		0	0						19	9	2	[illegible]	
SALT LAKE CITY	5	- 9	[illegible]	[illegible]	6	0	0	2.5	16	13.9	W	29	16	9	5	[illegible]	88
WENDOVER	5	3	3	2		0	0										
VERMONT																	
BURLINGTON	48	36	17	13	[illegible]	0	0	[illegible]	[illegible]	10.7	[illegible]	30+	6	6	18	[illegible]	[illegible]
VIRGINIA																	
LYNCHBURG	58	27	24	8		0	0			7.6	NE	20+	[illegible]	[illegible]	[illegible]	5.8	54
NORFOLK	69	- 38	40	9	[illegible]	0	0	1.4	4	13.9	N	20	6	10	14	6.4	54
RICHMOND	99	6	51	7	[illegible]	0	0	0.4	6	9.8	[illegible]	2	[illegible]	10	13	6.2	64
ROANOKE	71	- 12	34	11	4	0	0	0.4	26	[illegible]	[illegible]	28+	6	9	15	6.3	
WALLOPS ISLAND	41		17	8		0	0			14.3Y	NNE	21					
WASHINGTON																	
OLYMPIA	133	8[illegible]	35	14	[illegible]	0	0			12.5	24	2	5	6	19	7.1	
QUILLAYUTE	278	159	63	18	[illegible]	0	0	1.0	21	10.3	SE	24	3	7	20	7.8	34
SEATTLE TACOMA	141	89	34	17	[illegible]	0	0	[illegible]	[illegible]	12.5	SW	10	6	5	19	7.3	50
SPOKANE	18	- 1	9	[illegible]	1	0	0	1.1	19	14.3	SW	13	6	6	18	6.9	47
STAMPEDE PASS R	191	79	48	21		0	0						6	[illegible]	[illegible]	8.[illegible]	
WALLA WALLA U	11	8	6	6		0	0			10.3	SW	10	8	7	15	6.4	6[illegible]
YAKIMA	8	- 1	7	4	0	0	0	1.0	28	11.6	29	2	10	9	11	5.5	
WEST INDIES																	
SAN JUAN P.R.	123	48	22	[illegible]	11	0	0	1.8	[illegible]	13.4	NE	16	3	13	14	6.9	72
SWAN ISLAND	196	64	87	16		0	0						1	10	19	7.9	
WEST VIRGINIA																	
BECKLEY	56	24	42	10	4	0	0	[illegible]	[illegible]	10.[illegible]	14	20+	5	10	15	7.[illegible]	
CHARLESTON	83	7	26	10	6	0	0	0.2	8	8.9	34	17+	2	13	15	7.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
WEST VIRGINIA																																
ELKINS	622	949.2		22.2	10.0	16.1	- 0.9	28.9	1	2.8	30	0	0			151	73	62	16		0	0						3	8	19	7.6	
HUNTINGTON	252	989.2	1019.1	24.4	13.3	19.1	- 1.1	31.7	4	4.4	29	0	0	14.9	79	99	35	38	8	3	0	0	0.4	15	8.0	28	5	4	7	19	7.4	
PARKERSBURG U	187			23.9	12.8	18.4	- 1.6	30.6	4	5.0	29	0	0			49	- 20	18	13		0	0			8.0	N	17					47
WISCONSIN																																
GREEN BAY	208	992.9	1018.6	21.1	8.9	14.8	- 1.0	28.9	6	2.8	28+	0	0	9.4	74	52	- 23	24	10	3	0	0	0.4	30	13.9	NW	15+	7	15	8	5.7	60
LA CROSSE	198	993.9	1018.5	23.3	10.6	17.1	0.3	30.0	12	2.8	28	0	0	12.2	77	59	- 29		8	3	0		0.7	14								
MADISON	262	987.1	1018.6	22.2	8.3	15.3	- 0.8	28.9	6	0.0	28	0	1	10.6	77	34	- 50	19	7	3	0	0	0.2	27	13.0	[illegible]	29	7	10	13	6.1	59
MILWAUKEE	205	993.6	1018.7	21.1	12.2	16.7	0.9	27.8	15+	5.0	28	0	0	11.7	76	55	- 14	26	8	3		0	0.5	29	11.6	SE	29	9	9	12	6.0	58
WYOMING																																
CASPER	1627	838.1	1012.6	27.2	7.2	17.4	2.0	32.8	2	1.7	15	1	0	0.6	38	4	- 19	4	3	0	0	0	2.7	25	11.6	30	30+	14	10	6	4.1	
CHEYENNE	1867	814.8	1014.8	24.4	8.3	16.2	1.4	29.4	6	4.4	25	0	0	3.3	48	21	7	11	4	6	0	0	2.4	25	18.8	NW	12	11	8	11	4.8	67
LANDER	1696	829.7	1012.5	26.1	8.9	17.7	2.7	31.7	3	3.9	22	0	0	0.6	35	T	- 26	T	1	2	0	0	1.5	26	19.2	NW	29	9	16	5	5.0	84
SHERIDAN	1208	878.4	1013.7	25.0	6.7	15.8	0.9	34.4	3	1.7	23	2	0	3.3	45	2	- 27	2	2	1	0	0	0.7	30	13.9	SW	11	11	9	10	5.1	79

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

See footnotes at end of table

HEATING DEGREE DAYS

(Base 65°F.)

SEPTEMBER 1969

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	4	4	6
HUNTSVILLE	9	9	12
MOBILE	0	0	0
MONTGOMERY	0		0
ALASKA			
ANCHORAGE	478	976	1003
ANNETTE	210	602	777
BARROW	1049	3007	2678
BARTER ISLAND	[illegible]	2806	2497
BETHEL	515	1344	1325
BETTLES	599	1470	
BIG DELTA	541	1284	
COLD BAY	436	1150	1424
FAIRBANKS	472	1109	1145
GULKANA	635	1432	
HOMER	530	1324	
ILIAMNA	484	1158	
JUNEAU	521	1312	1122
KING SALMON	499	1250	1148
KOTZEBUE	580	1585	1550
MC GRATH	566	1341	1179
NOME	550	1608	1670
ST. PAUL ISLAND	548	1519	1756
SHEMYA	471	1434	1553
SUMMIT	663	1734	
TALKEETNA	564	1232	1109
UNALAKLEET	522	1459	
YAKUTAT	502	1404	1159
ARIZONA			
FLAGSTAFF	200	258	[illegible]
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	2	2	6
YUMA	0	0	0
ARKANSAS			
FORT SMITH	0	0	12
LITTLE ROCK	0	0	9
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	2	2	42
BLUE CANYON	69	76	204
EUREKA U	247	813	785
FRESNO	0	0	0
LONG BEACH	0	0	12
LOS ANGELES	3	3	71
LOS ANGELES U	0	0	6
MT SHASTA R	124	152	182
OAKLAND	49	194	148
RED BLUFF	0	0	0
SACRAMENTO	1	1	12
SANDBERG R	33	43	30
SAN DIEGO	0	0	21
SAN FRANCISCO	54	210	219
SAN FRANCISCO U	132	524	468
SANTA MARIA	71	215	288
STOCKTON	0	0	6
COLORADO			
ALAMOSA	295	329	443
COLORADO SPRINGS	104	113	166
DENVER	56	58	132
GRAND JUNCTION	20	20	30
PUEBLO	4	4	54
CONNECTICUT			
BRIDGEPORT	92	97	66
HARTFORD	116	131	105
DELAWARE			
WILMINGTON	41	41	51
DIST. OF COLUMBIA			
WASH NATL AP	18	18	33
FLORIDA			
APALACHICOLA U	0	0	0
DAYTONA BEACH	0	0	0
FORT MYERS	0	0	0
JACKSONVILLE	0	0	0
KEY WEST	0	0	0
LAKELAND U	0	0	0
MIAMI	0	0	0
ORLANDO	0	0	0
TALLAHASSEE	0	0	0
TAMPA	0	0	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	13	13	12
ATLANTA	13	13	18
AUGUSTA	3	3	[illegible]
COLUMBUS	0	0	[illegible]
MACON	6	6	0
ROME	10	10	24
SAVANNAH	0	0	0
IDAHO			
BOISE	91	107	132
LEWISTON	86	96	123
POCATELLO	105	146	172
ILLINOIS			
CAIRO U	2	2	36
CHICAGO O HARE	75	79	129
CHICAGO MIDWAY	56	58	81
MOLINE	80	80	108
PEORIA	77	77	93
ROCKFORD	115	120	129
SPRINGFIELD	59	59	72
INDIANA			
EVANSVILLE	35	35	66
FORT WAYNE	94	94	114
INDIANAPOLIS	85	85	90
SOUTH BEND	110	110	117
IOWA			
BURLINGTON	75	75	93
DES MOINES	45	45	108
DUBUQUE	140	147	199
SIOUX CITY	58	58	117
WATERLOO	150	163	169
KANSAS			
CONCORDIA	12	12	57
DODGE CITY	8	8	33
GOODLAND	25	25	87
TOPEKA	17	17	57
WICHITA	2	2	33
KENTUCKY			
COVINGTON	66	66	75
LEXINGTON	44	44	54
LOUISVILLE	42	42	54
LOUISIANA			
BATON ROUGE	0	0	0
LAKE CHARLES	0	0	0
NEW ORLEANS	0	0	0
SHREVEPORT	0	0	0
MAINE			
CARIBOU	364	559	529
PORTLAND	179	216	260
MARYLAND			
BALTIMORE	26	26	48
MASSACHUSETTS			
BLUE HILL OBS R	146	182	130
BOSTON	107	112	69
NANTUCKET	[illegible]	137	127
WORCESTER	163	197	187
MICHIGAN			
ALPENA	260	355	446
DETROIT	84	85	87
DETROIT M WAYNE CO	93	93	122
FLINT	143	170	165
GRAND RAPIDS	145	150	[illegible]
HOUGHTON LAKE	250	316	382
LANSING	119	134	166
MARQUETTE U	209	323	380
MUSKEGON	143	149	160
SAULT STE MARIE	292	439	480
MINNESOTA			
DULUTH	258	377	510
INTERNATIONAL FALLS	[illegible]	417	546
MINNEAPOLIS	131	136	242
ROCHESTER	177	199	245
ST CLOUD	182	206	300
MISSISSIPPI			
JACKSON	0	0	0
MERIDIAN	1	1	0
MISSOURI			
COLUMBIA	25	25	54
KANSAS CITY	3	3	39
ST JOSEPH	5	5	66
ST LOUIS	27	27	60
SPRINGFIELD	20	20	45
MONTANA			
BILLINGS	116	137	207
GLASGOW	150	196	348
GREAT FALLS	172	207	339
HAVRE	159	[illegible]	387
HELENA	219	268	384
KALISPELL	290	501	470
MILES CITY	69	69	[illegible]
MISSOULA	262	377	411
NEBRASKA			
GRAND ISLAND	[illegible]	[illegible]	[illegible]
LINCOLN U	12	12	81
NORFOLK	44	47	120
NORTH PLATTE	[illegible]	46	129
OMAHA	25	25	96
SCOTTSBLUFF	[illegible]	30	139
VALENTINE	46	54	186
NEVADA			
ELY	127	160	305
LAS VEGAS	0	0	0
RENO	79	96	334
WINNEMUCCA	85	110	[illegible]
NEW HAMPSHIRE			
CONCORD	193	297	[illegible]
MT WASHINGTON OBS	650	1717	1749
NEW JERSEY			
ATLANTIC CITY	108	128	39
ATLANTIC CITY U	25	25	29
NEWARK	49	49	39
TRENTON U	56	56	57
NEW MEXICO			
ALBUQUERQUE	1	1	12
CLAYTON	28	28	72
ROSWELL	0	0	18
NEW YORK			
ALBANY	137	172	157
BINGHAMTON	195	265	288
BUFFALO	147	176	197
J.F. KENNEDY	37	37	36
NEW YORK U	28	28	30
NEW YORK LA GUARDIA	49	49	27
ROCHESTER	126	154	166
SYRACUSE	134	176	166
NORTH CAROLINA			
ASHEVILLE	59	67	75
CAPE HATTERAS R	1	1	0
CHARLOTTE	22	22	6
GREENSBORO	30	30	33
RALEIGH	45	45	21
WILMINGTON	1	1	0
NORTH DAKOTA			
BISMARCK	149	158	284
FARGO	229	259	284
WILLISTON	166	201	335
OHIO			
AKRON	133	140	105
CINCINNATI OBS	61	61	54
CLEVELAND	121	129	116
COLUMBUS	107	109	90
DAYTON	71	72	84
MANSFIELD	89	89	145
TOLEDO	126	136	133
YOUNGSTOWN	167	197	145
OKLAHOMA			
OKLAHOMA CITY	0	0	15
TULSA	0	[illegible]	18
OREGON			
ASTORIA	226	607	486
BURNS U	182	249	259
EUGENE	134	195	197
MEACHAM	282	556	496
MEDFORD	68	77	78
PENDLETON	79	90	111
PORTLAND	85	124	167
SALEM	137	252	179
SEXTON SUMMIT R	212	474	333
PENNSYLVANIA			
ALLENTOWN	125	133	90
ERIE	169	209	127
HARRISBURG	89	[illegible]	63
PHILADELPHIA	54	54	60
PITTSBURGH	127	135	114
PITTSBURGH U	84	84	80
SCRANTON	134	155	151
WILLIAMSPORT	106	113	[illegible]
RHODE ISLAND			
BLOCK ISLAND	74	82	94
PROVIDENCE	119	125	112
SOUTH CAROLINA			
CHARLESTON	1	1	
CHARLESTON U	0	0	0
COLUMBIA	2	2	0
GNVLE-SPARTANBURG	19	19	9
SOUTH DAKOTA			
ABERDEEN	126	137	239
HURON	118	124	[illegible]
RAPID CITY	62	62	199
SIOUX FALLS	117	[illegible]	212
TENNESSEE			
BRISTOL	49	49	51
CHATTANOOGA	20	[illegible]	18
KNOXVILLE	11	11	[illegible]
MEMPHIS		0	18
NASHVILLE	10	[illegible]	30
OAK RIDGE R	22	[illegible]	39
TEXAS			
ABILENE	0		0
AMARILLO	1	1	18
AUSTIN	0	0	0
BROWNSVILLE	0	0	0
CORPUS CHRISTI	0	0	0
DALLAS	0	0	0
DEL RIO	0	0	0
EL PASO	0	0	0
FORT WORTH	0	0	0
GALVESTON U	0	0	0
HOUSTON	0	0	0
LUBBOCK	3	3	18
MIDLAND	0	0	0
PORT ARTHUR	0	0	0
SAN ANGELO	0	0	0
SAN ANTONIO	0	0	0
VICTORIA	0	0	0
WACO	0	0	0
WICHITA FALLS	1	1	0
UTAH			
MILFORD	32	32	99
SALT LAKE CITY	17	18	81
WENDOVER	15	18	48
VERMONT			
BURLINGTON	244	326	300
VIRGINIA			
LYNCHBURG	58	58	51
NORFOLK	8	8	0
RICHMOND	45	45	36
ROANOKE	53	53	51
WALLOPS ISLAND	24	23	
WASHINGTON			
OLYMPIA	183	415	337
QUILLAYUTE	259	715	568
SEATTLE TACOMA	144	242	280
SPOKANE	192	276	[illegible]
STAMPEDE PASS R	446	1134	957
WALLA WALLA U	53	59	87
YAKIMA	147	206	156
WEST VIRGINIA			
BECKLEY	166	170	155
CHARLESTON	95	95	63
ELKINS	160	168	169
HUNTINGTON	72	72	63
PARKERSBURG U	71	71	60
WISCONSIN			
GREEN BAY	223	272	252
LA CROSSE	135	141	184
MADISON	202	224	239
MILWAUKEE	143	182	264
WYOMING			
CASPER	71	77	214
CHEYENNE	113	119	260
LANDER	64	72	229
SHERIDAN	151	177	275

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

SEPTEMBER 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	188	1648	
HUNTSVILLE	188	18[illegible]	
MOBILE	380	2435	
MONTGOMERY	[illegible]	1970	
ALASKA			
ANCHORAGE	0	9	
ANNETTE		6	
BARROW		0	
BARTER ISLAND	[illegible]	[illegible]	
BETHEL	[illegible]	[illegible]	
BETTLES	[illegible]	49	
BIG DELTA	[illegible]	58	
COLD BAY	0	[illegible]	
FAIRBANKS		85	
GULKANA	[illegible]	11	
HOMER	[illegible]	0	
ILIAMNA	[illegible]	3	
JUNEAU	[illegible]	7	
KING SALMON	[illegible]	[illegible]	
KOTZEBUE	0	[illegible]	
MC GRATH		[illegible]	
NOME	[illegible]	[illegible]	
ST. PAUL ISLAND	[illegible]	[illegible]	
SHEMYA	0	[illegible]	
SUMMIT	[illegible]	1	
TALKEETNA	[illegible]	12	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	[illegible]	113	
PHOENIX	[illegible]	[illegible]	
TUCSON	493	2747	
WINSLOW	174	[illegible]	
YUMA	722	3892	
ARKANSAS			
FORT SMITH	290	1952	
LITTLE ROCK	243	1891	
CALIFORNIA			
BAKERSFIELD	481	2554	
BISHOP	141	1093	
BLUE CANYON	76	474	
EUREKA	0	0	
FRESNO	331	1759	
LONG BEACH	199	894	
LOS ANGELES	74	466	
LOS ANGELES U	209	[illegible]	
MT SHASTA R	42	314	
OAKLAND	24	51	
RED BLUFF	375	2046	
SACRAMENTO	278	1293	
SANDBERG R	183	869	
SAN DIEGO	154	594	
SAN FRANCISCO	26	55	
SAN FRANCISCO U	14	21	
SANTA MARIA	8	24	
STOCKTON	[illegible]	1475	
COLORADO			
ALAMOSA	[illegible]	117	
COLORADO SPRINGS	18	449	
DENVER	46	721	
GRAND JUNCTION	158	1328	
PUEBLO	155	1284	
CONNECTICUT			
BRIDGEPORT	96	714	
HARTFORD	88	720	
DELAWARE			
WILMINGTON	143	1148	
DIST.OF COLUMBIA			
WASH NATL AP	180	1540	
FLORIDA			
APALACHICOLA U	384	2318	
DAYTONA BEACH	447	2463	
FORT MYERS	479	2904	
JACKSONVILLE	405	2518	
KEY WEST	547	3632	
LAKELAND U	448	2663	
MIAMI	532	3385	
ORLANDO	495	2849	
TALLAHASSEE	370	2326	
TAMPA	471	2659	
WEST PALM BEACH	468	2869	
GEORGIA			
ATHENS	193	1696	
ATLANTA	197	1612	
AUGUSTA	[illegible]	1762	
COLUMBUS	257	1942	
MACON	227	1866	
ROME	170	929	
SAVANNAH	320	2039	
HAWAII			
HILO	[illegible]	2537	
HONOLULU	517	3338	
KAHULUI	398	2891	
LIHUE	441	[illegible]	
IDAHO			
BOISE	75	735	
LEWISTON	73	765	
POCATELLO	25	435	
ILLINOIS			
CAIRO	213	1743	
CHICAGO O HARE	92	810	
CHICAGO MIDWAY	107	966	
MOLINE	86	890	
PEORIA	[illegible]	[illegible]	
ROCKFORD	66	650	
SPRINGFIELD	108	1125	
INDIANA			
EVANSVILLE	140	1288	
FORT WAYNE	106	866	
INDIANAPOLIS	95	[illegible]	
SOUTH BEND	73	754	
IOWA			
BURLINGTON	80	882	
DES MOINES	84	969	
DUBUQUE	54	611	
SIOUX CITY	59	841	
WATERLOO	40	563	
KANSAS			
CONCORDIA	138	1152	
DODGE CITY	174	1482	
GOODLAND	127	974	
TOPEKA	146	1201	
WICHITA	214	1513	
KENTUCKY			
COVINGTON	116	1131	
LEXINGTON	134	1211	
LOUISVILLE	127	1258	
LOUISIANA			
BATON ROUGE	375	2434	
LAKE CHARLES	373	2322	
NEW ORLEANS	360	2278	
SHREVEPORT	402	2464	
MAINE			
CARIBOU	4	159	
PORTLAND	59	447	
MARYLAND			
BALTIMORE	169	1338	
MASSACHUSETTS			
BLUE HILL OBS R	54	563	
BOSTON	74	745	
NANTUCKET	56	360	
WORCESTER	44	487	
MICHIGAN			
ALPENA	24	295	
DETROIT	106	753	
DETROIT WAYNE	91	737	
FLINT	73	457	
GRAND RAPIDS	76	589	
HOUGHTON LAKE	24	310	
LANSING	101	658	
MARQUETTE U	44	412	
MUSKEGON	75	564	
SAULT STE MARIE	24	164	
MINNESOTA			
DULUTH	16	242	
INTERNATIONAL FALLS	14	237	
MINNEAPOLIS	77	776	
ROCHESTER	36	410	
ST CLOUD	48	549	
MISSISSIPPI			
JACKSON	312	2127	
MERIDIAN	263	1905	
MISSOURI			
COLUMBIA	152	1319	
KANSAS CITY	216	1482	
ST JOSEPH	179	1511	
ST LOUIS	162	1397	
SPRINGFIELD	149	1328	
MONTANA			
BILLINGS	56	541	
GLASGOW	62	463	
GREAT FALLS	67	487	
HAVRE	45	424	
HELENA	[illegible]	345	
KALISPELL	17	94	
MILES CITY	134	822	
MISSOULA	22	220	
NEBRASKA			
GRAND ISLAND	100	1013	
LINCOLN U	130	1228	
NORFOLK	63	862	
NORTH PLATTE	76	[illegible]	
OMAHA	113	1113	
SCOTTSBLUFF	88	816	
VALENTINE	104	889	
NEVADA			
ELY	7	312	
LAS VEGAS	532	3121	
RENO	35	385	
WINNEMUCCA	33	456	
NEW HAMPSHIRE			
CONCORD	44	363	
MT WASHINGTON OBS	0	[illegible]	
NEW JERSEY			
ATLANTIC CITY	129	927	
ATLANTIC CITY U	160	1028	
NEWARK	131	1152	
TRENTON U	134	1076	
NEW MEXICO			
ALBUQUERQUE	158	1474	
CLAYTON	61	816	
ROSWELL	215	1858	
NEW YORK			
ALBANY	68	556	
BINGHAMTON	55	384	
BUFFALO	69	562	
J.F. KENNEDY	147	1091	
NEW YORK U	154	1214	
NEW YORK LA GUARDIA	135	988	
ROCHESTER	92	639	
SYRACUSE	102	623	
NORTH CAROLINA			
ASHEVILLE	92	982	
CAPE HATTERAS R	248	1481	
CHARLOTTE	151	1523	
GREENSBORO	145	1458	
RALEIGH	128	1236	
WILMINGTON	225	1684	
NORTH DAKOTA			
BISMARCK	60	571	
FARGO	59	483	
WILLISTON	50	464	
OHIO			
AKRON	63	621	
CINCINNATI OBS	108	1139	
CLEVELAND	84	715	
COLUMBUS	76	782	
DAYTON	118	923	
MANSFIELD	91	870	
TOLEDO	69	655	
YOUNGSTOWN	67	516	
OKLAHOMA			
OKLAHOMA CITY	255	1792	
TULSA	307	1985	
OREGON			
ASTORIA	0	5	
BURNS U	37	331	
EUGENE	33	214	
MEACHAM	21	122	
MEDFORD	70	662	
PENDLETON	76	719	
PORTLAND	43	297	
SALEM	27	[illegible]	
SEXTON SUMMIT R	45	186	
PACIFIC AREA			
JOHNSTON	494	3916	
KOROR R	495	4611	
KWAJALEIN	528	4740	
MAJURO	503	4436	
PAGO PAGO	419	4164	
PONAPE R	450	4193	
TAGUAC GUAM R	451	3873	
TRUK MOEN ISLAND	489	4438	
WAKE	568	4393	
YAP R	460	4345	
PENNSYLVANIA			
ALLENTOWN	88	785	
ERIE	76	491	
HARRISBURG	113	1016	
PHILADELPHIA	126	1113	
PITTSBURGH	72	693	
SCRANTON	73	626	
WILLIAMSPORT	90	724	
RHODE ISLAND			
BLOCK ISLAND	60	465	
PROVIDENCE	94	752	
SOUTH CAROLINA			
CHARLESTON	268	1894	
CHARLESTON U	296	2067	
COLUMBIA	242	1887	
GNVLE-SPARTANBURG	169	1463	
SOUTH DAKOTA			
ABERDEEN	75	575	
HURON	56	556	
RAPID CITY	63	600	
SIOUX FALLS	41	677	
TENNESSEE			
BRISTOL	93	1032	
CHATTANOOGA	125	1315	
KNOXVILLE	147	1323	
MEMPHIS	243	2029	
NASHVILLE	191	1737	
OAK RIDGE R	136	[illegible]	
TEXAS			
ABILENE	332	2365	
AMARILLO	190	1659	
AUSTIN	450	[illegible]	
BROWNSVILLE	511	3438	
CORPUS CHRISTI	496	2931	
DALLAS	413	2754	
DEL RIO	455	3014	
EL PASO	372	2469	
FORT WORTH	372	2446	
GALVESTON U	493	2693	
HOUSTON	402	2589	
LUBBOCK	165	1767	
MIDLAND	286	2080	
PORT ARTHUR	408	2563	
SAN ANGELO	311	2476	
SAN ANTONIO	448	2707	
VICTORIA	472	2890	
WACO	470	2977	
WICHITA FALLS	320	2354	
UTAH			
MILFORD	89	835	
SALT LAKE CITY	164	1050	
WENDOVER	135	1294	
VERMONT			
BURLINGTON	38	420	
VIRGINIA			
LYNCHBURG	91	1035	
NORFOLK	199	1538	
RICHMOND	147	1324	
ROANOKE	107	1070	
WALLOPS ISLAND	160	1134	
WASHINGTON			
OLYMPIA	8	85	
QUILLAYUTE	0	21	
SEATTLE TACOMA	28	171	
SPOKANE	40	379	
STAMPEDE PASS R	4	36	
WALLA WALLA U	93	880	
YAKIMA	37	424	
WEST INDIES			
SAN JUAN P.R.	493	3976	
SWAN ISLAND	517	4578	
WEST VIRGINIA			
BECKLEY	45	528	
CHARLESTON	75	1033	
ELKINS	45	452	
HUNTINGTON	115	1172	
PARKERSBURG U	85	1027	
WISCONSIN			
GREEN BAY	40	400	
LA CROSSE	74	704	
MADISON	45	449	
MILWAUKEE	59	444	
WYOMING			
CASPER	26	491	
CHEYENNE	9	431	
LANDER	36	538	
SHERIDAN	25	355	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS
Alabama *																													
Alaska *																													
Arizona										0	1	5	0													0	0	0	5
Arkansas														0	1	0	0												
California														1	0	4	0									0	0	3	5
Colorado *																													
Connecticut														0	0	4	0												
Delaware																										0	0	4	0
Florida	2	1	0	3	4									2	0	1	0									0	0	6	6
Georgia	1	1	0	0	?									0	0	4	0									0	0	5	5
Hawaii *																													
Idaho										0	0	5	0	0	0	?	?												
Illinois	2	1	0	0	5					0	0	5	C																
Indiana	3	2	0	0	4	0	0	3	3	0	0	3	3	0	0	5	0												
Iowa	1	1	0	0	4	0	0	5	6	0	0	5	5	0	0	1	0												
Kansas						0	0	3	4	0	0	3	0	0	0	5	0									0	0	5	4
Kentucky						0	0	°5	C	0	2	°4	C	0	1	1	0												
Louisiana										0	0	3	0	1	2	4	3												
Maine										0	0	3	0	0	0	3	0									0	0	3	0
Maryland										0	0	4	0	0	1	3	0									1	0	4	0
Massachusetts										0	0	3	0	0	0	4	0									0	0	4	0
Michigan						0	0	3	0					1	1	3	0												
Minnesota	3	1	0	0	4	0	0	0	5	0	4	5	3	0	1	5	0												
Mississippi																										0	0	0	?
Missouri						0	0	5	5					0	0	5	0												
Montana	1	1	0	0	4																								
Nebraska						0	0	4	5	0	0	4	0	3	1	0	0												
Nevada *																													
New Hampshire						0	0	0	4	0	0	3	0													0	0	3	0
New Jersey												4																5	
New Mexico						0	0	4	6	0	0	3	0	1	0	0	0									0	0	°5	C
New York								2				4			19	5												5	
North Carolina						0	0	0	4					1	1	4	0									0	0	4	0
North Dakota						0	0	0	4																				
Ohio										0	0	1																	
Oklahoma	1	1	0	0	0	0	0	?	4	0	0	5	0	3	0	6	0									0	1	6	5
Oregon *																													
Pacific Area																										0	0	°5	C
Pennsylvania																4	2											3	
Puerto Rico										0	0	4	0																
Rhode Island														0	0	4	0									0	0	4	0
South Carolina										0	2	3	0													0	0	5	0
South Dakota						0	0	3	4					1	0	0	0												
Tennessee										0	0	?	0	0	0	4	0									0	0	4	0
Texas	6	4	0	0	4					0	1	0	0	0	3	3	0									0	0	4	0
Utah *																													
Vermont										0	0	2	0													0	0	4	0
U. S. Virgin Is. *																													
Virginia										0	0	4	0																
Washington *																													
West Virginia						0	0	3	?	0	0	4	0													0	0	5	4
Wisconsin										1	0	5	0	0	1	4	0												
Wyoming *																													

° Includes crop damage
C Crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

SEPTEMBER 1969

Elmer R. Nelson, Office of Hydrology

The most damaging floods during September occurred in northwest Florida. Severe flooding occurred in Leon, Gadsden, and Liberty Counties with damage in Gadsden County estimated at $2.8 million. The Ochlockonee River exceeded or equaled the Dec. 1964 flood.

ATLANTIC SLOPE DRAINAGE

Heavy rains in central New Jersey during the 24-hour period ending at 7 a.m. on Sept. 4 caused overflow of small headwater streams and local flooding in areas of poor drainage. The heaviest rains were in east-central New Jersey between the Raritan and Passaic Rivers where rainfall amounts ranged from 4 to 5 inches. The Millstone River at Blackwells Mills, N. J., crested 0.8 foot above flood stage on the 4th and receded within its banks on the 5th. The Assunpink Creek at Trenton, N. J., crested 0.5 foot above flood stage on the 4th. Flooding impeded traffic on the New Jersey turnpike between Woodbridge and Carteret, N. J., where police lowered the speed limit from 60 m.p.h. to 45 m.p.h. Police had to use pumps to keep the roadway free between Exit 14 at Newark Airport and Exit 15 at Raymond Boulevard.

Heavy rain on the 17-20th caused minor flooding on the lower Cape Fear River on the 22-23d. The rainfall ranged from 4 to 6 inches in the middle portion of the basin. No damages were reported.

Rain showers during the first week in the month caused a 4-foot overflow on the Broad River at Blair, S. C., on the 5-6th. Damage was minor. The Coosawhatchie River flooded lowlands and swampland from near Hampton, S. C., to the coast. Highway 17 was flooded and closed to traffic on the 4-9th. The fill at both ends of the bridge near Coosawhatchie 9 miles north of Ridgeland, S. C., was damaged.

Flash flooding occurred on the Reedy River at Greenville, S. C., on the 19th. Rainfall totaled 4.36 inches in Greenville in less than 3 hours from 1 a.m. to 4 a.m. The river rose rapidly out of its banks and occupants of a few homes had to be evacuated by boat. Considerable flooding occurred in the Berea area adjacent to Greenville. The building housing the Brookline Carpet, Inc., was flooded causing over $100,000 damage to heavy machinery and yarn. The Lumber River at Lumberton, N. C., reached flood stage on the 25th and continued in flood the remainder of the month. Only minor damage resulted from the 2.5-foot overflow.

Light flooding occurred on the Ogeechee River from the vicinity of Dover, Ga., downstream during the early part of September. It is estimated that flood stage at Eden, Ga., was not exceeded by more than 1.5 ft. Damage, if any, was light.

Minor flooding occurred on the Satilla River near Atkinson, Ga., on the 3d-7th. No damage was reported from the light overflow.

EAST GULF OF MEXICO DRAINAGE

Heavy rains on the 20th-23d caused minor flooding on the Apalachicola River and severe flooding on the Ochlockonee River in Florida. The heavy rains were associated with a weak tropical depression that moved onto the northwest Florida coast during the night of the 20th-21st. A record 24-hour rainfall total of 13.66 inches was reported at Quincy, Fla., exceeding the previous record of 12.93 inches established in 1924. The total storm rainfall for Quincy was 17.4 inches, and for Havana, Fla., 23.72 inches.

The Ochlockonee River near Havana, Fla., equaled the Dec. 1964 crest of 30 feet on Sept. 22. At Bloxham, Fla., the river exceeded the 1964 flood by about 5 feet. The Little River near Quincy, Fla., exceeded the 1964 flood by about 4 feet, reaching a crest of 24.6 ft. on the 22d. Severe flooding occurred in Leon, Gadsen, and Liberty Counties where the storm rainfall ranged from 10 to 23.5 inches. Many secondary roads were under water in low-lying areas. State Road 20 and US 90 leading west from Tallahassee were closed early on the morning of the 22d. The estimated flood damage in Gadsden County was $2.8 million. Damage estimates for Leon and Liberty Counties and the Ochlockonee Basin are not yet available. Flood losses on the Apalachicola River near Blountstown, Fla., were negligible since the crest was less than 0.5 foot above flood stage.

MISSISSIPPI SYSTEM

Missouri Basin.--The record flooding which developed in the headwaters of the Little Blue River near Deweese, Nebr., on Aug. 31 receded within its banks on Sept. 2. The record crest of 17.07 ft. on Aug. 31 was 1.1 ft. higher than the previous record crest of 15.99 ft. on May 22, 1965. Downstream at Hebron, Nebr., residents reported the highest water levels in 40 years. Extensive overflow occurred near Fairbury, Nebr., on Sept. 3-4. The river reached, but did not exceed, bankfull stage near Hebron, Kans., on Sept. 4.

There were two periods of flooding on the Grand River in Missouri. The first rise was due to heavy rain (3 inches or more) on the night of the 6-7th. The crests ranged from 2.5 to 4.2 ft. above flood stage, except less than 1 foot above flood stage at Gallatin, Mo. The second rise was due to heavy rain on the 22d-23d. Pattonsburg and Chillicothe, Mo., reported over 4 inches of rain during that period. The only flooding reported was in the Chillicothe-Sumner, Mo., reach.

Moderate to heavy rains in west-central Missouri on the 15-16th produced local flooding on the Blackwater River on the 15th-21st and on the Lamine River at Clifton City, Mo., on the 16-18th. The crests on the Blackwater River at Valley City, Mo., were 8 ft. above flood stage on the 17th and at Blue Lick, Mo., 2.6 ft. above flood stage. The Lamine River at Clifton City, Mo., crested 9 ft. above flood stage on the 17th.

Minor lowland flooding occurred briefly on the 17th on the Smoky Hill River near Sharon Springs and south of Wallace in west-central Kansas. Pottawatomie Creek at Garnett, Kans., crested 0.5 foot above flood stage on the 17th. Light overflows occurred locally in the Marais des Cygnes Basin at Midmonth. The total flood damages in the Little Blue River basin in Nebraska during August and September were estimated at $1.3 million. Flood losses in the Marais des Cygnes and Smoky Hill River basins were negligible.

Minor flooding occurred on the South Grand River at Urich and Brownington, Mo., between the 17th and 23d. The Osage River at Schell City, Mo., was out of its banks on the 17th-22d. No flood damage of any consequence resulted.

Ohio Basin.--A flash flood occurred on Spring Creek, a tributary of Greenbrier River, during the night of the 5-6th. According to reports the water was about a foot higher than that produced by Hurricane Camille in August 1969. This flooding was due to locally intense rainfall in the mountainous area on Spring Creek during

the evening and early night of the 5th. Renick, W. Va., a few miles south of Spring Creek, reported 2.1 inches of rainfall and Jacox Knob, W. Va., a few miles northeast reported 2.99 inches. The highest official amount reported was 3.55 inches at Richwood, W. Va., (10 to 15 miles north of Spring Creek). There were rumors and unofficial reports of 10 to 15 inches in the area. The corn crop and meadows were washed flat (1,254 acres). The stream channel changed its course in many locations. Some of the land was damaged beyond economic repair. Bridges and roads were washed out. Three houses were washed away and 12 damaged. The total damages near Renick, W. Va., were estimated at $281,200.

Arkansas Basin.--Heavy rain on the 1st and 2d caused minor flooding on the South Fork Ninnescah River near Murdock, Kans., and on the Canadian River at Amarillo, Tex., on the 2d and 3d. Rainfall amounts totaled as much as 5.12 inches during the 48-hour period at Pratt, Kans.

Heavy rain on the morning of the 15th produced moderate flooding on the Little Arkansas River at Sedgwick, Kans., on the 16-17th. The total flood damages were estimated at $150,000.

Brief flash flooding was reported in Oklahoma on the 16-17th near Bartlesville, Nowata, Barnsdall, Pawhuska, Blackwell, and Garber. The heavy storm of the 16-17th produced adequate runoff in northeastern Oklahoma to cause streams to run three-quarters bankfull. The Little Caney River near Copan, Okla., crested 2.4 ft. below bankfull stage on the 17th.

Red Basin.--Thunderstorms with heavy rain over north-central Texas and southwestern Oklahoma on the 21st and on the night of the 22d caused rapid rises on creeks and some mainstem flooding of the Red River near Burkburnett, Tex. Beaver Creek at Electra, Tex., was out of its banks on the 22-23d and crested 2.4 ft. above flood stage on the afternoon of the 22d. Flash flooding occurred on Deep Red Run in Tillman and Cotton Counties in Oklahoma on the 22d. Some 400 head of cattle were reported killed, with damage to many acres of small grains and cotton. Some levees were destroyed and roads near Chattanooga, Okla., were damaged. Several cars were submerged with some occupants trapped in trees until rescued. A few homes in Tillman County were swept away.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Local flash flooding occurred east of Yuma, Ariz., on the 6th and on Clear Creek 20 miles south of Winslow, Ariz., on the 11th. US Highway 95 and other roads were closed in the Parker-Ehrenburg, Ariz., area in northern Yuma County on the 13-14th. Local flooding was heavy in the Tempe-Guadalupe, Ariz., area on the 14th. Local flooding occurred in the Tempe-South Phoenix, Ariz., area on the 16th.

A minor flood occurred on the 2d on Potters Wash in the San Rafael drainage, Emery County, Utah. A heavy shower on the 9th caused some overflow along the Muddy River just east of Utah Highway No. 10. Some damage resulted to irrigation systems along the Huntington Creek tributary.

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Millstone: Blackwells Mills, N.J.	7	4	5	7.8	4
Assunpink Creek: Trenton, N. J.	5	4	4	5.5	4
Cape Fear: Wm. O. Huske L&D, N.C.	42	22	22	42.0	22
Lock No. 2, Elizabethtown, N. C.	20	22	23	20.1	22
Lumber: Lumberton, N. C.	8	25	Oct. 16	10.55	28
Broad: Blair, S. C.	14	5	6	#18.0	5
Reedy: Greenville, S. C.	9	19	20	13.5	19
Ogeechee: Dover, Ga.	7	2	5	#7.2	3-4
Satilla: Atkinson 1W, Ga.	13	3	7	13.3	4-5
EAST GULF OF MEXICO DRAINAGE					
Little: Quincy, Fla.	U	21	24	24.6	22
Ochlockonee: Havana, Fla.	U	21	24	30.0	22
Bloxham, Fla.	U	21	25	29.2	23
Apalachicola: Blountstown, Fla.	15	22	22	15.35	22
MISSISSIPPI SYSTEM					
Missouri Basin					
Little Blue: Deweese (nr), Nebr.	8	Aug. 31	2	17.1	Aug. 31
Gilead, Nebr.		D	D	16.4	2
Fairbury (nr), Nebr.	10	3	4	12.8	3
Hanover (nr), Kans.	14	4	4	14.0	4
Grand: Pattonsburg, Mo.	25	7	8	27.5	7
Gallatin, Mo.	21	7	8	21.8	8
Chillicothe, Mo.	24	7	9	26.7	8
		23	24	26.9	23
MISSISSIPPI SYSTEM	Ft.			Ft.	
Sumner, Mo.	26	7	10	30.3	9
		23	25	29.9	24
Lamine: Clifton City, Mo.	19	16	18	28.0	17
Blackwater: Valley City, Mo.	20	15	18	28.0	17
Blue Lick, Mo.	25	19	21	27.7	20
Pottawatomie Creek: Garnett, Kans.	26	17	17	26.5	17
South Grand: Urich, Mo.	22	17	18	23.2	17
Brownington, Mo.	19	19	20	19.45	20
		22	23	19.4	22
Marais des Cygnes: Quenemo, Kans.	28	16	16	29.8	16
Osawatomie, Kans.	28	18	18	28.1	18
LaCygne, Kans.	25	18	18	25.2	18
Osage: Schell City, Mo.	25	17	22	28.3	19
Arkansas Basin					
Little Arkansas: Sedgwick, Kans.	18	16	17	22.5	17
South Fork Ninnescah: Murdock (nr), Kans.	8	2	3	#9.25	2
Canadian: Amarillo, Tex.	7	2	3	7.8	3
Red Basin					
Beaver Creek: Electra, Tex.	24	22	23	26.4	22
Red: Burkburnett, Tex.	9	22	23	10.1	22

* Provisional
\# Highest stage observed
U Unknown
D Data not available
___ Exceeded previous highest stage of record

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1969

ALBANY, N. Y. — 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	86	12.4	11.[illegible]	21	.3
1000	30	16[illegible]	12.9	11.1	22	.4
950	30	599	13.1	9.1	29	3.1
900	30	1,051	11.3	6.2	29	4.8
850	30	1,527	9.1	2.5	28	5.8
800	30	2,038	7.0	-1.8	27	6.2
750	30	2,555	5.2	-6.1	27	7.4
700	30	3,119	2.2	-9.0	27	9.0
650	30	3,712	-.9	-12.4	27	10.3
600	30	4,350	-4.2	-17.8	26	11.5
550	30	5,028	-7.9	-22.5	26	12.7
500	30	5,767	-12.4	-27.2	26	14.0
450	30	6,558	-18.0	-32.4	26	14.5
400	30	7,433	-24.4	-38.0	26	15.7
350	30	8,391	-31.8	-43.9	26	17.1
300	30	9,462	-39.7	-48.1	26	17.9
250	30	10,685	-48.2		26	20.1
200	30	12,128	-55.2		26	22.7
175	30	12,977	-57.1		26	22.7
150	30	13,948	-58.7		26	21.3
125	30	15,088	-60.6		26	17.4
100	30	16,472	-61.4		27	13.1
80	30	17,863	-59.0		27	9.2
70	29	18,701	-57.5		27	6.8
60	29	19,678	-56.2		26	5.2
50	29	20,841	-54.5		26	3.8
40	29	22,276	-52.4		27	2.5
30	27	24,150	-49.1		24	2.1
25	27	25,351	-47.8		26	1.5
20	25	26,832	-46.3		33	.7
15	25	28,754	-43.7		30	.4
10	20	31,499	-40.3		26	.9
7	10	33,943	-36.8			
5						
4						

ALBUQUERQUE, N. MEX. — 841 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	1,619	15.1	8.1	10	1.8
1000	30	115				
950	30	562				
900	30	1,032				
850	30	1,523				
800	30	2,039	16.0	4.9	19	2.5
750	30	2,584	13.0	1.9	23	3.2
700	30	3,161	9.1	-.7	27	3.2
650	30	3,767	4.4	-3.8	26	3.5
600	30	4,417	-.7	-7.9	28	3.2
550	30	5,100	-5.1	-13.9	28	4.2
500	30	5,851	-9.3	-22.9	27	6.1
450	30	6,655	-14.2	-29.6	27	7.0
400	30	7,544	-20.6	-34.7	27	8.0
350	30	8,517	-27.9	-41.6	27	10.4
300	30	9,606	-36.1	-47.7	27	13.1
250	30	10,849	-44.5		27	17.9
200	29	12,314	-53.4		27	22.8
175	29	13,164	-58.0		27	21.9
150	29	14,125	-62.7		27	18.5
125	29	15,235	-67.4		27	13.7
100	29	16,570	-69.4		28	9.3
80	29	17,907	-66.7		30	2.9
70	29	18,719	-63.9		02	1.4
60	29	19,671	-60.5		06	2.5
50	29	20,814	-57.9		08	3.6
40	29	22,228	-55.3		08	4.5
30	28	24,077	-52.1		08	6.5
25	27	25,262	-49.9		09	6.7
20	26	26,733	-47.3		09	6.6
15	23	28,639	-44.7		08	7.9
10	19	31,372	-40.6		09	9.4
7	9	33,814	-37.5			
5						
4						

AMARILLO, TEXAS — 893 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	1,095	16.0	13.3	20	3.3
1000	30	123				
950	30	567				
900	30	1,037				
850	30	1,520	16.9	11.2	21	8.5
800	30	2,036	15.1	7.0	22	5.9
750	30	2,576	11.9	3.6	24	3.4
700	30	3,154	8.0	.0	25	1.9
650	30	3,761	3.8	-4.3	27	2.1
600	30	4,408	-.3	-10.1	28	2.6
550	30	5,093	-4.2	-15.7	28	3.3
500	30	5,846	-8.4	-21.5	27	4.7
450	30	6,651	-13.8	-28.6	28	6.2
400	30	7,541	-20.0	-33.2	28	8.3
350	30	8,517	-27.4	-39.4	28	9.8
300	30	9,608	-35.9	-47.2	28	12.2
250	30	10,850	-44.8		28	17.1
200	30	12,313	-53.5		28	21.7
175	30	13,164	-57.8		29	20.7
150	30	14,125	-62.4		28	17.9
125	30	15,238	-66.9		29	14.2
100	28	16,573	-68.8		29	8.4
80	28	17,914	-65.6		30	3.4
70	28	18,727	-63.5		35	1.2
60	28	19,680	-60.6		08	2.3
50	27	20,821	-57.8		09	3.2
40	27	22,237	-55.1		09	4.5
30	27	24,090	-51.5		08	5.3
25	26	25,279	-49.2		09	5.8
20	26	26,749	-47.3		08	6.4
15	23	28,655	-44.0		08	7.6
10	16	31,404	-41.0		08	9.7
7						
5						
4						

*** ANCHORAGE, ALASKA — 1003 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	45	7.6	4.1	16	1.2
1000	30	73			17	2.1
950	30	502	8.4	2.[illegible]	16	1.2
900	30	942	5.8	-.4	10	2.0
850	30	1,407	2.5	-2.8	11	3.4
800	30	1,895	-.8	-6.[illegible]	12	4.5
750	30	2,406	-4.2	-9.6	13	4.6
700	30	2,947	-7.6	-14.3	14	4.5
650	30	3,516	-11.0	-18.3	15	4.3
600	30	4,131	-14.8	-22.8	14	3.8
550	30	4,782	-18.9	-27.8	15	3.3
500	30	5,488	-23.8	-32.5	14	3.4
450	30	6,244	-29.2	-38.4	14	3.1
400	30	7,081	-35.2	-43.5	14	2.2
350	30	7,998	-41.9	-47.4	19	2.5
300	30	9,025	-48.7		20	3.3
250	30	10,210	-52.4		25	3.4
200	30	11,657	-50.1		26	4.9
175	29	12,531	-49.8		26	5.1
150	29	13,539	-49.9		27	4.9
125	29	14,731	-50.0		27	4.5
100	29	16,186	-50.6		27	4.5
80	29	17,639	-51.2		27	3.7
70	29	18,506	-51.5		26	4.5
60	29	19,506	-51.9		27	4.9
50	29	20,686	-52.3		28	4.4
40	29	22,127	-52.7		28	5.4
30	29	23,984	-52.9		29	5.9
25	29	25,160	-52.9		30	6.5
20	28	26,594	-52.5		30	6.8
15	27	28,448	-51.7		30	8.3
10	23	31,092	-48.8		29	10.2
7	9	33,480	-44.7			
5						
4						

*** ANNETTE, ALASKA — [illegible] MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	37	[illegible]	[illegible]	[illegible]	.8
1000	30	99			16	[illegible]
950	30	528	9.1	[illegible]	[illegible]	3.9
900	30	974	6.3	[illegible]	[illegible]	4.2
850	30	1,441	3.3	[illegible]	[illegible]	[illegible]
800	30	1,931	.3	[illegible]	[illegible]	[illegible]
750	30	2,443	-2.3	-6.2	18	6.7
700	30	2,994	-5.1	-11.2	19	5.2
650	30	3,555	-8.3	-15.8	19	5.9
600	29	4,187	-11.8	-21.2	20	6.5
550	29	4,843	-15.8	-25.5	20	7.3
500	29	5,563	-20.4	[illegible]	21	7.6
450	29	6,329	-25.9	-34.[illegible]	22	8.5
400	29	7,179	-32.1	-40.[illegible]	22	10.6
350	29	8,109	-38.9	-45.4	23	11.7
300	29	9,151	-46.1		28	9.9
250	29	10,347	-50.9		27	13.1
200	28	11,787	-50.8		27	12.1
175	28	12,658	-50.4		27	12.3
150	27	13,659	-51.0		27	11.9
125	27	14,843	-51.8		27	10.4
100	27	16,287	-52.4		27	9.6
80	27	17,730	-52.5		27	8.5
70	27	18,592	-52.8		27	7.7
60	27	19,587	-53.0		27	6.3
50	27	20,761	-53.4		27	6.9
40	27	22,198	-53.4		27	6.0
30	27	24,051	-53.0		28	5.3
25	26	25,230	-52.4		28	6.0
20	26	26,675	-51.4		28	7.1
15	24	28,561	-49.6		27	9.4
10	21	31,240	-46.2		27	12.4
7	15	33,680	-42.3		27	13.0
5	9	35,918	-39.3			
4	6	37,412	-38.2			

ATHENS, GEORGIA — 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	246	17.1	15.6	03	1.8
1000	30	153				
950	30	594	18.1	14.3	07	5.0
900	30	1,055	16.0	12.1	10	3.9
850	30	1,540	13.7	9.4	12	1.9
800	30	2,050	11.1	5.0	18	.9
750	30	2,586	9.0	-.1	25	1.6
700	30	3,158	6.7	-5.0	27	2.3
650	30	3,764	3.5	-9.2	28	2.7
600	30	4,409	-.3	-14.2	28	3.7
550	30	5,093	-4.3	-17.5	27	4.6
500	30	5,846	-9.1	-23.1	26	5.0
450	30	6,649	-14.2	-28.2	26	5.6
400	30	7,538	-20.5	-33.7	26	7.8
350	30	8,511	-27.7	-41.0	26	9.8
300	30	9,601	-36.1	-48.6	25	11.2
250	30	10,840	-45.6		26	12.6
200	29	12,297	-55.2		26	13.2
175	29	13,142	-59.0		26	12.9
150	29	14,099	-63.0		27	11.2
125	29	15,210	-66.7		28	8.8
100	29	16,552	-67.9		29	5.0
80	29	17,900	-65.3		33	2.5
70	28	18,720	-62.6		04	2.8
60	28	19,676	-59.6		07	3.4
50	28	20,823	-57.1		08	5.7
40	28	22,244	-54.3		09	7.4
30	28	24,102	-50.9		09	8.8
25	28	25,293	-49.1		09	10.1
20	25	26,769	-46.6		10	10.6
15	22	28,694	-44.3		08	9.9
10	16	31,444	-39.1		09	8.8
7	7	33,893	-35.9			
5						
4						

*** BARROW, ALASKA — 1016 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	8	-2.2	-2.5	09	3.7
1000	30	134	-1.2	-2.2	10	4.9
950	30	549	.2	-3.2	11	5.3
900	30	977	-.5	-6.7	11	4.9
850	30	1,433	-2.0	-9.1	12	3.5
800	30	1,914	-3.7	-12.0	13	2.5
750	30	2,422	-5.9	-14.8	16	1.8
700	30	2,960	-8.9	-17.3	17	1.4
650	30	3,529	-12.1	-21.2	21	1.6
600	30	4,139	-15.9	-24.7	22	2.1
550	30	4,785	-20.0	-29.9	23	2.2
500	30	5,489	-24.7	-34.8	24	2.6
450	30	6,242	-30.2	-40.3	24	3.0
400	30	7,075	-36.3	-45.4	26	3.3
350	30	7,988	-43.1		26	3.2
300	30	9,011	-50.5		28	3.8
250	30	10,182	-55.9		29	3.7
200	30	11,614	-51.9		28	3.9
175	30	12,483	-50.8		27	3.7
150	30	13,487	-50.7		27	3.9
125	30	14,676	-50.4		27	3.8
100	30	16,131	-50.7		27	3.8
80	29	17,579	-51.1		28	4.0
70	28	18,453	-51.5		28	4.0
60	28	19,452	-52.0		28	4.0
50	26	20,642	-52.4		29	4.4
40	25	22,093	-52.9		30	4.6
30	20	23,944	-53.6		30	5.4
25	18	25,110	-53.4		31	6.0
20	14	26,563	-52.9			
15						
10						
7						
5						
4						

BARTER IS., ALASKA — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	15	-1.4	-2.5	10	2.8
1000	30	125	.3	-1.7	10	3.4
950	30	537	2.1	-3.6	11	4.0
900	30	974	1.6	-7.2	11	3.8
850	30	1,434	-.3	-9.7	13	2.3
800	30	1,917	-2.6	-12.8	13	1.3
750	30	2,422	-5.2	-16.7	15	1.3
700	30	2,966	-8.4	-19.8	17	1.3
650	30	3,533	-11.7	-24.2	19	.9
600	30	4,146	-15.7	-26.8	21	.7
550	30	4,792	-19.9	-30.9	21	.7
500	30	5,497	-24.5	-35.0	21	1.4
450	30	6,249	-30.1	-40.3	23	1.7
400	30	7,085	-36.0	-46.2	23	2.9
350	30	8,000	-42.7		23	4.4
300	30	9,023	-50.1		23	5.2
250	30	10,196	-56.0		23	5.3
200	30	11,626	-51.5		25	3.8
175	30	12,495	-50.8		26	4.3
150	30	13,499	-50.4		27	4.3
125	30	14,688	-50.4		27	4.7
100	30	16,143	-50.6		27	4.4
80	30	17,595	-51.2		27	4.6
70	30	18,463	-51.4		28	5.1
60	30	19,463	-51.8		29	5.2
50	30	20,644	-52.2		29	4.9
40	30	22,085	-53.0		30	5.7
30	29	23,940	-53.6		30	5.5
25	27	25,122	-53.5		30	6.2
20	26	26,565	-53.4		30	6.3
15	23	28,422	-51.7		30	7.7
10	10	31,135	-48.0			
7						
5						
4						

BETHEL, ALASKA — 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	24	39	6.5	4.9	04	1.4
1000	24	43			01	.6
950	24	463	8.3	1.3	09	4.2
900	24	911	5.2	-.7	11	3.6
850	24	1,375	2.1	-3.1	14	3.5
800	24	1,862	-1.0	-7.5	14	2.8
750	24	2,372	-3.7	-11.4	12	3.2
700	24	2,917	-6.7	-16.0	12	4.5
650	24	3,491	-9.9	-20.1	12	4.3
600	24	4,107	-13.7	-23.7	12	4.4
550	24	4,758	-18.1	-28.9	11	4.5
500	24	5,470	-22.6	-34.0	10	3.5
450	24	6,230	-27.9	-37.9	10	3.0
400	24	7,073	-33.8	-43.4	10	3.2
350	24	7,996	-40.7	-47.7	11	2.7
300	24	9,029	-47.6		15	1.0
250	24	10,221	-51.6		27	1.0
200	24	11,669	-50.7		28	4.0
175	24	12,541	-49.8		27	4.5
150	24	13,550	-49.6		27	4.9
125	24	14,743	-50.0		27	5.6
100	24	16,199	-50.5		27	4.6
80	24	17,653	-50.9		27	4.2
70	24	18,522	-51.3		26	4.3
60	24	19,523	-51.6		27	3.7
50	23	20,706	-51.8		27	4.3
40	22	22,153	-52.0		27	5.2
30	22	24,017	-51.7		28	5.5
25	22	25,200	-51.5		29	6.4
20	21	26,648	-50.9		29	6.5
15	18	28,538	-49.8		29	7.3
10	7	31,047	-49.6			
7						
5						
4						

*** BISMARCK, N. DAK. — 956 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	503	10.6	6.4	12	1.3
1000	30	124				
950	30	558			12	2.0
900	30	1,010	13.8	4.9	18	3.3
850	30	1,491	12.4	1.6	23	3.3
800	30	1,997	10.1	-1.4	26	4.2
750	30	2,528	7.0	-4.9	27	5.8
700	30	3,096	3.3	-8.7	27	7.3
650	30	3,690	-.6	-12.4	28	9.5
600	30	4,328	-4.8	-15.0	28	12.0
550	30	5,004	-9.1	-19.7	28	13.9
500	30	5,739	-13.9	-24.5	27	14.5
450	30	6,525	-19.4	-30.6	28	15.5
400	30	7,397	-25.6	-36.2	28	16.9
350	30	8,350	-33.0	-42.6	28	17.2
300	30	9,415	-41.8		28	18.7
250	30	10,626	-50.7		28	20.6
200	29	12,057	-55.9		28	22.1
175	29	12,908	-56.0		28	22.9
150	28	13,891	-57.1		28	20.5
125	28	15,039	-59.4		28	17.6
100	28	16,435	-59.3		28	12.7
80	28	17,836	-58.0		28	7.4
70	28	18,678	-57.4		28	6.0
60	28	19,653	-56.7		29	4.9
50	28	20,811	-55.5		30	4.7
40	28	22,239	-53.6		29	3.9
30	28	24,098	-51.0		30	3.6
25	28	25,287	-49.7		28	5.1
20	27	26,756	-47.2		27	7.0
15	26	28,674	-44.1		27	9.0
10	24	31,418	-40.2		27	8.7
7	21	33,872	-36.5		27	9.5
5	13	36,232	-32.9		26	8.1
4	6	37,828	-31.4			

BOISE, IDAHO — 915 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	871	12.7	2.7	14	2.9
1000	30	111				
950	30	546				
900	30	1,006	16.6	3.4	14	1.7
850	30	1,493	16.4	.9	21	.6
800	30	2,006	12.9	-1.5	24	2.4
750	30	2,541	9.1	-3.9	25	4.7
700	30	3,113	5.3	-7.3	25	7.2
650	30	3,710	1.1	-11.1	25	9.5
600	30	4,352	-3.6	-14.0	25	11.2
550	30	5,029	-7.9	-19.6	25	12.6
500	30	5,769	-12.9	-24.1	25	13.0
450	30	6,556	-18.7	-30.2	25	14.5
400	30	7,432	-25.0	-35.6	26	15.0
350	30	8,389	-32.2	-41.8	26	16.7
300	30	9,458	-40.8	-48.3	26	16.9
250	30	10,673	-50.0		26	19.1
200	30	12,112	-54.6		26	22.7
175	30	12,965	-55.9		26	23.0
150	30	13,941	-57.9		26	21.1
125	30	15,083	-60.4		26	17.5
100	29	16,470	-61.8		26	12.4
80	29	17,858	-60.0		26	7.3
70	29	18,693	-59.3		27	4.3
60	29	19,662	-58.1		27	2.4
50	29	20,814	-56.6		28	2.3
40	29	22,232	-55.6		30	2.5
30	29	24,079	-52.5		30	2.2
25	29	25,262	-50.7		28	3.4
20	26	26,729	-48.1		29	5.1
15	23	28,536	-45.9		28	5.4
10	12	31,352	-42.7			
7	5	33,811	-38.1			
5						

*** BROWNSVILLE, TEXAS — 1012 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	7	23.7	21.8	35	1.1
1000	30	115	25.1	22.8	07	1.1
950	30	572	22.5	20.4	11	3.5
900	30	1,037	19.9	15.5	12	4.0
850	30	1,529	17.4	11.2	10	4.0
800	30	2,046	14.4	7.5	10	3.8
750	30	2,593	11.6	3.3	09	3.0
700	30	3,165	8.7	-1.0	07	2.7
650	30	3,775	5.3	-6.1	06	2.5
600	30	4,425	1.6	-11.4	04	2.7
550	30	5,114	-2.4	-16.9	04	2.5
500	30	5,873	-6.9	-21.4	36	2.4
450	30	6,686	-11.8	-28.4	34	2.9
400	30	7,582	-17.7	-34.4	33	3.6
350	30	8,567	-24.7	-40.2	32	6.2
300	30	9,671	-32.8	-46.8	32	9.1
250	30	10,929	-42.3		32	12.0
200	30	12,403	-53.4		32	12.9
175	30	13,250	-59.5		32	13.0
150	30	14,200	-65.7		32	10.8
125	30	15,292	-71.6		33	7.2
100	30	16,596	-74.8		36	5.3
80	30	17,903	-69.9		05	7.3
70	30	18,705	-66.3		08	8.6
60	30	19,645	-63.2		09	9.6
50	29	20,774	-60.3		09	10.8
40	29	22,176	-56.7		09	13.0
30	29	24,017	-52.6		08	15.8
25	28	25,195	-50.6		09	17.7
20	28	26,660	-47.3		09	17.5
15	27	28,582	-43.3		09	18.6
10	25	31,332	-39.2		09	22.1
7	21	33,802	-34.7		10	19.4
5	11	36,181	-30.4			

BUFFALO, N. Y. — 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	218	13.8	11.4	22	1.5
1000	30	160				
950	30	595	14.4	8.8	25	4.3
900	30	1,050	11.5	7.0	27	4.9
850	30	1,526	8.6	3.2	27	5.9
800	30	2,026	6.2	-1.2	27	7.2
750	30	2,554	4.3	-5.4	27	8.6
700	30	3,113	1.9	-10.1	27	9.1
650	30	3,707	-1.4	-14.1	27	10.4
600	30	4,342	-4.7	-18.1	27	11.0
550	30	5,020	-8.9	-21.3	27	11.5
500	30	5,754	-13.3	-26.4	27	11.6
450	30	6,546	-18.9	-31.0	27	13.0
400	30	7,415	-25.2	-36.8	27	14.5
350	30	8,370	-32.4	-43.0	27	16.4
300	30	9,438	-40.3	-48.0	27	17.9
250	30	10,659	-48.5		27	20.1
200	29	12,105	-54.7		27	21.6
175	29	12,955	-56.5		27	20.4
150	29	13,928	-58.8		27	18.5
125	29	15,067	-60.5		27	16.3
100	29	16,455	-60.9		27	12.3
80	29	17,844	-59.6		28	8.9
70	28	18,684	-57.8		28	6.[illegible]
60	27	19,661	-56.5		28	4.7
50	26	20,820	-55.2		29	4.1
40	26	22,252	-53.1		27	2.9
30	25	24,121	-49.9		27	3.5
25	24	25,316	-48.1		28	3.4
20	23	26,792	-45.9		26	3.1
15	16	28,724	-43.6		26	2.9
10						
7						
5						

CAPE HATTERAS, N. C. — 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	4	20.8	18.3	04	2.7
1000	30	150	21.7	18.0	04	3.6
950	30	591	18.7	15.2	04	3.2
900	30	1,057	16.1	12.2	04	1.7
850	30	1,542	13.9	6.9	32	1.1
800	30	2,052	11.9	2.2	28	1.9
750	30	2,588	9.5	-1.0	26	3.0
700	30	3,161	6.5	-5.2	25	4.2
650	30	3,761	3.2	-8.5	25	5.1
600	30	4,411	-.4	-13.6	25	6.5
550	30	5,094	-4.3	-18.8	25	8.4
500	30	5,847	-8.6	-24.8	25	9.6
450	30	6,652	-13.8	-29.5	25	9.7
400	30	7,543	-19.9	-33.2	25	11.6
350	30	8,519	-26.9	-39.9	25	12.7
300	29	9,613	-35.0	-47.5	25	14.9
250	29	10,858	-44.4		25	17.0
200	29	12,319	-54.9		25	19.4
175	29	13,163	-59.2		26	16.2
150	29	14,120	-62.9		25	13.9
125	29	15,235	-66.0		27	10.6
100	29	16,586	-66.2		27	7.0
80	29	17,947	-63.3		29	2.2
70	29	18,773	-60.9		35	.6
60	29	19,736	-58.5		08	2.2
50	29	20,889	-55.7		09	3.5
40	26	22,316	-53.2		09	5.5
30	23	24,181	-49.9		09	7.6
25	[illegible]	25,383	-47.9		09	8.3
20	17	26,849	-46.3		09	8.5
15	16	28,779	-43.3		08	7.5
10	15	31,514	-40.0		09	7.1
7	8	33,984	-35.9			
5						

*** CARIBOU, MAINE — 995 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Direction	Speed (M/S)
SURFACE	30	191	7.9	6.8	29	1.0
1000	30	151				
950	30	579	8.7	4.4	30	2.3
900	30	1,023	7.3	2.4	27	3.7
850	30	1,492	6.1	-1.1	27	7.2
800	30	1,988	4.5	-4.1	27	9.7
750	30	2,517	2.4	-8.5	27	10.8
700	30	3,069	.2	-12.6	27	12.2
650	30	3,663	-2.8	-16.8	27	13.7
600	30	4,291	-6.2	-21.5	27	15.0
550	30	4,970	-10.1	-25.0	27	16.3
500	30	5,696	-14.4	-30.2	26	18.4
450	30	6,485	-19.7	-35.1	26	21.0
400	30	7,352	-26.0	-40.1	26	22.4
350	29	8,304	-33.2	-45.1	26	24.7
300	29	9,370	-41.0	-49.6	26	26.1
250	29	10,587	-49.0		26	26.3
200	29	12,029	-54.5		26	26.5
175	29	12,881	-55.6		26	25.4
150	28	13,864	-56.7		26	23.2
125	27	15,014	-57.8		26	19.6
100	27	16,420	-57.4		27	14.5
80	27	17,832	-56.5		27	11.1
70	27	18,682	-55.2		27	9.2
60	27	19,667	-54.5		27	8.2
50	26	20,833	-53.2		27	6.6
40	26	22,275	-51.8		26	6.1
30	24	24,153	-48.8		26	5.5
25	24	25,355	-47.7		26	6.4
20	23	26,830	-46.3		26	6.5
15	19	28,734	-44.4		26	7.7
10	15	31,514	-39.9		27	5.3
7	5	33,962	-35.5			
5						

* See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1969

CHARLESTON, S. C. 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	13	19.9	18.1	03	2.3
1000	30	145	21.0	19.0	04	3.7
950	30	588	20.0	16.6	08	4.8
900	30	1,056	17.6	12.8	10	2.3
850	30	1,544	15.3	7.5	12	.9
800	30	2,056	12.5	5.4	21	1.0
750	30	2,590	9.8	1.5	23	1.4
700	30	3,167	7.2	-4.3	24	2.7
650	30	3,771	4.1	-8.0	24	3.2
600	30	4,421	.4	-12.9	24	3.9
550	30	5,111	-3.4	-17.3	24	4.5
500	30	5,863	-8.0	-20.2	25	5.0
450	30	6,669	-13.1	-25.7	25	6.0
400	30	7,563	-19.4	-32.1	26	6.4
350	30	8,542	-26.4	-38.2	25	8.6
300	30	9,637	-34.8	-47.8	25	11.6
250	30	10,884	-44.4		25	14.6
200	30	12,345	-54.9		25	16.3
175	30	13,189	-59.7		25	14.7
150	30	14,143	-64.1		26	10.5
125	30	15,252	-67.0		26	7.0
100	30	16,594	-68.0		28	3.7
80	30	17,945	-64.7		35	1.5
70	30	18,766	-61.9		05	2.2
60	30	19,725	-59.5		08	3.6
50	30	20,872	-56.9		08	5.7
40	30	22,294	-54.4		09	7.6
30	30	24,152	-50.6		09	9.2
25	30	25,346	-48.6		09	9.8
20	28	26,821	-46.4		09	10.0
15	28	28,741	-43.8		08	9.7
10	25	31,495	-39.1		08	10.8
7	14	33,945	-36.5			
5						
4						
3						
2						

CHIHUAHUA, MEXICO 858 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,428	17.5	13.4	13	.4
1000	30	94				
950	30	538				
900	30	1,010				
850	30	1,509	18.2	12.9	13	.4
800	30	2,030	17.1	8.8	13	1.8
750	30	2,572	13.5	6.3	14	3.2
700	30	3,156	9.4	3.3	14	3.0
650	30	3,764	5.2	-2.2	11	2.0
600	30	4,416	.8	-7.6	09	1.4
550	30	5,105	-2.9	-14.7	14	.9
500	30	5,861	-6.8	-21.0	21	1.2
450	30	6,670	-11.6	-27.6	25	2.1
400	30	7,571	-17.4	-32.7	27	4.3
350	30	8,557	-24.4	-38.5	27	6.4
300	30	9,662	-32.5	-45.2	27	8.9
250	30	10,922	-41.9		27	12.7
200	30	12,396	-53.2		28	14.0
175	29	13,242	-59.3		28	13.9
150	27	14,191	-65.3		28	12.0
125	27	15,284	-71.1		27	8.3
100	27	16,608	-73.6		29	4.2
80	25	17,912	-69.1		05	2.3
70	25	18,718	-65.2		07	4.8
60	25	19,665	-62.3		09	7.2
50	25	20,800	-59.0		10	8.5
40	25	22,207	-56.8		09	9.4
30	21	24,050	-52.5		08	11.4
25	20	25,238	-50.4		09	13.2
20	18	26,702	-47.4		09	13.7
15	13	28,625	-44.1			

* COLD BAY, ALASKA 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	30	9.1	7.3	24	2.0
1000	29	38			28	2.5
950	29	459	6.2	4.7	25	1.7
900	29	903	3.6	1.8	25	1.6
850	29	1,366	1.3	-2.5	23	1.5
800	29	1,853	-.9	-6.5	26	1.6
750	29	2,361	-3.6	-10.8	26	2.3
700	29	2,909	-6.3	-14.6	27	3.1
650	29	3,480	-9.4	-18.8	26	3.7
600	29	4,099	-13.1	-24.7	27	4.7
550	29	4,751	-17.3	-30.4	27	6.1
500	29	5,466	-21.9	-34.2	26	6.5
450	29	6,225	-27.1	-39.7	27	7.2
400	29	7,072	-33.1	-43.9	27	8.6
350	29	7,998	-39.5	-45.6	26	9.9
300	29	9,038	-45.5		26	9.6
250	29	10,243	-48.5		27	11.7
200	29	11,711	-48.8		27	11.7
175	29	12,589	-48.7		27	12.3
150	29	13,599	-49.6		27	11.9
125	29	14,790	-50.5		28	9.8
100	29	16,242	-51.4		27	8.1
80	29	17,691	-51.4		27	7.0
70	29	18,559	-51.3		27	5.9
60	29	19,559	-51.5		27	4.9
50	29	20,741	-51.8		28	4.6
40	29	22,187	-51.8		28	4.3
30	29	24,053	-51.5		28	5.0
25	29	25,237	-51.0		29	5.1
20	28	26,686	-50.7		30	5.0
15	26	28,580	-49.4		31	5.7
10	25	31,253	-47.4		31	7.2
7	21	33,645	-43.9		29	10.0
5	17	35,959	-41.4		29	11.4
4	13	37,429	-41.1			
3	8	39,345	-39.8			
2	5	42,094	-39.7			

COLUMBIA, MO. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	238	15.9	13.6	12	1.5
1000	30	147				
950	30	584	18.1	12.2	19	2.4
900	30	1,048	16.3	9.1	26	2.5
850	30	1,533	13.7	4.8	28	3.6
800	30	2,042	10.9	1.3	29	3.4
750	30	2,575	7.9	-3.3	30	4.6
700	30	3,145	5.0	-8.8	30	5.4
650	30	3,742	1.7	-12.4	29	6.2
600	30	4,388	-2.0	-16.0	29	7.0
550	30	5,063	-6.1	-18.4	29	7.8
500	30	5,815	-10.7	-23.3	29	8.4
450	30	6,609	-16.0	-30.1	29	9.5
400	30	7,495	-22.4	-35.5	29	10.0
350	30	8,462	-29.7	-41.3	28	12.3
300	30	9,543	-38.0	-45.7	28	13.2
250	30	10,773	-47.3		28	15.4
200	30	12,220	-55.3		28	18.8
175	30	13,067	-57.8		28	19.1
150	30	14,032	-60.6		28	18.2
125	30	15,158	-63.8		28	14.5
100	30	16,519	-65.2		29	10.0
80	29	17,883	-63.0		29	6.1
70	29	18,709	-61.2		31	3.8
60	29	19,671	-59.1		33	2.2
50	27	20,818	-57.1		35	1.0
40	26	22,241	-54.4		04	.8
30	26	24,098	-51.1		08	1.6
25	26	25,289	-49.0		08	2.3
20	26	26,763	-46.4		09	2.5
15	21	28,687	-44.3		09	3.5
10	10	31,414	-40.9			

DAYTON, OHIO 984 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	297	13.2	12.2	05	.6
1000	30	163				
950	30	599	15.6	10.7	25	1.8
900	30	1,056	13.7	7.8	27	2.5
850	30	1,536	10.7	5.1	27	3.1
800	30	2,040	8.7	-.8	28	4.5
750	30	2,572	6.7	-6.4	27	5.9
700	30	3,137	3.9	-9.0	27	6.8
650	30	3,733	.7	-11.7	27	7.7
600	30	4,375	-2.9	-14.7	27	8.9
550	30	5,052	-6.8	-19.0	27	10.0
500	30	5,798	-11.7	-24.0	27	10.8
450	30	6,593	-16.9	-29.3	27	12.5
400	30	7,472	-23.2	-34.4	27	13.9
350	30	8,436	-30.2	-42.4	27	15.1
300	30	9,514	-38.6	-48.7	27	17.1
250	30	10,743	-47.3		27	19.3
200	30	12,192	-55.2		27	21.1
175	30	13,041	-57.1		27	18.9
150	30	14,009	-60.1		27	17.9
125	30	15,141	-62.6		27	15.2
100	30	16,512	-63.7		28	12.4
80	30	17,889	-61.3		28	6.6
70	30	18,721	-59.8		29	3.5
60	30	19,689	-57.8		29	1.8
50	30	20,845	-56.0		31	.7
40	29	22,272	-53.4		01	.1
30	29	24,138	-50.2		08	.8
25	28	25,337	-48.0		08	1.1
20	27	26,820	-45.9		09	2.3
15	24	28,750	-43.4		08	1.8
10	21	31,502	-40.3		08	3.0
7	7	33,955	-37.7			

DEL RIO, TEXAS 979 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	314	22.3	19.4	10	3.3
1000	30	124				
950	30	572	22.1	18.6	14	7.0
900	30	1,041	19.8	16.4	16	8.2
850	30	1,533	17.2	13.3	16	7.2
800	30	2,049	14.2	9.4	16	5.5
750	30	2,592	11.3	3.9	15	3.4
700	30	3,166	8.4	-1.1	13	1.3
650	30	3,775	4.7	-6.2	02	.6
600	30	4,424	1.2	-12.2	33	1.7
550	30	5,114	-2.9	-16.9	31	1.5
500	30	5,869	-7.1	-22.1	31	1.7
450	30	6,678	-12.4	-28.5	30	3.2
400	30	7,573	-18.6	-34.0	30	5.9
350	30	8,555	-25.4	-39.2	30	8.0
300	30	9,656	-33.5	-46.2	30	11.5
250	30	10,910	-42.9		30	15.8
200	30	12,380	-53.6		30	16.6
175	30	13,227	-59.1		30	15.6
150	30	14,179	-65.1		30	13.8
125	30	15,273	-71.0		31	9.0
100	30	16,584	-73.2		32	4.8
80	30	17,899	-69.9		04	4.2
70	30	18,703	-65.5		07	6.2
60	30	19,648	-62.2		09	7.0
50	30	20,783	-59.3		09	8.3
40	29	22,190	-56.3		08	10.0
30	29	24,033	-52.5		08	12.3
25	27	25,217	-50.0		09	13.9
20	27	26,686	-46.8		09	14.1
15	26	28,606	-43.7		08	13.2
10	22	31,362	-39.6		09	14.7
7	18	33,833	-34.5			

DENVER, COLO. 840 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,611	11.5	6.9	20	2.5
1000	30	116				
950	30	555				
900	30	1,019				
850	30	1,506				
800	30	2,019	15.7	2.0	26	2.5
750	30	2,561	13.0	-2.1	29	3.1
700	30	3,140	8.8	-5.7	30	3.0
650	30	3,744	3.9	-8.6	29	3.4
600	30	4,394	-1.0	-11.9	29	4.2
550	30	5,072	-6.0	-17.0	28	4.2
500	30	5,821	-10.9	-23.6	27	5.8
450	30	6,618	-16.5	-30.5	27	7.6
400	30	7,499	-22.9	-35.8	27	9.5
350	30	8,463	-30.4	-43.0	27	11.4
300	30	9,540	-39.0	-48.9	27	14.2
250	30	10,765	-48.2		27	17.3
200	30	12,211	-54.2		27	20.9
175	30	13,062	-57.0		27	20.8
150	30	14,029	-60.7		27	18.5
125	30	15,154	-64.2		27	15.0
100	30	16,511	-66.1		28	10.4
80	30	17,869	-63.9		28	4.7
70	30	18,690	-61.7		29	3.3
60	30	19,650	-59.3		31	1.8
50	30	20,797	-57.3		35	1.1
40	29	22,213	-54.8		36	1.0
30	29	24,066	-51.5		02	1.0
25	29	25,256	-49.1		06	.4
20	29	26,727	-46.8		36	.8
15	29	28,644	-44.3		03	2.0
10	28	31,376	-41.2		08	2.9
7	15	33,824	-37.5			

DODGE CITY, KANS. 926 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	791	16.2	14.6	18	2.6
1000	30	127				
950	30	571				
900	30	1,032	17.5	13.3	19	6.3
850	30	1,521	16.9	9.5	21	6.5
800	30	2,037	14.6	5.1	22	4.0
750	30	2,574	11.1	1.7	23	3.2
700	30	3,152	7.4	-2.7	23	2.3
650	30	3,753	3.4	-8.5	26	1.5
600	30	4,403	-1.0	-13.0	28	1.9
550	30	5,084	-5.2	-16.9	28	2.7
500	30	5,835	-9.6	-23.3	28	4.3
450	30	6,636	-15.1	-28.6	29	6.3
400	30	7,523	-21.6	-34.5	28	8.5
350	30	8,492	-29.1	-40.5	28	10.1
300	30	9,575	-37.6	-47.4	28	12.7
250	30	10,809	-46.6		28	16.0
200	30	12,260	-54.4		28	20.9
175	29	13,109	-57.7		28	20.6
150	29	14,074	-61.5		28	17.1
125	29	15,194	-65.3		28	13.2
100	29	16,543	-67.3		28	9.5
80	29	17,895	-65.1		29	4.9
70	28	18,713	-62.5		31	2.8
60	27	19,667	-59.8		01	1.2
50	27	20,813	-57.3		05	2.1
40	20	22,234	-54.4		07	2.0
30	16	24,090	-51.4		07	3.1
25	15	25,279	-49.8		09	3.5
20	13	26,748	-47.2		08	3.9
15	12	28,667	-44.5		07	5.7
10	12	31,402	-40.5		08	6.2
7	12	33,848	-37.7			

EL PASO, TEXAS 883 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,193	18.7	12.2	34	.8
1000	30	105				
950	30	555				
900	30	1,024				
850	30	1,519	19.7	9.3	13	1.8
800	30	2,040	16.9	6.7	17	2.5
750	30	2,585	13.4	3.7	20	2.6
700	30	3,165	9.1	.2	22	1.7
650	30	3,771	4.5	-3.4	27	1.0
600	30	4,422	.1	-9.1	26	2.1
550	30	5,107	-4.2	-15.8	26	2.4
500	30	5,862	-8.0	-22.5	27	4.0
450	30	6,669	-13.2	-29.1	26	5.3
400	30	7,562	-19.2	-35.2	26	7.0
350	30	8,541	-26.4	-40.6	27	9.1
300	30	9,638	-34.4	-46.6	27	13.1
250	30	10,890	-43.1		27	17.2
200	30	12,361	-53.3		27	20.1
175	30	13,210	-58.9		28	18.8
150	30	14,164	-64.6		28	16.1
125	30	15,262	-70.0		28	12.2
100	30	16,579	-72.4		29	6.7
80	30	17,900	-69.0		35	2.5
70	30	18,706	-65.4		06	3.8
60	30	19,654	-61.5		09	5.1
50	30	20,791	-59.1		09	6.3
40	30	22,198	-56.6		08	7.7
30	29	24,039	-52.9		08	10.3
25	29	25,222	-50.7		09	10.2
20	28	26,687	-47.8		09	10.8
15	23	28,602	-44.8		08	13.7
10	16	31,343	-40.0		08	13.8
7	10	33,828	-36.8			

ELY, NEV. 811 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,908	8.3	-.2	20	3.6
1000	30	132				
950	30	567				
900	30	1,030				
850	30	1,513				
800	30	2,019	12.2	2.0	19	3.8
750	30	2,556	12.7	-1.3	19	3.5
700	30	3,138	8.8	-4.6	23	4.7
650	30	3,738	4.1	-7.9	23	5.2
600	30	4,392	-1.1	-11.4	23	6.3
550	30	5,068	-6.1	-16.8	24	7.2
500	30	5,820	-10.9	-23.8	25	8.8
450	30	6,610	-16.7	-30.0	25	11.1
400	30	7,496	-23.2	-35.9	26	13.1
350	30	8,460	-30.5	-42.9	25	14.2
300	30	9,536	-39.1	-51.4	26	16.0
250	30	10,762	-47.8		26	18.9
200	30	12,212	-54.0		26	21.3
175	30	13,064	-57.1		26	21.4
150	30	14,032	-60.0		26	19.8
125	29	15,164	-63.3		26	14.8
100	29	16,526	-65.5		26	9.2
80	29	17,886	-63.8		26	5.1
70	29	18,708	-61.7		28	2.8
60	29	19,667	-59.4		31	1.3
50	29	20,815	-57.1		01	1.1
40	29	22,232	-55.2		03	1.1
30	2[illegible]	24,082	-51.7		05	1.7
25	29	25,270	-49.9		04	1.3
20	29	26,736	-47.7		07	1.3
15	29	28,644	-45.6		06	1.2
10	26	31,361	-42.7		09	1.2
7	7	33,791	-40.1			

EMPALME, MEXICO 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	12	25.3	20.0	05	1.3
1000	30	92	26.9	20.9	05	1.5
950	30	542	27.1	16.4	05	1.1
900	30	1,025	25.0	11.9	09	1.1
850	30	1,524	21.8	9.4	12	1.3
800	30	2,048	18.6	6.0	14	1.9
750	30	2,593	14.8	2.6	14	2.8
700	30	3,178	10.6	-.5	16	2.9
650	30	3,786	6.1	-4.0	18	3.0
600	30	4,442	1.9	-10.6	20	1.8
550	30	5,135	-2.3	-16.1	24	.8
500	30	5,890	-6.4	-20.9	28	1.2
450	30	6,699	-11.4	-26.7	28	2.2
400	30	7,600	-17.4	-32.0	26	3.4
350	30	8,587	-23.9	-38.2	26	5.6
300	30	9,694	-32.0	-45.6	26	8.2
250	30	10,955	-41.6		26	12.0
200	29	12,426	-53.3		26	14.2
175	29	13,273	-59.5		25	14.1
150	29	14,222	-66.0		25	12.8
125	28	15,313	-71.7		25	9.3
100	27	16,616	-74.9		26	3.5
80	26	17,928	-69.7		05	3.5
70	26	18,731	-65.6		08	5.2
60	24	19,675	-62.6		09	8.0
50	24	20,807	-59.2		09	9.2
40	22	22,214	-56.1		09	11.0
30	21	24,053	-53.1		09	13.6
25	19	25,234	-50.9		09	14.2
20	18	26,697	-47.2		09	14.2
15	14	28,612	-44.0		08	16.2
10						
7						
5						

* FAIRBANKS, ALASKA 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	135	4.7	-.7	02	2.0
1000	29	79				
950	29	503	7.7	-.7	08	3.3
900	29	945	5.8	-2.8	13	3.4
850	29	1,411	2.7	-4.6	14	2.4
800	29	1,898	-.7	-7.1	14	1.9
750	29	2,412	-4.2	-10.4	15	1.6
700	29	2,952	-7.2	-15.7	15	1.8
650	29	3,526	-10.5	-20.3	14	1.9
600	29	4,139	-14.2	-24.7	15	1.8
550	29	4,791	-18.8	-28.8	13	1.7
500	29	5,497	-23.9	-33.5	12	2.2
450	29	6,259	-29.4	-38.7	12	2.3
400	29	7,089	-35.7	-44.3	13	3.1
350	29	8,004	-42.7		16	3.3
300	29	9,026	-50.2		18	1.2
250	29	10,200	-55.3		22	1.0
200	29	11,638	-51.0		23	2.0
175	29	12,508	-50.4		26	2.9
150	29	13,514	-50.0		25	3.1
125	29	14,704	-50.6		26	3.9
100	29	16,157	-50.9		26	3.5
80	29	17,608	-51.4		27	3.8
70	29	18,474	-51.8		27	4.0
60	29	19,473	-52.3		28	4.3
50	29	20,650	-52.9		28	4.2
40	29	22,088	-53.2		29	5.3
30	29	23,940	-53.7		29	5.8
25	29	25,112	-53.6		30	6.0
20	28	26,591	-53.2		30	6.7
15	27	28,409	-52.0		30	7.0
10	20	31,088	-49.3		[illegible]0	8.4
7	10	33,448	-46.0			
5	5	35,646	-43.5			

FLINT, MICH. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	236	12.4	10.6	30	.7
1000	30	159				
950	30	588	13.7	8.6	26	3.2
900	30	1,046	11.3	6.7	28	4.4
850	30	1,521	8.4	2.3	28	4.9
800	30	2,021	6.3	-4.3	28	6.5
750	30	2,547	4.4	-9.1	28	7.4
700	30	3,108	2.1	-12.0	27	8.2
650	30	3,702	-.8	-15.8	28	8.9
600	30	4,339	-4.6	-20.3	28	9.8
550	30	5,012	-8.7	-23.7	28	10.8
500	30	5,752	-13.4	-27.3	27	11.6
450	30	6,538	-18.9	-32.1	27	13.1
400	30	7,412	-25.3	-38.7	27	14.3
350	30	8,368	-32.4	-44.6	27	17.2
300	30	9,437	-40.4	-49.7	27	18.8
250	30	10,657	-48.8		27	21.4
200	30	12,102	-54.3		27	21.7
175	30	12,956	-55.6		27	20.3
150	30	13,933	-57.8		27	19.6
125	30	15,077	-60.2		28	17.1
100	30	16,465	-61.1		28	12.5
80	30	17,855	-59.6		28	8.8
70	30	18,693	-58.4		28	6.0
60	30	19,666	-56.9		28	4.1
50	30	20,825	-55.2		29	3.1
40	30	22,256	-53.3		28	2.8
30	30	24,120	-50.2		26	2.8
25	30	25,317	-48.1		27	2.9
20	28	26,788	-46.0		26	3.1
15	26	28,711	-43.6		27	2.5
10	23	31,462	-40.1		27	2.3
7	12	33,895	-36.8			

FORT WORTH, TEXAS 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	180	20.4	18.4	15	.8
1000	30	135				
950	30	583	21.0	15.2	17	3.8
900	30	1,047	19.0	12.7	19	3.3
850	30	1,537	16.4	8.9	22	2.6
800	30	2,051	13.3	6.0	24	2.3
750	30	2,590	10.1	1.4	25	1.9
700	30	3,162	6.6	-2.4	25	1.7
650	30	3,767	3.3	-7.0	24	1.8
600	30	4,413	.0	-12.3	25	2.2
550	30	5,100	-3.7	-17.4	26	2.1
500	30	5,852	-8.3	-22.5	28	4.1
450	30	6,661	-13.7	-27.3	29	5.3
400	30	7,548	-19.9	-33.1	29	6.9
350	30	8,524	-27.3	-39.4	29	8.7
300	30	9,616	-35.4	-47.3	29	10.5
250	30	10,862	-44.2		30	14.6
200	29	12,324	-53.9		30	17.0
175	29	13,173	-58.5		30	15.7
150	29	14,131	-63.4		30	14.5
125	29	15,239	-67.6		31	10.2
100	29	16,572	-70.1		31	6.1
80	28	17,906	-67.0		35	2.5
70	28	18,717	-63.9		06	2.6
60	28	19,668	-60.7		09	3.9
50	28	20,809	-57.9		09	5.1
40	28	22,224	-55.2		08	6.5
30	27	24,074	-51.6		08	8.9
25	27	25,263	-49.2		09	9.9
20	27	26,733	-46.7		09	9.7
15	26	28,659	-44.0		08	10.1
10	24	31,401	-40.1		09	9.3
7	13	33,836	-36.3			

GLASGOW, MONT. 933 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	696	10.8	2.9	09	1.8
1000	30	114				
950	30	550				
900	30	1,001	14.4	2.3	19	2.7
850	30	1,483	13.2	-.4	25	4.3
800	30	1,991	10.3	-2.9	26	5.2
750	30	2,522	6.6	-5.9	27	6.9
700	30	3,088	2.5	-7.7	27	8.6
650	30	3,679	-1.5	-12.3	27	10.4
600	30	4,316	-5.7	-15.0	27	11.8
550	30	4,986	-10.3	-20.1	27	13.3
500	30	5,721	-15.0	-25.4	27	14.0
450	30	6,505	-20.2	-32.5	27	16.0
400	30	7,372	-26.7	-38.8	27	16.5
350	30	8,322	-34.0	-45.4	27	19.2
300	30	9,382	-42.5		27	21.9
250	30	10,590	-50.7		27	22.7
200	30	12,025	-55.1		27	23.0
175	30	12,878	-55.5		27	22.6
150	30	13,859	-56.0		27	20.6
125	30	15,014	-57.9		27	17.2
100	30	16,417	-58.4		28	13.4
80	30	17,821	-57.8		28	9.5
70	30	18,665	-57.0		29	7.2
60	30	19,541	-56.7		29	5.4
50	30	20,798	-56.0		29	3.9
40	30	22,220	-54.9		29	3.1
30	30	24,065	-53.0		29	4.6
25	30	25,246	-51.0		30	5.6
20	28	26,697	-49.0		28	5.6
15	26	28,606	-46.1		28	7.8
10	15	31,341	-41.0		28	11.2

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1969

GRAND JUNCTION, COLO. 854 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,472	14.9	4.8	13	4.1
1000	30	108				
950	30	551				
900	30	1,018				
850	30	1,509	15.6	4.4	13	4.1
800	30	2,025	15.7	2.5	15	4.9
750	30	2,565	12.9	-.2	21	3.2
700	30	3,147	8.7	-2.4	25	4.5
650	30	3,748	4.0	-5.4	26	5.5
600	30	4,401	-1.0	-9.9	27	5.8
550	30	5,078	-6.0	-16.5	27	6.5
500	30	5,828	-10.9	-21.7	26	6.7
450	30	6,624	-16.0	-29.3	26	8.6
400	30	7,508	-22.5	-34.6	26	9.8
350	30	8,474	-29.9	-41.9	26	11.4
300	30	9,553	-38.5	-48.8	27	14.4
250	30	10,781	-47.4		27	17.2
200	30	12,230	-54.3		27	20.0
175	30	13,081	-57.0		27	20.1
150	30	14,049	-60.5		27	18.3
125	30	15,173	-64.6		27	15.0
100	29	16,525	-66.8		27	9.9
80	27	17,881	-64.2		28	5.2
70	27	18,702	-61.8		28	3.6
60	27	19,661	-59.6		29	1.7
50	27	20,806	-57.4		33	1.4
40	25	22,225	-55.1		35	1.2
30	25	24,077	-51.7		05	1.2
25	24	25,263	-49.8		06	1.7
20	23	26,731	-47.6		06	1.9
15	22	28,641	-45.5		08	2.0
10	6	31,356	-42.2			
7						
5						
4						

* GREAT FALLS, MONT. 887 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,118	11.1	1.3	23	3.5
1000	30	103				
950	30	542				
900	30	1,005				
850	30	1,479	13.5	-1.0	23	6.3
800	30	1,987	10.5	-3.0	24	5.7
750	30	2,521	6.6	-5.4	25	5.9
700	30	3,084	2.6	-8.2	26	7.9
650	30	3,676	-1.4	-11.9	26	10.5
600	30	4,312	-5.5	-16.1	26	12.6
550	30	4,984	-10.1	-20.2	26	13.4
500	30	5,718	-15.1	-25.1	26	14.5
450	30	6,500	-20.3	-31.2	26	16.1
400	30	7,370	-26.4	-36.9	26	18.2
350	30	8,321	-33.7	-43.8	26	19.5
300	30	9,383	-42.2		26	21.4
250	30	10,591	-50.9		26	22.8
200	30	12,026	-55.6		26	23.7
175	30	12,878	-55.1		26	22.0
150	30	13,860	-55.8		26	19.4
125	30	15,015	-57.8		26	16.3
100	30	16,418	-58.9		26	12.1
80	30	17,821	-57.7		27	8.8
70	30	18,665	-57.3		27	5.9
60	30	19,639	-56.9		28	4.9
50	30	20,796	-55.9		28	3.6
40	30	22,219	-54.9		28	3.9
30	30	24,064	-53.2		28	4.8
25	30	25,243	-51.3		28	6.5
20	29	26,708	-48.6		28	7.6
15	26	28,616	-45.6		27	7.8
10	19	31,349	-41.6		28	9.1
7	16	33,785	-36.9		26	8.4
5	9	36,128	-32.9			
4	5	37,785	-29.0			

GREEN BAY, WIS. 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	210	10.1	8.1	32	.7
1000	30	152				
950	30	584	13.0	8.2	28	2.6
900	30	1,035	10.3	4.5	29	3.4
850	30	1,510	8.2	-.2	29	4.3
800	30	2,009	6.3	-4.4	29	5.6
750	30	2,532	4.2	-8.3	29	6.8
700	30	3,095	1.3	-10.8	29	8.0
650	30	3,684	-1.7	-14.8	29	10.2
600	30	4,322	-5.2	-19.0	29	10.7
550	30	4,990	-9.3	-23.6	28	11.0
500	30	5,732	-14.2	-28.5	28	12.1
450	30	6,514	-19.7	-33.4	28	12.9
400	30	7,386	-26.0	-39.0	28	15.0
350	30	8,340	-33.1	-44.9	28	16.8
300	30	9,406	-41.1	-51.1	28	18.6
250	30	10,623	-49.3		28	21.1
200	29	12,067	-54.3		28	21.0
175	29	12,920	-55.4		28	20.8
150	29	13,900	-56.9		28	19.1
125	29	15,049	-59.2		28	16.2
100	29	16,443	-60.1		28	13.2
80	29	17,840	-58.7		29	9.3
70	29	18,680	-57.7		29	7.3
60	29	19,655	-56.7		29	5.6
50	29	20,815	-55.2		29	4.3
40	29	22,245	-53.2		29	3.3
30	28	24,111	-51.0		28	3.4
25	28	25,303	-48.9		27	4.6
20	27	26,774	-46.7		27	5.0
15	25	28,689	-44.2		27	6.2
10	19	31,419	-39.8		27	6.8
7	12	33,839	-37.2			
5						
4						

GREENSBORO, N. C. 988 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	273	15.8	13.4	02	.6
1000	30	166				
950	30	602	17.3	13.0	02	1.5
900	30	1,065	14.9	10.1	04	.7
850	30	1,548	12.8	7.1	24	.9
800	30	2,056	10.5	3.2	25	1.8
750	30	2,587	8.5	-2.4	25	3.3
700	30	3,160	5.5	-6.5	25	4.3
650	30	3,761	2.4	-11.3	26	5.3
600	30	4,406	-.9	-16.1	26	6.1
550	30	5,092	-4.7	-19.7	27	6.6
500	30	5,840	-9.5	-24.6	27	7.3
450	30	6,643	-15.0	-29.4	27	8.1
400	30	7,526	-21.2	-35.0	27	9.0
350	30	8,498	-28.2	-41.5	27	10.9
300	30	9,586	-36.5	-48.3	27	12.6
250	30	10,825	-45.5		26	15.2
200	30	12,283	-54.7		26	16.2
175	30	13,129	-58.7		26	15.9
150	30	14,089	-62.3		27	13.6
125	30	15,207	-64.9		27	10.4
100	30	16,562	-66.1		27	7.1
80	30	17,922	-63.2		28	2.4
70	30	18,747	-60.8		29	1.4
60	29	19,710	-58.5		07	.4
50	27	20,863	-56.4		09	2.6
40	27	22,288	-53.6		09	4.3
30	26	24,152	-50.3		09	6.1
25	26	25,347	-48.1		09	6.9
20	26	26,822	-46.5		09	7.0
15	25	28,739	-44.3		09	6.2
10	18	31,469	-40.4		08	7.7
7	10	33,869	-37.2			
5						
4						

* GUAM, MARIANA IS. 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	111	25.1	24.2	11	1.1
1000	30	82				
950	30	533	24.5	22.8	12	4.4
900	30	1,008	21.8	18.9	12	4.3
850	30	1,504	19.0	15.7	12	3.4
800	30	2,024	16.2	12.1	12	4.1
750	30	2,573	13.6	7.7	12	4.4
700	30	3,151	10.6	3.0	11	4.3
650	30	3,763	7.0	.0	11	4.4
600	30	4,419	3.0	-3.9	11	4.6
550	30	5,114	-1.1	-8.9	10	4.0
500	30	5,873	-5.3	-12.3	11	3.8
450	30	6,690	-9.9	-20.2	10	4.1
400	30	7,594	-15.5	-26.4	10	3.8
350	30	8,587	-22.3	-32.2	09	3.6
300	30	9,701	-30.5	-40.3	09	3.7
250	30	10,968	-40.8	-49.4	08	4.1
200	29	12,444	-53.3		06	3.4
175	29	13,288	-60.6		06	4.0
150	29	14,229	-68.3		06	6.3
125	29	15,301	-76.0		07	8.9
100	26	16,572	-80.1		07	11.9
80	25	17,857	-73.1		09	12.2
70	25	18,647	-69.1		09	10.9
60	25	19,578	-65.7		09	9.9
50	25	20,694	-62.2		09	9.0
40	24	22,084	-58.5		09	10.0
30	24	23,910	-54.6		09	10.7
25	24	25,084	-52.1		09	11.4
20	24	26,537	-50.1		08	12.7
15	22	28,426	-46.5		09	16.5
10	21	31,146	-42.1		08	23.4
7	19	33,578	-38.3		09	31.3
5	8	35,897	-35.3			
4	5	37,473	-32.2			

HILO, HAWAII 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	11	21.8	19.4	24	1.8
1000	30	138	22.2	18.8	26	1.1
950	30	585	19.3	16.7	07	2.4
900	30	1,047	16.0	14.4	07	4.2
850	30	1,532	13.2	11.5	07	4.3
800	30	2,042	11.1	7.0	08	4.0
750	30	2,584	9.6	-3.4	09	4.0
700	30	3,151	9.0	-10.1	09	3.6
650	30	3,762	6.3	-13.8	09	3.0
600	30	4,415	2.8	-17.6	09	2.8
550	30	5,112	-.4	-21.9	09	2.5
500	30	5,871	-5.0	-25.3	10	1.4
450	30	6,686	-10.9	-29.9	19	1.8
400	30	7,584	-17.8	-34.2	23	3.1
350	30	8,568	-25.3	-39.6	23	5.5
300	30	9,669	-33.9	-47.5	25	8.7
250	30	10,920	-43.9		26	13.2
200	30	12,380	-55.7		26	18.2
175	30	13,219	-61.9		26	19.5
150	30	14,160	-67.2		26	16.9
125	30	15,251	-70.6		25	10.8
100	30	16,561	-73.9		20	3.6
80	29	17,872	-69.9		09	5.6
70	29	18,672	-67.5		09	7.8
60	29	19,607	-64.3		09	9.6
50	29	20,731	-60.8		09	12.0
40	29	22,130	-57.6		09	12.8
30	29	23,961	-53.8		09	14.3
25	29	25,138	-51.4		09	15.5
20	27	26,595	-48.9		09	16.7
15	25	28,501	-45.0		09	19.7
10	24	31,241	-39.8		09	22.7
7	7	33,680	-36.7			
5						
4						

HUNTINGTON W. VA. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	246	14.1	13.0	14	.9
1000	30	167				
950	30	605	16.0	11.9	25	1.8
900	30	1,062	14.0	9.5	27	2.3
850	30	1,543	11.2	6.8	28	3.1
800	30	2,048	9.4	1.0	28	3.6
750	30	2,580	7.2	-3.5	27	4.6
700	30	3,147	4.6	-8.1	27	4.9
650	30	3,746	1.7	-12.0	27	5.2
600	30	4,390	-1.9	-16.1	27	7.0
550	30	5,068	-5.9	-19.7	26	7.8
500	30	5,817	-10.7	-24.3	27	9.3
450	30	6,615	-16.0	-29.8	27	9.6
400	30	7,497	-22.4	-35.0	26	10.4
350	30	8,464	-29.4	-41.8	27	11.9
300	30	9,546	-37.9	-47.6	27	13.6
250	30	10,778	-46.7		27	17.3
200	30	12,231	-54.9		27	17.9
175	30	13,079	-58.0		27	17.0
150	30	14,044	-60.7		27	15.7
125	29	15,170	-63.5		27	12.7
100	29	16,535	-64.1		28	9.8
80	29	17,907	-61.9		29	5.4
70	28	18,736	-60.0		29	3.2
60	28	19,704	-57.6		29	1.5
50	28	20,860	-55.4		04	.7
40	25	22,287	-52.9		08	1.8
30	24	24,157	-50.0		08	2.1
25	23	25,352	-48.1		09	2.8
20	22	26,827	-45.8		09	4.2
15	20	28,760	-43.3		09	4.0
10	17	31,514	-39.9		08	5.4
7	5	33,940	-36.0			
5						
4						

* INTERNATIONAL FALLS, MINN. 974 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	360	8.5	7.2	19	1.2
1000	30	137				
950	30	563	10.7	7.9	21	3.0
900	30	1,014	9.5	5.2	24	5.2
850	30	1,487	7.0	2.4	27	5.8
800	30	1,984	5.0	-3.2	27	6.3
750	30	2,504	2.7	-6.9	29	7.4
700	30	3,064	-.1	-10.6	29	8.3
650	30	3,644	-3.4	-14.6	29	10.0
600	30	4,283	-6.9	-17.1	29	11.0
550	30	4,946	-10.7	-22.4	29	12.5
500	30	5,685	-15.4	-27.6	29	14.7
450	30	6,462	-20.9	-32.6	29	15.0
400	30	7,333	-27.3	-38.4	29	16.1
350	30	8,281	-34.5	-44.8	28	17.2
300	30	9,340	-42.5	-51.5	29	19.3
250	29	10,552	-50.5		29	21.6
200	29	11,990	-54.8		29	22.8
175	29	12,843	-55.1		29	21.8
150	29	13,826	-55.9		29	20.6
125	29	14,983	-57.1		29	19.1
100	28	16,391	-57.7		28	15.1
80	27	17,804	-56.9		29	10.4
70	26	18,651	-56.3		29	8.6
60	26	19,631	-55.6		29	7.3
50	26	20,794	-54.7		29	6.2
40	26	22,224	-53.5		30	4.8
30	26	24,082	-51.3		28	5.1
25	26	25,269	-49.9		27	5.7
20	26	26,734	-47.9		27	7.5
15	23	28,638	-44.8		27	9.2
10	20	31,392	-39.7		27	11.0
7	19	33,860	-35.7		27	12.8
5	12	36,205	-31.9			
4	7	37,835	-30.1			

JACKSON, MISS. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	100	17.6	16.5	09	.9
1000	30	140	19.1	16.8	09	1.2
950	30	586	19.8	14.1	09	2.1
900	30	1,048	17.0	10.6	05	1.4
850	30	1,535	15.0	5.5	01	1.6
800	30	2,046	12.7	-.9	01	1.7
750	30	2,586	10.0	-3.7	01	1.7
700	30	3,156	7.3	-7.6	36	1.5
650	30	3,760	4.0	-11.9	34	1.8
600	30	4,409	.3	-16.5	32	2.2
550	30	5,096	-3.8	-20.9	30	2.9
500	30	5,849	-8.5	-25.0	29	3.5
450	30	6,656	-14.1	-29.4	29	4.1
400	30	7,543	-20.4	-34.2	30	5.5
350	30	8,517	-27.6	-40.8	31	6.7
300	30	9,607	-35.9	-48.8	30	7.6
250	30	10,848	-45.1		30	9.6
200	30	12,307	-54.3		30	11.1
175	30	13,154	-58.6		30	10.5
150	30	14,113	-63.0		30	9.9
125	30	15,222	-67.1		30	7.6
100	30	16,559	-69.2		31	4.9
80	30	17,900	-66.2		01	2.3
70	30	18,713	-63.9		06	2.6
60	30	19,665	-60.6		08	4.1
50	30	20,807	-58.0		09	5.4
40	30	22,224	-55.1		09	7.0
30	30	24,074	-51.8		08	9.3
25	29	25,263	-49.5		09	11.2
20	28	26,735	-46.5		09	11.3
15	24	28,656	-43.8		08	10.1
10	11	31,409	-40.5			
7						
5						
4						

JOHNSTON IS., PACIFIC AREA 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	26.8	23.1	09	5.9
1000	30	113	25.8	22.5	09	7.0
950	30	565	22.2	20.1	09	8.4
900	30	1,033	19.3	16.1	09	8.9
850	30	1,524	16.5	12.6	09	8.0
800	30	2,039	14.0	8.9	09	6.4
750	30	2,585	11.8	2.2	09	5.2
700	30	3,158	8.7	-1.2	10	4.2
650	30	3,768	5.5	-5.7	11	3.4
600	30	4,419	2.3	-11.1	11	1.8
550	30	5,111	-1.8	-15.7	15	.9
500	30	5,870	-6.1	-21.0	20	1.3
450	30	6,686	-11.5	-24.9	23	3.4
400	30	7,581	-17.4	-31.7	25	5.8
350	30	8,568	-24.5	-36.9	26	9.2
300	30	9,671	-32.9	-43.7	26	12.5
250	30	10,928	-42.7		26	15.9
200	30	12,395	-54.7		26	19.0
175	30	13,237	-61.3		27	19.7
150	30	14,178	-67.9		27	19.5
125	30	15,261	-72.4		26	14.9
100	30	16,566	-73.9		23	4.2
80	30	17,875	-71.0		10	5.7
70	30	18,670	-68.2		09	7.8
60	30	19,601	-65.1		09	9.1
50	30	20,720	-61.9		09	10.4
40	30	22,110	-58.8		09	11.8
30	30	23,932	-54.9		09	13.2
25	27	25,102	-52.4		09	14.2
20	26	26,554	-49.4		09	16.3
15	24	28,457	-45.6		09	19.6
10	21	31,186	-40.7		09	25.4
7	12	33,631	-38.3			
5	5	35,922	-36.6			
4						

KEY WEST, FLA. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	26	3	26.8	24.0	12	1.4
1000	26	110	26.6	23.7	11	2.6
950	26	558	23.4	20.8	13	3.8
900	26	1,034	20.6	17.0	14	3.8
850	26	1,527	17.8	13.4	13	3.1
800	26	2,044	15.0	9.4	14	2.3
750	26	2,582	12.1	4.8	17	2.2
700	26	3,165	8.9	.9	17	2.2
650	26	3,768	5.4	-3.7	18	2.1
600	26	4,426	1.4	-7.2	21	1.4
550	26	5,112	-2.4	-11.6	22	2.0
500	26	5,874	-6.8	-17.7	22	1.7
450	26	6,682	-11.7	-23.4	22	2.3
400	26	7,583	-17.6	-28.6	23	2.8
350	26	8,569	-24.6	-33.8	23	3.5
300	26	9,672	-33.1	-43.1	23	4.6
250	26	10,926	-43.5		24	5.6
200	26	12,387	-55.6		25	7.5
175	26	13,225	-61.6		25	7.3
150	26	14,168	-67.2		26	6.5
125	26	15,255	-71.5		31	3.4
100	26	16,568	-71.8		03	3.5
80	26	17,898	-67.3		07	5.4
70	26	18,706	-64.9		08	7.2
60	26	19,652	-61.8		09	10.0
50	26	20,788	-59.0		09	11.6
40	25	22,200	-55.7		09	12.9
30	24	24,048	-52.2		09	14.6
25	24	25,234	-50.0		09	15.9
20	20	26,708	-46.6		09	15.8
15	17	28,637	-42.8		08	17.6
10	16	31,404	-38.3		09	20.1
7	10	33,868	-34.3			

KING SALMON, ALASKA 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	15	6.1	3.2	10	2.6
1000	30	35			11	2.4
950	30	459	8.1	2.7	13	5.1
900	30	904	5.3	.5	14	4.6
850	30	1,368	2.1	-1.5	15	4.2
800	30	1,855	-.9	-5.0	13	4.0
750	30	2,370	-3.9	-10.0	13	3.8
700	30	2,910	-7.0	-14.1	14	3.7
650	30	3,485	-10.5	-17.9	13	3.6
600	30	4,097	-14.2	-22.0	13	3.3
550	30	4,749	-18.3	-27.8	13	3.0
500	30	5,458	-23.0	-32.7	13	2.5
450	30	6,221	-28.4	-38.6	15	2.5
400	30	7,059	-33.9	-42.7	19	1.7
350	30	7,983	-40.0	-46.4	25	2.3
300	30	9,021	-46.7		26	3.9
250	30	10,217	-50.7		26	6.2
200	30	11,673	-49.6		27	7.5
175	30	12,549	-48.9		27	7.9
150	30	13,560	-49.3		27	7.2
125	30	14,754	-50.1		27	6.9
100	30	16,213	-50.4		27	6.0
80	30	17,666	-50.8		27	5.4
70	30	18,535	-51.1		27	4.8
60	30	19,537	-51.3		27	4.5
50	30	20,719	-51.8		27	4.7
40	30	22,165	-52.1		27	4.8
30	28	24,023	-52.0		28	5.4
25	28	25,205	-51.7		29	5.9
20	26	26,649	-51.2		29	7.1
15	24	28,518	-50.1		30	6.8
10	15	31,208	-47.7			
7						

* KOROR, CAROLINE IS. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	30	27.8	24.6	26	2.5
1000	30	87	27.1	23.6	26	2.9
950	30	535	23.7	19.7	26	5.6
900	30	1,011	21.0	15.9	26	7.7
850	30	1,505	18.5	12.9	27	7.4
800	30	2,024	15.7	9.8	27	6.7
750	30	2,564	12.8	6.6	27	5.9
700	30	3,147	9.8	3.3	27	5.1
650	30	3,755	6.2	-.4	27	3.7
600	30	4,411	2.3	-3.6	28	1.3
550	30	5,105	-1.2	-7.3	28	.7
500	30	5,865	-5.1	-12.8	08	.5
450	30	6,684	-9.8	-19.3	10	2.1
400	30	7,588	-15.2	-25.5	11	4.4
350	30	8,583	-21.8	-32.8	10	6.0
300	29	9,698	-30.2	-41.8	08	8.2
250	29	10,968	-40.6	-51.2	07	10.2
200	29	12,446	-53.2		07	13.2
175	29	13,292	-60.4		06	16.3
150	29	14,235	-68.0		06	17.8
125	29	15,310	-74.8		07	19.6
100	29	16,597	-76.2		08	12.8
80	29	17,905	-69.6		08	6.3
70	29	18,707	-66.2		07	4.9
60	29	19,646	-63.8		08	3.5
50	29	20,771	-60.7		09	4.1
40	29	22,171	-56.9		10	4.9
30	28	24,009	-53.1		10	6.0
25	27	25,186	-50.3		10	5.2
20	25	26,650	-47.9		10	6.7
15	22	28,568	-44.8		11	8.7
10	18	31,293	-40.8		10	14.5
7	9	33,730	-37.3			

KOTZEBUE, ALASKA 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	22	5	6.6	3.3	06	1.6
1000	22	86	7.7	2.5	09	1.5
950	22	507	6.9	-.1	14	2.7
900	22	952	4.4	-1.6	14	2.9
850	22	1,415	1.3	-4.4	15	3.9
800	22	1,900	-1.6	-9.1	14	4.4
750	22	2,409	-4.1	-13.5	14	4.3
700	22	2,954	-7.1	-17.5	14	4.8
650	22	3,519	-10.7	-20.9	14	3.7
600	22	4,139	-14.7	-25.2	14	4.3
550	22	4,788	-19.2	-28.5	14	4.2
500	22	5,495	-24.1	-33.0	14	3.4
450	22	6,249	-29.7	-38.7	15	3.6
400	22	7,085	-35.8	-44.6	15	3.6
350	22	7,999	-42.7	-48.5	15	3.5
300	22	9,023	-49.7		16	1.9
250	21	10,208	-53.7		03	1.0
200	21	11,651	-50.7		30	1.4
175	21	12,523	-49.6		26	1.2
150	21	13,532	-49.6		28	1.5
125	21	14,724	-49.7		27	1.9
100	21	16,183	-49.6		27	2.2
80	21	17,641	-50.2		28	2.9
70	21	18,511	-50.5		28	2.4
60	21	19,515	-50.7		27	2.5
50	21	20,701	-51.0		28	3.4
40	21	22,150	-51.6		28	4.0
30	21	24,013	-51.9		29	5.3
25	16	25,192	-51.3		29	6.2
20	15	26,671	-50.3		30	6.7
15	14	28,586	-49.1		30	6.9
10	11	31,248	-46.5			
7						

KWAJALEIN, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	27.4	24.3	09	2.2
1000	30	93	26.9	24.1	09	2.7
950	30	547	23.8	21.8	09	4.1
900	30	1,019	21.0	18.5	10	4.1
850	30	1,514	18.4	15.4	10	3.8
800	30	2,033	15.7	12.4	10	4.1
750	30	2,580	13.2	8.5	09	4.4
700	30	3,158	10.2	4.4	09	4.7
650	30	3,773	6.9	.6	09	4.8
600	30	4,427	3.1	-3.7	09	5.5
550	30	5,128	-1.0	-6.4	09	6.0
500	30	5,883	-5.3	-11.9	09	5.9
450	30	6,704	-10.0	-17.4	10	4.9
400	30	7,603	-15.7	-23.2	10	4.6
350	30	8,598	-22.6	-31.2	11	3.8
300	30	9,711	-30.8	-39.6	12	3.2
250	30	10,978	-41.2	-50.2	13	2.7
200	30	12,452	-53.8	-61.9	13	2.1
175	30	13,295	-61.1		17	1.2
150	30	14,235	-68.6		20	1.2
125	29	15,308	-76.0		18	2.5
100	25	16,584	-79.1		10	4.5
80	24	17,883	-70.6		11	3.8
70	24	18,682	-67.6		10	2.8
60	23	19,616	-65.2		09	2.5
50	23	20,735	-62.2		08	4.2
40	22	22,127	-58.6		09	4.8
30	22	23,953	-54.4		07	5.9
25	22	25,128	-51.9		07	7.5
20	21	26,571	-49.1		10	10.8
15	18	28,478	-45.7		09	10.6
10	13	31,182	-42.4		09	18.9
7	10	33,600	-38.2			

* See reference note at end of table

LAKE CHARLES, LA. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	19.6	18.2	05	2.0
1000	30	131	22.1	18.6	07	3.3
950	30	578	21.2	15.8	11	3.0
900	30	1,046	18.4	12.1	11	2.0
850	30	1,535	15.9	6.5	06	1.6
800	30	2,048	13.5	1.4	04	2.3
750	30	2,588	10.7	-1.9	03	2.7
700	30	3,161	7.4	-5.0	02	2.3
650	30	3,767	4.2	-8.7	01	1.6
600	30	4,416	.4	-11.7	36	1.4
550	30	5,104	-3.6	-16.6	32	1.2
500	30	5,856	-8.2	-20.8	31	2.1
450	30	6,666	-13.5	-27.0	32	3.5
400	30	7,554	-19.6	-33.5	32	4.8
350	30	8,531	-26.8	-40.5	32	7.1
300	30	9,624	-35.2	-47.6	31	8.3
250	30	10,870	-44.2		30	10.3
200	30	12,333	-53.9		31	12.7
175	30	13,182	-58.5		32	12.9
150	30	14,139	-63.7		31	11.2
125	30	15,244	-68.4		31	8.4
100	30	16,573	-70.5		33	4.9
80	30	17,905	-67.4		03	3.8
70	30	18,714	-64.7		07	4.8
60	30	19,664	-61.1		09	6.5
50	29	20,805	-58.3		09	7.2
40	29	22,219	-55.4		08	9.7
30	28	24,069	-51.9		09	12.0
25	28	25,257	-49.5		09	13.2
20	27	26,728	-46.9		09	13.2
15	26	28,651	-42.9		08	12.9
10	25	31,405	-39.3		09	13.9
7	11	33,872	-35.1			
5						

LANDER, WYO. 830 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,696	11.9	-.1	25	2.0
1000	30	104				
950	30	543				
900	30	1,006				
850	30	1,497				
800	30	2,009	14.4	-2.0	28	2.3
750	30	2,547	11.7	-4.9	27	3.1
700	30	3,124	7.6	-7.7	27	5.3
650	30	3,725	2.9	-11.1	26	8.1
600	30	4,373	-2.1	-14.9	26	10.2
550	30	5,051	-7.0	-19.9	27	11.3
500	30	5,796	-11.9	-25.0	26	11.2
450	30	6,586	-17.7	-29.7	26	11.5
400	30	7,467	-24.2	-35.8	26	12.4
350	30	8,425	-31.8	-42.4	26	14.5
300	30	9,495	-40.5	-48.9	26	16.2
250	30	10,712	-49.6		26	20.6
200	30	12,149	-55.4		26	22.7
175	30	12,998	-57.0		27	22.8
150	30	13,969	-59.0		27	21.3
125	30	15,105	-61.5		27	16.0
100	30	16,480	-63.5		27	10.8
80	30	17,855	-61.4		27	6.4
70	29	18,682	-60.3		28	4.5
60	29	19,645	-58.7		28	2.7
50	28	20,789	-57.4		29	1.7
40	27	22,199	-55.6		30	2.6
30	19	24,033	-52.5		29	3.4
25	18	25,214	-50.6		28	3.8
20	17	26,675	-48.3		27	5.4
15	16	28,586	-45.9		27	5.8
10	14	31,291	-41.9		27	6.8
7	7	33,695	-38.9			
5						

* LIHUE KAUAI, HAWAII 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	36	24.7	20.5	06	5.6
1000	30	147	23.7	19.5	06	6.6
950	30	591	19.8	17.8	07	8.3
900	30	1,059	16.6	14.4	07	8.6
850	30	1,545	13.7	11.2	08	8.5
800	30	2,054	11.2	4.9	08	7.7
750	30	2,593	10.1	-5.7	09	6.8
700	30	3,164	8.6	-12.1	08	4.2
650	30	3,774	5.8	-15.8	09	3.6
600	30	4,425	2.4	-19.9	10	3.0
550	30	5,115	-1.5	-23.8	13	2.0
500	30	5,876	-6.4	-26.7	20	2.1
450	30	6,685	-12.3	-30.6	21	4.1
400	30	7,579	-19.0	-35.8	23	6.0
350	30	8,559	-26.5	-41.1	24	9.6
300	30	9,653	-35.0	-48.2	25	13.0
250	30	10,899	-44.8		25	17.7
200	29	12,353	-56.0		26	21.8
175	29	13,191	-61.4		26	21.5
150	29	14,136	-66.0		26	17.6
125	29	15,234	-68.9		25	11.3
100	29	16,559	-71.7		23	3.7
80	29	17,881	-69.7		10	4.3
70	29	18,681	-67.4		09	7.3
60	29	19,617	-64.5		09	9.8
50	29	20,740	-61.4		09	12.0
40	29	22,134	-58.0		09	13.9
30	29	23,963	-54.4		09	15.3
25	29	25,137	-52.0		09	16.0
20	29	26,593	-49.0		09	17.6
15	29	28,493	-45.9		09	18.8
10	27	31,220	-41.3		09	21.5
7	19	33,665	-36.8		09	22.5
5	11	36,018	-34.1			

LITTLE ROCK, ARK. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	79	17.6	15.9	01	.4
1000	30	146	18.4	15.5	04	.7
950	30	591	19.0	13.1	19	1.3
900	30	1,052	16.9	11.4	21	1.8
850	30	1,539	14.0	8.9	25	1.4
800	30	2,049	11.8	3.4	29	1.7
750	30	2,589	9.5	-2.6	31	2.1
700	30	3,158	6.7	-7.9	32	2.2
650	30	3,762	3.2	-11.3	32	2.9
600	30	4,408	-.7	-14.7	30	4.0
550	30	5,094	-4.7	-18.8	29	4.7
500	30	5,842	-9.1	-24.6	29	4.9
450	30	6,645	-14.7	-29.0	28	5.3
400	30	7,532	-21.1	-34.8	29	6.6
350	30	8,504	-28.3	-41.6	28	8.1
300	30	9,591	-36.7	-48.1	29	10.0
250	30	10,829	-45.5		29	12.9
200	30	12,289	-54.0		30	15.2
175	30	13,139	-57.6		30	15.0
150	30	14,103	-61.6		30	12.7
125	29	15,220	-65.9		30	10.2
100	29	16,565	-67.4		30	6.7
80	28	17,917	-64.8		32	3.3
70	28	18,737	-62.4		02	2.0
60	28	19,694	-59.5		08	2.7
50	28	20,843	-56.9		08	3.4
40	28	22,265	-54.2		08	4.6
30	28	24,124	-51.0		09	6.0
25	28	25,315	-49.0		09	7.3
20	26	26,786	-46.3		09	7.5
15	16	28,709	-43.9		08	7.5
10	10	31,454	-40.5			
7						
5						

MCGRATH, ALASKA 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	12	103	4.2	-.1	34	.5
1000	12	78				
950	12	498	5.9	.0	08	2.4
900	12	939	4.0	-1.7	10	3.3
850	12	1,401	1.7	-4.1	13	3.6
800	12	1,888	-1.4	-7.5	14	3.6
750	12	2,397	-4.4	-13.1	16	3.4
700	12	2,940	-7.1	-17.3	13	2.3
650	12	3,513	-10.2	-21.6	11	3.4
600	12	4,127	-14.2	-25.7	10	3.3
550	12	4,780	-18.3	-30.7	11	4.4
500	12	5,487	-23.3	-36.9	10	4.1
450	12	6,245	-29.0	-41.3	09	5.2
400	12	7,082	-35.1	-45.8	09	5.0
350	12	8,000	-42.0		07	4.4
300	12	9,026	-49.6		06	3.4
250	12	10,206	-53.2		35	4.4
200	12	11,652	-50.0		31	4.2
175	12	12,526	-49.0		29	3.8
150	12	13,537	-49.4		28	4.0
125	12	14,730	-49.8		28	3.7
100	12	16,189	-49.9		28	3.6
80	12	17,645	-50.7		27	3.2
70	12	18,513	-51.2		27	3.1
60	12	19,514	-51.6		27	4.1
50	12	20,696	-52.0		28	2.8
40	12	22,140	-52.3		29	4.9
30	12	24,002	-52.0		30	6.0
25	12	25,182	-51.9		30	5.3
20	10	26,597	-51.8			
15	8	28,467	-50.8			
10						
7						
5						

+ MAJURO, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	28.8	25.8	09	1.9
1000	30	92	27.2	22.7	09	2.2
950	30	538	23.6	18.8	11	3.9
900	30	1,017	20.9	15.3	10	4.6
850	30	1,510	18.2	12.1	10	5.0
800	30	2,029	15.7	8.6	10	5.2
750	30	2,578	13.0	4.8	10	4.8
700	30	3,153	10.0	1.1	10	5.0
650	30	3,769	6.7	-2.7	09	5.5
600	30	4,420	3.0	-7.3	09	6.3
550	30	5,115	-.8	-10.7	09	6.4
500	30	5,877	-4.7	-15.0	09	6.1
450	30	6,696	-9.4	-21.0	10	6.4
400	30	7,603	-14.6	-26.4	10	6.7
350	30	8,601	-21.3	-34.1	10	6.8
300	30	9,720	-29.5	-42.8	10	5.7
250	30	10,995	-39.7	-51.0	10	5.4
200	30	12,481	-52.1		10	3.6
175	30	13,331	-59.3		11	2.2
150	29	14,280	-66.6		13	1.6
125	29	15,362	-74.1		15	2.9
100	29	16,645	-78.1		12	3.2
80	28	17,950	-69.4		09	2.6
70	28	18,754	-66.0		10	1.9
60	28	19,695	-63.0		08	1.0
50	28	20,823	-60.1		11	.9
40	28	22,227	-56.9		10	2.7
30	28	24,067	-52.4		10	3.8
25	28	25,254	-49.7		12	3.7
20	27	26,716	-47.6		11	4.7
15	25	28,627	-43.9		10	6.5
10	18	31,371	-40.2		09	17.8
7	9	33,857	-35.2			
5						

* MEDFORD, OREG. 969 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	401	11.3	7.7	30	.2
1000	30	130				
950	30	570	14.5	7.5	30	.6
900	30	1,020	14.1	6.0	32	.9
850	30	1,501	12.7	3.1	20	.8
800	30	2,009	10.8	-3.8	22	3.1
750	30	2,541	8.3	-7.0	24	5.4
700	30	3,112	4.9	-9.9	25	6.8
650	30	3,707	1.0	-13.1	25	8.4
600	30	4,351	-2.8	-17.5	26	8.8
550	30	5,025	-7.1	-21.8	26	10.0
500	30	5,773	-11.9	-26.8	26	11.4
450	30	6,564	-17.5	-32.0	27	12.0
400	30	7,443	-23.7	-38.6	27	14.1
350	30	8,404	-31.2	-44.8	27	15.1
300	30	9,476	-40.1	-50.9	27	16.9
250	30	10,696	-49.3		27	17.5
200	29	12,138	-54.8		26	19.6
175	29	12,990	-56.2		26	19.6
150	29	13,964	-58.5		26	20.1
125	29	15,102	-60.9		26	16.5
100	28	16,483	-62.2		26	11.7
80	27	17,868	-60.4		26	7.2
70	27	18,702	-59.4		26	4.5
60	27	19,670	-58.3		28	2.7
50	27	20,821	-57.0		28	1.5
40	26	22,241	-55.6		29	1.4
30	26	24,089	-52.0		30	2.4
25	25	25,279	-50.2		28	3.2
20	25	26,741	-48.7		28	4.3
15	25	28,644	-46.1		28	4.9
10	21	31,358	-43.4		27	5.1
7	13	33,781	-40.1		26	4.1
5	7	36,106	-35.8			

MERIDA, MEXICO 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	11	22.8	22.4	08	3.4
1000	30	110	23.8	23.0	08	4.6
950	30	560	23.3	20.8	11	6.7
900	30	1,034	20.8	17.0	11	6.1
850	30	1,528	18.1	13.5	11	5.3
800	30	2,046	15.2	10.1	11	4.9
750	30	2,592	12.3	6.5	12	4.5
700	30	3,168	9.2	2.4	12	4.3
650	30	3,776	5.9	-2.1	10	3.7
600	30	4,432	2.1	-5.6	09	4.0
550	30	5,125	-1.8	-9.9	07	3.7
500	30	5,885	-5.9	-15.2	05	3.2
450	30	6,698	-10.8	-22.9	03	2.3
400	30	7,601	-16.7	-27.8	34	1.9
350	30	8,591	-23.4	-36.3	31	3.1
300	30	9,701	-31.8	-45.3	29	4.6
250	30	10,963	-41.9		28	9.2
200	30	12,435	-53.6		28	11.1
175	30	13,281	-59.8		28	10.9
150	29	14,229	-66.2		29	9.5
125	29	15,316	-72.0		32	5.8
100	29	16,621	-73.4		02	6.2
80	29	17,944	-68.4		07	6.4
70	29	18,750	-65.7		08	8.4
60	28	19,694	-62.7		08	10.0
50	28	20,829	-58.6		08	11.4
40	28	22,244	-54.9		08	13.3
30	25	24,099	-51.2		08	15.0
25	21	25,284	-49.5		08	16.0
20	18	26,761	-46.2		09	17.9
15	15	28,696	-41.6		08	18.1
10	8	31,469	-35.7			
7						
5						

MIAMI, FLA. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	25.6	22.5	10	1.0
1000	30	114	25.9	22.8	12	1.9
950	30	572	23.1	20.2	14	3.9
900	30	1,038	20.3	16.1	15	3.6
850	30	1,530	17.4	13.0	16	3.0
800	30	2,047	14.6	9.3	16	2.3
750	30	2,592	11.8	5.1	17	2.4
700	30	3,167	8.9	.2	19	2.2
650	30	3,776	5.5	-3.1	20	2.8
600	30	4,429	1.7	-6.4	19	2.2
550	30	5,117	-2.2	-11.5	21	1.9
500	30	5,877	-6.7	-16.6	20	2.5
450	30	6,692	-11.5	-21.9	21	1.8
400	30	7,588	-17.0	-27.6	22	2.6
350	30	8,576	-23.9	-34.9	22	4.5
300	30	9,683	-32.2	-42.7	22	5.9
250	30	10,943	-42.3		22	6.5
200	30	12,412	-54.6		23	7.3
175	29	13,256	-60.7		24	7.8
150	29	14,203	-66.2		26	6.9
125	28	15,296	-70.4		30	3.6
100	28	16,616	-71.4		01	2.9
80	28	17,945	-67.3		07	5.6
70	28	18,755	-64.5		08	6.9
60	28	19,704	-61.4		09	9.2
50	27	20,839	-59.0		09	11.2
40	27	22,248	-55.9		09	12.8
30	27	24,094	-51.9		09	15.1
25	27	25,281	-49.8		09	15.6
20	27	26,751	-46.6		09	15.5
15	20	28,661	-43.0		09	16.7
10	17	31,413	-39.0		09	17.2
7	6	33,888	-35.3			
5						

MIDLAND, TEXAS 917 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	874	17.9	15.5	11	1.8
1000	30	126				
950	30	574				
900	30	1,037	19.4	15.6	15	4.6
850	30	1,530	18.2	12.3	19	7.3
800	30	2,048	15.4	7.8	19	4.0
750	30	2,591	12.4	2.1	19	1.3
700	30	3,169	8.6	-1.9	30	.2
650	30	3,779	4.9	-7.3	33	1.7
600	30	4,427	.8	-12.6	30	2.4
550	30	5,115	-3.0	-17.3	30	3.4
500	30	5,871	-7.5	-22.7	29	4.3
450	30	6,681	-12.7	-28.3	29	5.4
400	30	7,573	-19.1	-32.9	29	7.5
350	30	8,553	-26.1	-39.3	29	9.1
300	30	9,649	-34.3	-45.8	29	11.9
250	30	10,900	-43.4		29	16.2
200	30	12,368	-53.3		29	19.1
175	30	13,218	-58.6		29	17.8
150	30	14,174	-64.1		29	15.7
125	30	15,276	-69.1		29	11.3
100	30	16,598	-71.4		31	5.5
80	30	17,925	-68.3		36	2.4
70	30	18,733	-64.6		06	3.8
60	30	19,683	-61.1		09	5.3
50	30	20,822	-58.8		09	6.4
40	30	22,232	-56.0		09	7.7
30	[illegible]	24,077	-52.2		08	9.7
25	23	25,254	-49.9		09	11.3
20	21	26,725	-47.2		09	11.3
15	19	28,635	-44.6		09	11.5
10	11	31,361	-41.0			
7						
5						

MONTEPREY, MEXICO 969 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	423	21.5	21.1	36	.2
1000	30	148				
950	30	597	21.2	19.7	10	1.4
900	30	1,062	19.0	16.6	13	3.6
850	30	1,553	16.7	13.3	13	4.3
800	30	2,068	14.3	8.4	12	5.1
750	30	2,610	11.7	3.4	10	3.8
700	30	3,186	8.8	-1.9	08	2.4
650	30	3,800	5.3	-5.6	06	2.3
600	30	4,445	1.3	-9.4	03	2.0
550	30	5,139	-2.8	-13.6	05	1.3
500	30	5,890	-7.2	-20.3	04	1.2
450	30	6,701	-12.0	-28.2	02	2.0
400	30	7,597	-17.5	-35.2	34	3.1
350	30	8,584	-24.2	-40.4	32	5.5
300	30	9,689	-32.6	-47.0	31	8.2
250	30	10,947	-42.6		31	10.8
200	30	12,416	-54.0		31	10.9
175	30	13,261	-60.3		32	10.0
150	29	14,207	-66.5		31	9.7
125	28	15,296	-72.3		33	5.9
100	27	16,599	-74.5		01	3.8
80	26	17,909	-69.7		05	6.7
70	25	18,717	-65.6		07	8.2
60	25	19,660	-63.1		09	9.0
50	25	20,790	-59.9		09	9.6
40	24	22,200	-56.1		08	12.6
30	23	24,049	-52.3		08	14.0
25	22	25,234	-50.0		08	15.2
20	22	26,705	-46.4		08	16.9
15	20	28,629	-42.5		08	16.7
10	12	31,381	-38.1			
7						

MONTGOMERY, ALA. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	57	17.4	15.8	04	1.1
1000	30	143	18.9	16.5	07	2.1
950	30	588	19.8	15.3	10	3.3
900	30	1,052	17.4	13.1	11	2.5
850	30	1,539	14.6	8.9	10	1.6
800	30	2,050	12.6	3.0	09	1.3
750	30	2,590	10.1	-2.0	08	.5
700	30	3,161	7.5	-5.4	07	.2
650	30	3,769	4.4	-9.5	35	.2
600	30	4,417	.7	-13.6	29	1.3
550	30	5,109	-3.3	-18.2	29	2.0
500	30	5,859	-8.1	-23.1	28	2.4
450	30	6,670	-13.5	-28.1	27	3.7
400	30	7,556	-19.9	-32.8	27	4.6
350	30	8,533	-27.1	-40.3	27	5.7
300	30	9,625	-35.5	-47.4	26	7.3
250	30	10,869	-44.8		27	7.8
200	30	12,329	-54.3		28	8.6
175	30	13,177	-58.2		28	8.5
150	30	14,138	-62.8		28	8.0
125	30	15,249	-66.9		29	6.5
100	30	16,590	-68.3		32	4.4
80	29	17,935	-65.5		01	2.0
70	29	18,750	-63.1		06	2.6
60	28	19,705	-60.3		08	4.5
50	27	20,851	-57.2		09	6.1
40	27	22,272	-54.0		09	7.3
30	23	24,125	-51.3		09	9.9
25	23	25,314	-49.2		09	11.4
20	22	26,790	-46.2		10	11.7
15	22	28,714	-42.9		08	9.9
10	20	31,464	-38.7		9	9.7
7	8	33,937	-33.9			

* NANTUCKET, MASS. 1019 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	14	16.4	13.3	02	1.1
1000	30	170	16.1	12.9	34	1.3
950	30	606	15.0	10.3	30	2.2
900	30	1,063	13.0	5.2	27	2.5
850	30	1,542	10.5	1.6	27	3.3
800	30	2,046	8.7	-4.2	27	4.4
750	30	2,577	6.4	-7.9	27	6.0
700	30	3,141	3.6	-10.5	27	6.9
650	30	3,737	.4	-13.8	27	8.4
600	30	4,378	-3.1	-16.9	26	9.4
550	30	5,057	-6.8	-22.3	26	10.4
500	30	5,801	-11.4	-27.6	26	11.4
450	30	6,596	-16.7	-33.2	26	13.2
400	30	7,476	-22.9	-39.1	26	14.7
350	29	8,438	-30.4	-44.7	26	17.4
300	29	9,516	-38.5	-50.7	25	20.3
250	29	10,745	-47.3		25	23.6
200	29	12,194	-55.1		26	22.7
175	29	13,041	-57.7		26	22.1
150	29	14,009	-59.9		26	19.8
125	29	15,141	-62.3		26	15.8
100	29	16,517	-62.3		26	11.8
80	29	17,903	-59.9		26	7.0
70	29	18,740	-58.4		26	5.4
60	29	19,714	-56.3		27	3.8
50	28	20,875	-54.6		27	2.6
40	28	22,311	-52.3		25	1.0
30	27	24,187	-49.2		05	.2
25	27	25,387	-47.7		07	.2
20	25	26,859	-46.0		08	1.6
15	20	28,786	-43.5		10	2.6
10	14	31,542	-39.9		09	2.1
7	9	33,986	-35.6			

NASHVILLE, TENN. 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	180	16.2	14.8	08	.7
1000	29	160			09	.9
950	29	599	17.9	12.9	17	1.6
900	29	1,061	15.7	9.9	25	1.7
850	29	1,545	13.2	6.6	29	2.2
800	29	2,053	10.6	1.2	29	2.7
750	29	2,589	8.1	-2.0	28	2.8
700	29	3,156	5.4	-6.6	27	3.4
650	29	3,755	2.1	-11.5	27	3.9
600	29	4,401	-1.5	-16.5	27	4.3
550	29	5,082	-5.0	-20.8	27	5.6
500	29	5,832	-9.6	-25.5	27	6.5
450	29	6,631	-15.1	-30.4	27	7.2
400	29	7,519	-21.1	-35.8	28	8.3
350	29	8,490	-28.4	-42.2	27	8.9
300	29	9,576	-36.9	-48.5	28	10.3
250	29	10,813	-46.0		27	12.7
200	29	12,266	-54.7		27	13.8
175	29	13,114	-57.9		28	13.7
150	29	14,078	-61.4		28	12.3
125	29	15,197	-65.2		28	10.5
100	29	16,549	-66.4		29	7.6
80	29	17,907	-64.0		30	3.4
70	29	18,729	-61.7		32	1.9
60	26	19,692	-59.0		05	1.5
50	27	20,841	-56.5		06	2.1
40	27	22,268	-53.5		08	3.4
30	26	24,132	-50.3		09	5.4
25	25	25,327	-48.5		09	6.1
20	25	26,804	-46.0		09	6.6
15	25	28,726	-44.0		09	6.6
10	15	31,471	-40.4		07	7.9
7	7	33,935	-36.4			

* NOME, ALASKA 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	28	5	6.5	1.9	05	1.7
1000	28	66			07	2.0
950	28	491	6.9	.9	10	4.4
900	28	933	3.9	-1.0	12	3.9
850	28	1,395	.8	-3.5	12	3.9
800	28	1,880	-1.9	-8.6	13	4.4
750	28	2,393	-4.3	-13.0	13	4.7
700	28	2,933	-7.3	-17.4	13	4.4
650	28	3,505	-10.7	-21.1	14	5.1
600	28	4,120	-14.2	-24.6	14	4.8
550	28	4,771	-18.4	-28.2	14	5.0
500	28	5,481	-23.4	-32.1	15	5.5
450	28	6,235	-29.0	-37.5	16	5.5
400	28	7,076	-34.9	-44.7	16	4.9
350	28	7,995	-41.7	-47.9	17	4.0
300	28	9,025	-48.7		18	2.0
250	28	10,211	-52.5		25	2.0
200	28	11,655	-51.2		27	2.4
175	27	12,538	-49.7		27	2.4
150	27	13,546	-49.9		27	2.9
125	27	14,738	-49.9		28	3.4
100	27	16,196	-50.0		27	2.7
80	27	17,652	-50.4		26	2.9
70	27	18,522	-50.8		27	2.8
60	27	19,524	-51.0		26	3.2
50	27	20,709	-51.3		27	3.4
40	27	22,156	-51.9		27	3.9
30	27	24,018	-51.9		29	4.6
25	27	25,200	-51.6		29	5.7
20	27	26,648	-51.2		30	6.3
15	26	28,508	-50.4		30	7.1
10	24	31,199	-47.9		30	8.2
7	11	33,679	-43.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NORTH PLATTE, NEBR. 919 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	847	12.9	10.2	12	1.7
1000	30	124				
950	30	560				
900	30	1,019	15.3	10.1	16	3.5
850	30	1,505	16.2	8.4	20	5.4
800	30	2,020	14.2	3.8	22	5.4
750	30	2,556	11.0	-2.0	24	5.0
700	30	3,134	7.6	-7.2	26	4.6
650	30	3,737	3.1	-10.7	27	5.2
600	30	4,383	-1.7	-14.8	28	6.0
550	30	5,061	-6.2	-19.7	28	7.5
500	30	5,809	-11.1	-24.5	28	8.1
450	30	6,605	-16.7	-31.2	28	9.0
400	30	7,485	-22.9	-37.9	28	10.8
350	30	8,449	-30.6	-43.6	28	11.9
300	30	9,525	-39.5	-50.8	28	14.9
250	30	10,747	-48.6		28	17.8
200	30	12,192	-54.6		28	20.2
175	30	13,043	-56.8		28	20.5
150	30	14,012	-59.9		28	19.2
125	30	15,142	-63.0		28	15.3
100	30	16,510	-64.4		28	9.8
80	30	17,878	-62.6		28	6.6
70	30	18,705	-60.5		29	4.5
60	30	19,670	-58.2		30	2.7
50	30	20,822	-56.5		32	1.4
40	30	22,245	-54.2		33	.9
30	29	24,099	-51.0		29	1.0
25	29	25,291	-48.8		30	1.9
20	27	26,763	-46.3		29	2.3
15	22	28,682	-44.2		29	2.0
10	19	31,430	-40.2		29	2.2
7	8	33,868	-38.4			
5						

OAKLAND, CALIF. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	6	14.1	12.7	29	1.1
1000	30	109	14.2	12.3	28	1.1
950	30	552	17.8	7.2	26	2.1
900	30	1,010	19.9	2.0	28	2.4
850	30	1,500	17.3	-.7	28	1.9
800	30	2,015	14.5	-3.4	24	2.1
750	30	2,555	11.4	-6.5	23	3.1
700	30	3,130	8.0	-10.8	23	3.5
650	30	3,733	4.2	-14.8	23	4.3
600	30	4,384	.1	-18.8	24	5.3
550	30	5,064	-4.7	-22.0	25	5.8
500	30	5,819	-9.9	-26.5	25	6.7
450	30	6,615	-15.7	-31.9	25	7.9
400	30	7,502	-22.4	-37.3	25	8.7
350	30	8,469	-29.9	-42.6	25	10.5
300	30	9,548	-38.6	-49.7	25	11.2
250	30	10,778	-47.2		26	13.6
200	30	12,232	-53.6		26	15.9
175	30	13,085	-56.6		26	16.2
150	30	14,054	-60.1		26	14.6
125	30	15,182	-63.8		25	13.1
100	30	16,543	-65.3		26	8.9
80	30	17,907	-63.4		26	4.2
70	30	18,731	-61.2		27	2.2
60	30	19,692	-59.2		01	.5
50	30	20,840	-57.1		03	1.2
40	30	22,260	-54.8		07	2.5
30	30	24,113	-51.6		07	3.8
25	27	25,302	-49.5		09	4.4
20	25	26,771	-47.7		09	4.6
15	21	28,679	-45.0		10	3.9
10	12	31,434	-41.7			
7						
5						

OMAHA, NEBR. 970 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	403	14.3	12.4	14	1.6
1000	30	140				
950	30	575	15.8	11.4	16	3.7
900	30	1,037	15.6	9.1	20	4.1
850	30	1,521	14.3	1.5	23	2.9
800	30	2,030	11.6	-1.9	25	3.1
750	30	2,564	8.7	-6.2	28	4.3
700	30	3,135	5.3	-10.2	29	5.6
650	30	3,733	1.7	-13.1	29	7.2
600	30	4,378	-1.9	-17.4	29	7.8
550	30	5,056	-6.3	-21.8	30	8.7
500	30	5,804	-11.0	-28.0	29	9.7
450	30	6,598	-16.8	-32.5	29	10.1
400	30	7,480	-23.5	-38.1	29	11.3
350	30	8,442	-30.9	-43.4	29	13.3
300	30	9,517	-39.4	-51.0	29	15.3
250	30	10,741	-48.4		28	17.6
200	30	12,186	-54.7		28	20.1
175	30	13,035	-57.1		29	20.2
150	30	14,004	-59.4		29	18.5
125	30	15,137	-62.5		29	15.5
100	29	16,506	-63.3		29	11.4
80	29	17,882	-61.6		29	7.6
70	28	18,713	-60.1		30	5.7
60	28	19,679	-58.3		30	4.2
50	26	20,835	-56.0		32	2.1
40	26	22,262	-53.6		30	2.3
30	25	24,127	-50.4		27	1.4
25	25	25,322	-48.3		26	1.5
20	25	26,801	-45.8		28	2.1
15	23	28,738	-43.4		30	2.1
10	19	31,485	-39.8		27	2.4
7	8	33,932	-36.5			
5						

PAGO PAGO, AMERICAN SAMOA + 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	5	28.1	21.9	11	4.5
1000	30	110	25.8	18.4	11	4.7
950	30	558	21.5	14.7	10	4.8
900	30	1,027	18.2	11.5	08	3.4
850	30	1,515	16.4	3.9	07	1.8
800	30	2,030	15.3	-1.3	12	.8
750	30	2,571	12.8	-5.0	25	1.3
700	30	3,151	9.9	-8.6	24	2.0
650	30	3,760	6.4	-12.0	28	3.5
600	30	4,414	2.4	-15.6	26	3.9
550	30	5,106	-1.6	-19.7	27	5.1
500	30	5,866	-5.9	-24.0	26	6.1
450	30	6,679	-10.7	-28.6	26	9.1
400	30	7,582	-16.1	-32.7	27	10.4
350	30	8,575	-22.4	-38.9	27	12.2
300	30	9,688	-31.2	-45.8	27	14.1
250	30	10,953	-41.4		27	16.0
200	30	12,429	-53.1		27	16.6
175	30	13,277	-59.7		26	17.4
150	30	14,226	-66.4		26	16.6
125	30	15,311	-73.3		26	14.5
100	30	16,601	-76.8		27	9.6
80	30	17,901	-70.8		27	8.2
70	30	18,698	-68.0		27	8.4
60	30	19,634	-64.2		27	8.0
50	30	20,758	-61.0		26	6.4
40	30	22,156	-57.2		27	6.0
30	28	23,994	-52.6		28	6.5
25	27	25,177	-50.4		28	5.0
20	27	26,641	-47.4		28	4.4
15	26	28,564	-42.7		28	2.4
10	23	31,330	-37.7		10	4.4
7	8	33,800	-35.5			
5						

PEORIA, ILL. * 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	200	13.9	11.8	19	.6
1000	30	155				
950	30	591	15.8	11.4	23	1.0
900	30	1,049	14.0	7.0	27	2.6
850	30	1,531	11.8	2.8	29	3.4
800	30	2,037	9.4	-.7	30	4.5
750	30	2,568	6.4	-3.4	30	4.8
700	30	3,133	3.4	-7.8	29	6.4
650	30	3,728	.6	-11.5	29	6.9
600	30	4,371	-2.7	-16.5	29	7.9
550	30	5,049	-6.7	-21.1	29	8.9
500	30	5,795	-11.4	-26.5	29	9.6
450	30	6,591	-16.8	-31.8	29	11.2
400	30	7,470	-23.2	-38.1	29	12.9
350	30	8,434	-30.2	-43.5	29	14.2
300	30	9,512	-38.5	-49.1	28	16.2
250	30	10,739	-47.7		29	19.2
200	30	12,186	-54.9		28	20.2
175	30	13,035	-56.4		28	20.3
150	30	14,009	-59.0		28	18.3
125	30	15,143	-62.1		28	14.9
100	30	16,517	-63.0		28	10.9
80	29	17,893	-61.0		29	6.4
70	29	18,725	-59.6		29	4.4
60	29	19,694	-57.6		31	3.2
50	29	20,850	-55.5		31	1.2
40	29	22,280	-53.2		34	.1
30	29	24,147	-49.7		28	.7
25	29	25,345	-47.8		30	.8
20	27	26,827	-45.4		27	.8
15	26	28,757	-43.4		05	.9
10	25	31,508	-40.1		09	1.7
7	21	33,949	-37.4		06	2.7
5	10	36,284	-34.1			

PITTSBURGH, PA. * 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	359	13.2	11.4	20	.7
1000	30	164				
950	30	599	15.2	10.9	24	2.2
900	30	1,055	13.3	7.4	27	3.1
850	30	1,535	10.6	4.9	28	3.7
800	30	2,038	8.2	-.5	27	4.5
750	30	2,567	6.4	-5.3	27	5.6
700	30	3,133	4.0	-9.1	27	6.3
650	30	3,732	1.0	-13.3	27	7.4
600	30	4,372	-3.0	-16.9	27	8.4
550	30	5,053	-6.9	-22.1	27	9.5
500	30	5,794	-11.5	-26.4	27	10.4
450	30	6,589	-16.8	-31.3	27	12.6
400	30	7,470	-23.0	-36.6	27	13.0
350	29	8,442	-29.9	-42.3	27	14.3
300	29	9,523	-38.1	-48.1	27	17.0
250	29	10,754	-46.8		27	19.0
200	27	12,207	-55.2		27	20.0
175	27	13,055	-57.2		27	19.3
150	27	14,023	-59.8		27	18.5
125	27	15,157	-61.7		27	15.7
100	27	16,534	-62.4		27	11.1
80	27	17,917	-60.2		28	6.9
70	26	18,750	-58.8		28	4.8
60	26	19,721	-57.2		28	2.5
50	26	20,880	-55.1		28	1.6
40	26	22,313	-52.5		28	1.0
30	26	24,184	-49.1		02	.4
25	26	25,386	-47.0		03	.4
20	26	26,870	-45.0		07	.7
15	25	28,798	-42.9		05	.4
10	23	31,554	-39.5		01	.2
7	16	34,024	-35.7		21	.7
5	7	36,369	-32.3			

PONAPE, CAROLINE IS. + 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	39	28.5	24.3	10	.7
1000	30	82	27.8	23.1	11	.7
950	30	530	24.0	18.7	14	1.8
900	30	1,007	20.9	15.5	14	2.8
850	30	1,501	18.4	11.9	13	3.6
800	30	2,019	15.8	8.3	12	3.5
750	30	2,566	13.0	5.2	11	3.6
700	30	3,143	9.9	1.5	11	4.2
650	30	3,753	6.4	-2.3	10	4.7
600	30	4,409	2.7	-5.4	10	5.3
550	30	5,106	-.8	-9.8	10	5.8
500	30	5,865	-5.0	-15.3	10	5.5
450	30	6,685	-9.6	-21.0	09	5.1
400	30	7,589	-15.0	-27.1	09	5.7
350	30	8,586	-21.7	-34.9	10	5.6
300	30	9,704	-30.0	-43.5	09	5.6
250	30	10,975	-40.4	-53.0	09	4.8
200	30	12,456	-52.9		07	4.6
175	30	13,304	-60.0		07	4.6
150	30	14,250	-67.4		06	5.1
125	30	15,328	-75.1		08	5.3
100	30	16,605	-77.9		08	5.5
80	30	17,906	-70.0		08	3.6
70	30	18,707	-66.9		10	3.5
60	30	19,644	-63.9		12	2.6
50	29	20,769	-60.8		11	2.1
40	29	22,170	-57.2		10	2.3
30	28	24,004	-53.6		11	3.1
25	28	25,181	-51.7		11	3.2
20	27	26,638	-49.0		10	5.3
15	26	28,539	-45.8		10	7.9
10	23	31,267	-40.9		09	16.0
7	12	33,718	-36.7			
5						

PORTLAND, MAINE 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	20	12.2	9.3	33	1.0
1000	30	162	13.3	9.3	31	1.4
950	30	592	13.1	7.8	29	2.1
900	30	1,048	11.2	5.0	28	3.6
850	30	1,524	9.2	1.3	27	5.3
800	30	2,025	7.0	-3.4	27	6.4
750	30	2,551	4.7	-7.3	27	7.8
700	30	3,114	2.0	-12.0	27	9.2
650	30	3,704	-1.1	-15.8	27	10.7
600	30	4,343	-4.3	-19.3	27	11.4
550	30	5,017	-8.1	-23.9	26	12.8
500	30	5,759	-12.7	-28.0	26	14.5
450	30	6,548	-18.1	-32.3	26	14.7
400	30	7,426	-24.5	-38.2	26	15.5
350	30	8,383	-31.8	-44.4	26	17.6
300	30	9,454	-40.0	-49.5	26	19.3
250	30	10,677	-48.0		26	21.8
200	30	12,123	-55.1		26	23.1
175	30	12,971	-57.1		26	23.0
150	30	13,943	-58.5		26	20.1
125	30	15,083	-60.6		26	16.7
100	30	16,471	-60.4		26	12.6
80	28	17,865	-58.6		26	9.6
70	28	18,707	-57.4		26	7.9
60	28	19,684	-56.1		26	5.5
50	28	20,847	-54.5		26	4.3
40	27	22,283	-52.3		26	3.5
30	22	24,162	-49.5		25	3.0
25	20	25,362	-48.0		26	1.3
20	15	26,855	-46.2		29	.4
15	8	28,836	-43.0			
10	7	31,587	-39.4			
7	5	34,079	-34.4			
5						

QUILLAYUTE, WASH. * 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	58	10.9	10.2	12	.8
1000	30	120	11.2	9.9	14	.7
950	30	549	11.6	6.4	20	2.1
900	30	1,000	9.7	2.7	22	3.9
850	30	1,473	7.2	.9	23	4.8
800	30	1,969	4.4	-2.2	24	6.0
750	30	2,489	2.0	-7.4	24	7.0
700	30	3,046	-.8	-11.6	24	8.3
650	30	3,627	-3.8	-16.5	25	9.6
600	30	4,263	-7.5	-19.8	25	10.7
550	30	4,926	-11.5	-24.3	25	12.6
500	30	5,659	-16.1	-27.9	26	14.5
450	30	6,434	-21.7	-32.9	26	16.2
400	30	7,302	-27.5	-38.4	26	19.3
350	30	8,249	-34.6	-44.2	26	21.3
300	30	9,308	-42.3		26	22.0
250	30	10,518	-49.7		26	22.8
200	30	11,963	-53.3		27	22.4
175	30	12,822	-53.8		26	22.0
150	30	13,809	-55.0		26	19.5
125	29	14,972	-56.5		26	15.6
100	29	16,383	-57.5		26	12.4
80	29	17,795	-56.7		26	8.7
70	29	18,642	-56.2		26	6.9
60	29	19,622	-56.0		26	5.4
50	29	20,782	-55.6		26	4.2
40	29	22,206	-54.9		27	3.5
30	29	24,053	-52.9		28	4.6
25	29	25,232	-51.8		27	5.7
20	29	26,683	-50.3		28	7.3
15	28	28,576	-47.9		28	8.6
10	25	31,276	-43.9		28	7.9
7	12	33,751	-38.7		27	7.2
5	5	36,022	-35.7			

RAPID CITY, S. DAK. 905 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	966	11.6	5.2	27	.4
1000	30	116				
950	30	549				
900	30	1,006			21	.8
850	30	1,494	16.4	3.0	24	2.9
800	30	2,008	14.4	-.6	24	3.7
750	30	2,542	10.9	-2.2	25	5.1
700	30	3,122	6.8	-5.0	27	5.9
650	30	3,718	2.2	-8.7	27	7.7
600	30	4,367	-2.4	-13.6	27	8.9
550	30	5,039	-7.5	-18.1	27	9.4
500	30	5,786	-12.6	-23.7	27	11.3
450	30	6,574	-18.1	-30.7	27	13.1
400	30	7,453	-24.4	-36.7	27	14.9
350	30	8,412	-31.8	-43.3	28	15.6
300	30	9,482	-40.5	-49.7	28	18.1
250	30	10,699	-49.8		27	18.8
200	30	12,135	-55.4		27	21.7
175	30	12,984	-56.5		27	21.2
150	29	13,953	-58.7		27	20.4
125	29	15,091	-61.3		27	17.0
100	29	16,470	-62.2		28	12.2
80	29	17,853	-60.6		27	7.7
70	29	18,687	-59.5		28	5.4
60	28	19,657	-57.9		28	3.2
50	28	20,809	-56.7		30	3.1
40	28	22,231	-54.5		30	2.7
30	28	24,085	-51.3		29	3.1
25	28	25,276	-49.2		28	4.3
20	28	26,747	-46.9		27	5.2
15	23	28,668	-44.4		27	6.9
10	19	31,408	-39.5		26	7.6
7	5	33,890	-36.9			
5						

ST CLOUD, MINN. 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	316	11.1	9.2	19	1.1
1000	30	149				
950	30	581	13.1	9.1	21	2.6
900	30	1,034	11.7	5.5	24	3.9
850	30	1,511	10.4	-.6	26	4.5
800	30	2,014	8.2	-3.2	27	5.8
750	30	2,542	5.4	-8.6	28	7.3
700	30	3,105	2.0	-10.8	29	8.7
650	30	3,696	-1.2	-14.9	29	9.8
600	30	4,333	-5.0	-18.3	29	11.3
550	30	5,005	-9.1	-23.5	29	12.0
500	30	5,743	-13.7	-27.8	29	14.2
450	30	6,529	-19.2	-33.0	29	14.7
400	30	7,402	-25.6	-38.8	29	15.6
350	30	8,355	-33.0	-44.9	29	18.2
300	30	9,420	-41.5	-49.4	29	20.0
250	30	10,633	-49.9		29	21.4
200	30	12,072	-54.8		29	21.8
175	30	12,924	-55.8		29	22.0
150	30	13,903	-57.0		29	20.4
125	30	15,051	-59.1		29	17.2
100	30	16,447	-59.7		28	12.5
80	30	17,846	-58.2		29	9.0
70	30	18,687	-57.3		29	6.8
60	30	19,663	-56.4		30	5.0
50	29	20,823	-55.1		30	4.0
40	29	22,252	-53.6		29	3.5
30	28	24,117	-50.8		28	4.0
25	27	25,308	-49.0		27	4.7
20	26	26,777	-47.2		27	6.2
15	25	28,698	-43.7		27	7.4
10	22	31,439	-39.0		27	8.4
7	10	33,874	-36.8			
5						

ST PAUL IS., ALASKA * 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	10	8.0	6.4	05	1.6
1000	30	24			35	1.0
950	30	446	5.3	3.9	06	2.4
900	30	885	3.1	-.5	08	1.7
850	30	1,347	1.1	-3.8	11	1.3
800	30	1,833	-1.1	-7.6	10	.8
750	30	2,345	-3.8	-11.1	11	1.1
700	30	2,889	-6.7	-15.6	07	.4
650	30	3,461	-9.5	-21.8	17	.2
600	30	4,080	-12.8	-26.8	19	.3
550	30	4,736	-16.7	-30.0	31	1.2
500	30	5,449	-21.3	-35.8	33	2.4
450	30	6,211	-26.5	-41.1	34	3.7
400	30	7,060	-32.3	-46.0	33	6.0
350	30	7,990	-38.4	-50.4	33	7.7
300	30	9,034	-45.1		32	8.9
250	30	10,236	-50.2		30	8.0
200	30	11,695	-49.2		28	9.4
175	30	12,571	-49.1		28	9.0
150	29	13,578	-49.5		27	8.6
125	29	14,771	-50.2		27	8.3
100	29	16,225	-50.7		27	6.7
80	29	17,678	-51.0		26	5.7
70	29	18,567	-51.0		26	5.1
60	29	19,548	-51.4		26	5.1
50	29	20,732	-51.4		26	4.6
40	29	22,180	-51.7		26	4.5
30	29	24,047	-51.4		28	4.8
25	29	25,232	-50.9		28	4.6
20	29	26,687	-50.1		29	5.1
15	29	28,571	-49.1		30	5.9
10	29	31,245	-46.8		30	6.8
7	25	33,661	-43.1		30	8.6
5	16	35,929	-39.9			

SALEM, ILL. 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	174	14.6	13.3	11	1.0
1000	30	154				
950	30	590	17.3	11.5	20	1.3
900	30	1,053	14.6	7.7	27	2.1
850	30	1,535	12.4	3.1	29	2.9
800	30	2,042	9.8	-.2	30	3.6
750	30	2,575	7.2	-3.8	30	4.2
700	30	3,141	4.4	-7.9	29	4.8
650	30	3,737	1.4	-11.5	29	5.9
600	30	4,382	-2.4	-15.2	29	7.2
550	30	5,059	-6.5	-19.5	28	7.5
500	30	5,806	-11.1	-24.5	28	8.9
450	30	6,602	-16.4	-30.3	29	11.1
400	30	7,484	-22.5	-36.1	28	11.3
350	30	8,450	-29.7	-42.7	28	12.4
300	30	9,530	-38.2	-48.8	28	13.8
250	30	10,759	-47.6		28	15.9
200	30	12,206	-55.0		28	18.7
175	30	13,053	-57.6		28	18.0
150	30	14,020	-60.5		28	15.8
125	30	15,146	-64.1		28	14.0
100	30	16,507	-64.7		28	10.1
80	30	17,874	-62.6		30	4.9
70	30	18,701	-60.7		30	2.7
60	30	19,665	-58.2		32	1.0
50	29	20,814	-56.6		01	1.1
40	29	22,238	-53.7		05	1.1
30	29	24,102	-49.9		08	1.4
25	27	25,293	-48.4		09	3.4
20	26	26,768	-46.1		09	2.8
15	23	28,691	-43.9		06	2.7
10	13	31,395	-41.7			
7	5	33,865	-38.4			
5						

SALEM, OREG. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	61	11.2	8.7	19	1.1
1000	30	128	12.6	9.6	19	.8
950	30	559	12.9	7.3	27	.7
900	30	1,014	12.1	4.7	25	2.2
850	30	1,491	9.7	1.6	24	4.3
800	30	1,993	7.8	-2.3	24	5.4
750	30	2,520	5.3	-5.2	25	7.6
700	30	3,084	2.4	-8.8	25	9.8
650	30	3,676	-.9	-12.8	25	11.0
600	30	4,315	-4.8	-16.6	26	12.1
550	30	4,987	-9.0	-21.5	26	13.5
500	30	5,726	-13.6	-26.4	26	14.8
450	30	6,514	-19.2	-32.3	26	16.4
400	30	7,385	-25.6	-37.3	26	17.5
350	30	8,339	-32.8	-43.1	26	18.6
300	30	9,405	-41.2	-51.0	26	18.8
250	30	10,619	-50.0		27	20.1
200	30	12,058	-54.3		27	21.1
175	30	12,911	-55.5		26	21.1
150	30	13,889	-57.3		26	20.7
125	30	15,036	-59.2		26	17.5
100	30	16,431	-60.0		26	12.9
80	30	17,828	-58.6		26	7.8
70	30	18,667	-58.2		26	5.5
60	30	19,640	-57.2		27	4.1
50	30	20,795	-56.4		27	2.4
40	30	22,214	-55.3		28	2.4
30	30	24,059	-53.1		28	3.8
25	29	25,243	-50.8		29	3.9
20	29	26,703	-48.8		29	4.3
15	19	28,629	-46.1		29	4.1
10	7	31,405	-42.4			
7						
5						

SALT LAKE CITY, UTAH 872 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	1,288	15.3	-4.6	16	3.5
1000	30	104				
950	30	548				
900	30	1,011				
850	30	1,502	18.8	-4.5	17	5.2
800	30	2,021	16.7	1.1	19	4.9
750	30	2,566	12.8	-1.9	22	4.5
700	30	3,142	8.4	-4.3	24	5.4
650	30	3,747	3.6	-7.7	25	6.8
600	30	4,394	-1.5	-12.8	25	8.1
550	30	5,075	-6.7	-17.7	25	9.4
500	30	5,817	-12.2	-22.4	25	9.8
450	30	6,613	-17.1	[illegible]	25	11.7
400	30	7,489	-23.6	-36.0	26	12.1
350	30	8,450	-31.0	-42.9	26	14.5
300	30	9,523	-39.8	-49.8	26	15.3
250	30	10,745	-48.8		26	19.0
200	30	12,189	-54.3		26	21.5
175	30	13,039	-56.7		26	21.5
150	30	14,009	-59.9		26	20.4
125	30	15,139	-62.8		26	16.5
100	30	16,506	-64.5		27	11.1
80	30	17,872	-63.1		27	5.6
70	30	18,597	-61.3		28	3.3
60	30	19,658	-59.4		29	2.1
50	30	20,805	-57.3		32	1.2
40	29	22,222	-55.1		35	1.5
30	28	24,073	-51.9		33	2.1
25	26	25,261	-49.6		31	1.5
20	25	26,724	-47.4		28	2.8
15	24	28,631	-45.3		27	3.2
10	19	31,352	-42.7		28	2.1
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1969

SAN DIEGO, CALIF. 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	124	17.5	16.1	33	1.9
1000	30	94				
950	30	538	19.6	11.2	35	1.4
900	30	1,002	21.9	6.6	34	.7
850	30	1,497	20.6	3.6	20	1.1
800	30	2,018	17.5	.1	19	2.4
750	30	2,565	14.1	-3.6	20	3.3
700	30	3,146	10.5	-6.7	20	3.7
650	30	3,752	6.1	-10.2	21	3.8
600	30	4,409	1.3	-14.0	21	4.6
550	30	5,095	-3.0	-20.5	23	4.8
500	30	5,853	-7.5	-26.4	25	6.1
450	30	6,657	-13.3	-31.5	25	7.3
400	30	7,553	-19.8	-37.4	25	9.0
350	30	8,530	-27.2	-43.4	25	10.5
300	30	9,621	-36.0	-50.6	25	12.3
250	30	10,863	-44.7		25	15.8
200	30	12,328	-53.3		25	20.5
175	30	13,179	-58.0		25	20.9
150	30	14,138	-63.2		25	18.7
125	30	15,247	-67.7		25	14.9
100	30	16,578	-70.0		27	6.1
80	30	17,913	-67.2		24	.4
70	30	18,726	-63.4		07	1.9
60	30	19,679	-61.1		08	3.9
50	30	20,817	-58.6		09	5.3
40	30	22,230	-55.4		08	7.2
30	29	24,077	-52.0		09	9.4
25	29	25,264	-50.0		09	10.3
20	29	26,729	-47.7		09	10.3
15	20	28,647	-44.5		09	11.9
10	7	31,429	-39.1			

SAN JUAN, P. R. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	6	25.3	21.9	16	1.7
1000	30	116	25.0	21.2	12	3.4
950	30	565	22.7	18.6	10	5.0
900	30	1,037	20.1	15.4	10	5.5
850	30	1,529	17.4	12.0	10	5.4
800	30	2,045	14.7	7.8	10	4.5
750	30	2,584	12.0	3.1	11	3.9
700	30	3,164	9.2	-2.4	11	3.2
650	30	3,769	5.9	-7.6	11	2.6
600	30	4,426	2.1	-11.8	11	2.4
550	30	5,114	-2.2	-16.8	11	1.7
500	30	5,873	-6.6	-21.2	14	1.1
450	30	6,682	-11.9	-26.8	21	1.0
400	30	7,580	-17.9	-32.0	27	1.0
350	30	8,564	-25.0	-38.6	26	1.6
300	30	9,665	-33.1	-46.2	24	3.6
250	29	10,918	-43.0		25	4.5
200	29	12,384	-54.8		27	5.8
175	29	13,225	-61.0		27	6.6
150	29	14,168	-66.9		28	7.2
125	29	15,257	-70.7		27	4.4
100	29	16,574	-72.1		01	.5
80	28	17,893	-69.8		08	5.9
70	28	18,695	-66.5		08	8.9
60	28	19,635	-63.1		08	11.0
50	28	20,767	-59.3		09	12.1
40	27	22,179	-56.0		09	13.5
30	26	24,022	-52.5		09	15.1
25	26	25,205	-50.5		09	15.7
20	22	26,673	-47.3		09	17.5
15	21	28,594	-42.5		09	19.9
10	18	31,353	-38.3		09	25.0
7	7	33,830	-35.2			

SAN NICOLAS, CALIF. 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	174	14.2	12.6	30	2.0
1000	30	100				
950	30	537	18.6	5.8	30	2.2
900	30	1,004	21.9	2.2	26	1.4
850	30	1,497	20.0	3.4	22	2.1
800	30	2,016	17.3	3.4	20	3.9
750	30	2,563	14.1	.7	20	4.5
700	30	3,141	10.3	-1.3	20	4.5
650	30	3,753	6.4	-8.4	22	4.5
600	30	4,403	1.8	-16.8	22	4.7
550	30	5,098	-3.0	-22.6	23	5.2
500	30	5,845	-7.9	-28.8	24	6.2
450	30	6,655	-13.9	-33.5	25	7.6
400	30	7,538	-20.3	-39.5	25	10.5
350	30	8,512	-28.2	-46.6	25	12.4
300	30	9,597	-37.0	-53.3	25	14.2
250	30	10,834	-45.7	-60.3	25	17.1
200	30	12,293	-53.9	-67.6	25	19.7
175	30	13,141	-58.7	-70.3	25	20.1
150	30	14,099	-63.2		24	17.5
125	30	15,208	-67.5		25	12.7
100	30	16,544	-69.2		27	5.5
80	30	17,886	-66.0		31	.4
70	30	18,703	-62.5		08	2.6
60	30	19,657	-60.9		09	4.2
50	30	20,799	-58.2		09	5.1
40	30	22,213	-55.1		08	6.8
30	29	24,063	-51.7		08	8.8
25	29	25,251	-49.7		09	9.7
20	29	26,720	-47.5		09	10.4
15	28	28,633	-44.9		08	10.7
10	26	31,367	-40.7		09	8.3
7	23	33,809	-38.2		11	5.5
5	9	36,104	-36.2			
4	5	37,722	-32.5			

* SAULT STE MARIE, MICH. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	221	10.3	8.2	05	.5
1000	30	145				
950	30	574	10.9	7.6	25	2.3
900	30	1,024	9.0	5.3	29	4.8
850	30	1,496	6.6	1.6	30	5.6
800	30	1,993	4.3	-2.0	30	6.7
750	30	2,516	2.3	-7.9	29	8.4
700	30	3,072	-.1	-12.4	28	8.9
650	30	3,659	-2.9	-15.4	28	10.1
600	30	4,293	-6.3	-18.6	28	11.3
550	30	4,964	-10.3	-23.2	28	12.0
500	30	5,697	-14.7	-26.8	28	13.6
450	30	6,481	-20.3	-32.1	28	13.8
400	30	7,349	-26.8	-38.3	28	14.1
350	30	8,298	-33.9	-44.0	28	14.7
300	30	9,359	-41.9	-49.5	28	16.1
250	30	10,573	-49.5		28	20.2
200	30	12,016	-53.9		28	20.7
175	30	12,873	-54.5		28	21.0
150	30	13,858	-55.2		28	19.8
125	30	15,016	-57.2		28	17.3
100	30	16,425	-58.0		28	13.7
80	30	17,835	-56.7		28	9.6
70	30	18,683	-55.8		28	7.8
60	30	19,667	-54.9		29	6.2
50	30	20,834	-54.1		28	5.2
40	30	22,270	-52.7		28	4.8
30	30	24,136	-50.4		27	5.4
25	30	25,330	-48.6		27	5.8
20	30	26,806	-46.3		27	7.1
15	30	28,728	-43.6		27	8.2
10	30	31,478	-39.6		26	7.3
7	27	33,930	-36.6		27	6.8
5	14	36,371	-32.1			

* SHEMYA, ALASKA 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	38	9.2	7.9	21	2.4
1000	30	57			24	3.8
950	30	479	6.8	5.0	25	5.0
900	30	923	4.8	.6	26	4.7
850	30	1,388	2.7	-4.2	26	5.2
800	30	1,877	.6	-7.6	26	4.7
750	30	2,393	-1.9	-11.3	27	5.3
700	30	2,939	-4.7	-13.9	28	5.8
650	30	3,518	-8.1	-19.3	27	7.1
600	30	4,137	-11.6	-23.7	27	8.1
550	30	4,794	-15.9	-27.3	27	8.3
500	30	5,512	-20.5	-31.4	27	9.6
450	30	6,280	-25.6	-36.7	28	11.2
400	30	7,130	-31.1	-42.3	27	13.4
350	30	8,065	-37.3	-43.5	26	15.6
300	30	9,115	-44.2	-45.5	26	15.9
250	30	10,321	-50.1		27	15.1
200	30	11,773	-51.0		27	15.8
175	28	12,630	-51.3		26	15.2
150	28	13,630	-51.8		26	12.9
125	28	14,810	-52.4		25	11.5
100	28	16,251	-52.5		25	9.9
80	28	17,695	-52.2		25	8.5
70	28	18,559	-52.0		25	7.1
60	28	19,559	-51.6		24	6.0
50	28	20,742	-51.6		24	5.0
40	27	22,185	-51.3		25	4.6
30	24	24,055	-50.6		26	4.6
25	24	25,244	-50.1		27	4.4
20	23	26,705	-49.4		27	4.9
15	23	28,596	-48.1		27	4.1
10	20	31,264	-46.0		30	5.3
7	17	33,657	-43.6		30	7.0
5	11	35,955	-40.6			
4	5	37,544				

* SHREVEPORT, LA. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	79	19.8	16.7	10	.9
1000	30	141	20.5	16.8	13	1.4
950	30	595	20.9	14.9	15	2.6
900	30	1,054	18.7	11.4	16	1.4
850	30	1,543	15.9	9.0	03	.6
800	30	2,057	13.2	4.7	36	1.9
750	30	2,597	10.1	-.1	35	2.4
700	30	3,169	6.8	-3.9	34	2.2
650	30	3,775	3.5	-7.5	33	1.3
600	30	4,420	-.4	-11.8	29	1.2
550	30	5,109	-4.4	-16.3	27	3.0
500	30	5,858	-8.7	-22.0	28	3.1
450	30	6,665	-14.0	-26.9	29	4.7
400	30	7,552	-20.2	-32.7	30	6.0
350	30	8,527	-27.3	-40.0	30	7.7
300	30	9,618	-35.7	-46.8	30	9.4
250	30	10,862	-44.9		30	11.9
200	30	12,323	-53.9		30	14.3
175	30	13,174	-57.9		30	14.0
150	30	14,134	-62.9		30	12.6
125	30	15,243	-67.7		31	9.2
100	30	16,578	-69.7		31	5.8
80	30	17,915	-66.2		01	2.7
70	30	18,729	-63.6		05	2.8
60	30	19,680	-60.6		08	4.0
50	30	20,823	-57.6		09	5.4
40	30	22,239	-54.8		08	7.0
30	30	24,092	-51.5		08	9.9
25	30	25,282	-48.9		09	10.4
20	29	26,750	-46.6		09	10.3
15	28	28,673	-44.0		08	10.1
10	25	31,411	-39.8		08	11.4
7	17	33,873	-36.2		10	8.4
5	11	36,224	-31.7		10	5.0
4	6	37,817	-29.2			

SPOKANE, WASH. 930 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	720	10.8	3.2	17	2.4
1000	30	110				
950	30	542				
900	30	998	13.7	4.6	20	3.9
850	30	1,478	11.6	1.4	23	4.9
800	30	1,982	8.1	-.6	24	5.4
750	30	2,510	4.5	-3.5	24	6.8
700	30	3,070	1.1	-5.9	24	8.1
650	30	3,655	-2.7	-10.1	24	9.7
600	30	4,293	-6.6	-16.0	24	11.3
550	30	4,960	-10.9	-19.5	25	13.4
500	30	5,694	-15.5	-25.7	25	14.3
450	30	6,477	-20.7	-30.8	25	16.2
400	30	7,343	-26.9	-36.2	25	17.4
350	30	8,292	-34.0	-42.7	25	19.6
300	30	9,354	-42.2		26	21.7
250	30	10,564	-50.7		26	23.6
200	30	12,003	-53.9		26	22.7
175	29	12,855	-53.8		26	21.9
150	28	13,843	-55.3		26	19.0
125	27	15,003	-57.0		26	16.2
100	27	16,414	-57.8		26	11.8
80	27	17,824	-56.9		26	9.1
70	27	18,670	-56.7		27	7.1
60	27	19,648	-56.2		27	5.2
50	27	20,807	-55.9		28	3.8
40	27	22,231	-54.9		29	2.7
30	26	24,077	-52.8		27	4.7
25	26	25,257	-51.3		28	4.7
20	25	26,713	-49.8		28	6.3
15	22	28,610	-47.0		28	9.0
10	19	31,332	-42.1		26	9.0
7	6	33,790	-40.0			

* SWAN ISLAND, W. I. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	10	26.9	24.0	11	3.1
1000	30	90	26.5	23.7	10	4.1
950	30	543	23.8	20.9	11	6.3
900	30	1,014	21.1	17.0	12	6.3
850	30	1,509	18.4	13.1	12	6.7
800	30	2,028	15.4	9.6	12	6.7
750	30	2,574	12.6	5.2	12	6.4
700	30	3,150	9.6	.0	12	6.4
650	30	3,759	6.1	-4.3	12	6.1
600	30	4,414	2.2	-7.7	13	5.5
550	30	5,110	-1.7	-12.1	13	5.0
500	30	5,866	-5.8	-16.9	12	4.3
450	30	6,686	-10.7	-20.6	12	3.3
400	30	7,582	-16.0	-26.7	11	2.8
350	30	8,574	-22.8	-33.4	08	1.5
300	30	9,686	-31.2	-41.2	32	.5
250	30	10,950	-41.5		30	2.5
200	30	12,423	-54.3		30	5.1
175	30	13,264	-61.4		30	6.8
150	30	14,204	-68.6		31	6.9
125	30	15,277	-75.1		34	5.3
100	30	16,569	-73.9		05	4.8
80	29	17,880	-70.8		08	6.6
70	29	18,677	-68.1		09	8.6
60	29	19,610	-64.6		09	9.5
50	29	20,734	-60.9		09	11.2
40	29	22,132	-57.5		09	12.7
30	28	23,963	-53.8		09	14.0
25	26	25,143	-50.7		09	14.8
20	26	26,606	-47.8		09	14.1
15	21	28,516	-43.9		09	18.6
10	12	31,240	-37.7		10	21.5

TAMPA, FLA. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	8	23.5	22.2	07	2.2
1000	29	119	23.6	21.6	08	3.1
950	29	569	22.0	18.4	11	3.4
900	29	1,038	19.4	14.5	13	2.5
850	29	1,529	16.6	11.5	15	2.0
800	29	2,044	13.8	7.7	17	1.6
750	29	2,587	11.0	4.7	17	1.9
700	29	3,161	7.9	.6	20	1.5
650	29	3,769	4.5	-4.6	19	2.0
600	29	4,418	.7	-8.1	21	2.0
550	29	5,110	-3.3	-12.8	21	2.6
500	29	5,860	-7.7	-18.4	21	2.2
450	29	6,676	-12.6	-23.4	22	2.7
400	29	7,565	-18.3	-28.5	22	3.7
350	29	8,548	-25.3	-36.3	23	5.3
300	29	9,648	-33.8	-44.6	23	7.0
250	29	10,899	-43.7		23	10.8
200	29	12,361	-55.2		23	11.7
175	29	13,202	-60.6		24	11.0
150	29	14,151	-65.4		26	8.2
125	29	15,248	-69.7		29	4.3
100	29	16,571	-71.0		01	1.9
80	29	17,902	-67.1		07	3.7
70	29	18,712	-64.6		07	4.9
60	29	19,660	-61.7		08	7.3
50	28	20,797	-58.9		09	9.5
40	28	22,206	-56.0		09	11.1
30	27	24,046	-52.7		09	13.8
25	26	25,231	-50.1		09	14.3
20	25	26,698	-46.8		09	13.8
15	25	28,618	-44.0		08	13.5
10	20	31,356	-39.6		09	13.4
7	12	33,812	-35.5			

TOPEKA, KANS. 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	268	15.5	13.5	10	.9
1000	30	145				
950	30	583	17.8	12.9	17	3.9
900	30	1,046	17.0	9.6	21	4.0
850	30	1,533	14.6	7.0	24	4.0
800	30	2,044	12.1	3.0	25	2.6
750	30	2,578	9.0	-.7	28	3.1
700	30	3,151	5.6	-4.9	28	3.9
650	30	3,748	1.8	-8.7	29	4.8
600	30	4,395	-1.8	-14.2	30	6.3
550	30	5,076	-6.2	-19.1	30	6.1
500	30	5,822	-10.7	-24.8	30	6.7
450	30	6,619	-16.1	-30.5	30	7.5
400	30	7,502	-22.4	-35.8	29	9.4
350	30	8,469	-29.6	-41.1	28	10.2
300	30	9,550	-38.3	-48.0	28	11.3
250	30	10,779	-47.5		28	15.4
200	30	12,228	-55.0		28	20.1
175	30	13,075	-57.9		29	19.2
150	30	14,041	-60.7		29	18.0
125	30	15,167	-63.7		29	13.9
100	30	16,528	-65.5		29	9.7
80	30	17,890	-63.6		30	5.1
70	30	18,715	-60.9		31	3.0
60	30	19,678	-58.8		33	1.3
50	29	20,828	-56.6		36	1.0
40	29	22,252	-54.0		06	1.2
30	29	24,113	-50.4		05	1.5
25	25	25,297	-48.8		09	1.1
20	23	26,777	-46.2		09	1.6
15	22	28,696	-44.3		07	2.5
10	21	31,435	-40.7		08	3.1

+ TRUK, CAROLINE IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	2	28.4	24.5	18	1.7
1000	30	89	27.4	22.6	18	1.7
950	30	535	23.7	18.9	16	1.4
900	30	1,014	20.7	15.6	14	2.0
850	30	1,507	18.2	12.2	14	2.4
800	30	2,025	15.6	9.1	13	2.5
750	30	2,572	12.8	5.5	11	3.4
700	30	3,149	9.9	1.8	11	3.8
650	30	3,763	6.5	-2.1	10	4.6
600	30	4,415	2.6	-5.6	10	5.4
550	30	5,108	-.9	-10.3	09	5.3
500	30	5,872	-4.8	-15.5	10	5.8
450	29	6,688	-9.5	-22.0	10	6.2
400	29	7,597	-15.0	-28.4	10	6.3
350	29	8,594	-21.4	-35.9	09	5.3
300	28	9,713	-29.7	-44.5	09	5.3
250	28	10,986	-40.0	-52.7	09	6.5
200	28	12,469	-52.5		08	7.3
175	28	13,318	-59.7		07	8.0
150	28	14,265	-67.4		06	8.4
125	28	15,343	-74.8		07	10.1
100	28	16,622	-78.2		08	8.7
80	28	17,922	-70.1		08	6.6
70	28	18,723	-66.7		09	4.4
60	28	19,663	-62.8		10	3.8
50	28	20,793	-60.4		09	2.8
40	27	22,192	-57.2		09	3.6
30	27	24,027	-53.5		10	4.7
25	27	25,205	-51.5		10	5.6
20	27	26,664	-48.6		10	7.2
15	27	28,568	-45.9		10	9.3
10	26	31,299	-40.8		09	18.3
7	20	33,737	-36.2		09	25.3
5	5	35,967	-36.2			

* TUCSON, ARIZ. 923 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	789	21.8	11.9	14	3.8
1000	30	83				
950	30	532				
900	30	1,007	24.7	11.0	14	4.9
850	30	1,507	22.3	8.4	12	3.5
800	30	2,031	18.7	5.7	14	3.3
750	30	2,579	14.6	3.0	16	3.4
700	30	3,160	10.0	.0	17	3.2
650	30	3,769	5.4	-5.4	18	2.7
600	30	4,421	.8	-10.3	21	2.1
550	30	5,108	-3.7	-15.5	25	2.4
500	30	5,863	-7.7	-22.2	27	3.7
450	30	6,671	-12.7	-28.6	27	4.7
400	30	7,565	-19.0	-34.3	27	6.9
350	30	8,544	-26.3	-40.3	27	8.8
300	30	9,641	-34.5	-47.0	26	12.1
250	30	10,891	-43.1		26	16.4
200	30	12,362	-53.0		26	20.5
175	30	13,213	-58.3		26	19.5
150	30	14,169	-63.9		26	17.6
125	30	15,272	-68.8		26	13.6
100	30	16,596	-71.7		26	7.0
80	30	17,924	-67.8		35	1.5
70	30	18,734	-64.4		07	3.2
60	29	19,685	-61.0		09	4.2
50	29	20,824	-58.8		09	5.9
40	29	22,235	-55.9		08	8.1
30	29	24,081	-52.5		09	10.3
25	28	25,265	-50.3		09	10.5
20	28	26,730	-47.9		09	10.7
15	26	28,646	-44.5		08	10.9
10	18	31,383	-40.4		07	10.3
7	10	33,830	-36.8			

* VANDENBERG AFB, CALIF. 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	24	100	12.7	12.6	34	.5
1000	24	106			34	.6
950	24	545	15.0	7.0	01	1.9
900	24	1,002	20.6	2.9	08	1.6
850	24	1,494	18.7	-.5	12	1.5
800	24	2,011	16.3	-3.4	19	2.3
750	24	2,555	13.2	-5.5	19	3.5
700	24	3,134	9.7	-9.0	21	3.6
650	24	3,744	6.0	-12.7	21	4.4
600	24	4,396	1.7	-18.5	22	5.9
550	24	5,085	-3.2	-22.2	23	6.8
500	24	5,838	-8.3	-27.2	23	7.7
450	24	6,643	-14.3	-31.7	24	8.8
400	24	7,530	-20.8	-37.3	24	10.4
350	24	8,501	-28.7	-43.1	25	12.7
300	24	9,586	-37.2	-50.7	25	15.9
250	24	10,822	-46.3		25	18.3
200	24	12,278	-54.1		25	20.6
175	24	13,128	-57.9		25	20.5
150	24	14,091	-61.8		25	17.6
125	23	15,205	-65.8		25	13.2
100	23	16,553	-67.5		26	7.3
80	23	17,903	-65.3		26	2.0
70	23	18,721	-62.5		11	.1
60	23	19,678	-60.2		08	1.5
50	23	20,821	-58.1		09	3.5
40	23	22,236	-55.6		08	4.5
30	21	24,091	-52.1		08	6.5
25	19	25,277	-50.3		09	7.9
20	19	26,741	-47.9		09	8.6
15	18	28,653	-45.1		09	8.6
10	16	31,392	-40.4		09	6.9
7	9	33,835	-37.2			

VICTORIA, TEXAS 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	33	22.3	20.7	03	1.9
1000	30	126	23.6	21.1	06	1.9
950	30	574	22.5	18.1	14	3.2
900	30	1,046	19.7	14.1	13	3.3
850	30	1,537	16.8	9.6	11	2.8
800	30	2,053	13.9	6.5	10	2.2
750	30	2,591	11.1	2.1	07	2.1
700	30	3,169	7.5	-.6	06	2.0
650	30	3,773	4.3	-6.1	04	.9
600	30	4,425	.7	-10.2	01	1.1
550	30	5,114	-3.1	-15.6	34	1.0
500	30	5,868	-7.3	-21.0	33	1.9
450	30	6,676	-12.4	-26.8	33	3.3
400	30	7,572	-18.7	-33.6	32	4.7
350	30	8,553	-25.9	-40.4	31	7.3
300	30	9,651	-34.1	-47.2	32	10.1
250	30	10,903	-43.3		31	13.7
200	30	12,372	-53.6		31	15.4
175	30	13,220	-59.0		31	14.3
150	30	14,174	-64.7		31	11.8
125	30	15,271	-70.3		32	7.8
100	29	16,585	-72.6		34	4.4
80	29	17,902	-69.6		04	4.4
70	28	18,706	-65.6		07	5.5
60	28	19,651	-61.9		09	7.0
50	28	20,785	-59.2		09	8.5
40	28	22,193	-56.0		09	10.4
30	28	24,037	-52.4		09	12.2
25	28	25,221	-50.2		09	13.9
20	28	26,687	-47.5		09	14.6
15	26	28,600	-43.6		09	14.1
10	21	31,349	-39.1		09	15.4
7	12	33,809	-34.7			

* WAKE IS., PACIFIC AREA 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	28.2	24.6	10	6.1
1000	30	110	27.0	23.3	10	6.9
950	30	560	23.4	21.0	11	7.9
900	30	1,034	20.4	17.1	11	7.7
850	30	1,527	17.5	13.6	11	7.7
800	30	2,044	14.9	10.6	11	7.0
750	30	2,586	12.2	6.9	10	6.7
700	30	3,166	9.2	2.8	10	5.8
650	30	3,774	5.8	-1.5	10	5.5
600	30	4,430	2.2	-8.0	09	4.7
550	30	5,124	-1.8	-14.0	08	4.2
500	30	5,881	-6.1	-19.4	07	4.0
450	30	6,693	-11.1	-25.6	06	3.9
400	30	7,594	-16.9	-31.3	05	3.9
350	30	8,583	-23.6	-38.5	02	3.9
300	30	9,691	-31.9	-46.1	36	4.1
250	30	10,952	-41.9		33	3.5
200	30	12,423	-54.1		31	5.3
175	30	13,267	-60.7		31	4.9
150	30	14,211	-67.2		29	4.2
125	30	15,296	-72.6		35	2.8
100	29	16,597	-74.4		05	6.1
80	28	17,906	-70.4		09	8.5
70	28	18,704	-67.8		09	9.6
60	26	19,642	-64.2		09	10.4
50	26	20,766	-61.3		09	11.7
40	26	22,162	-57.8		09	13.3
30	26	23,992	-53.9		09	15.2
25	25	25,168	-51.8		09	16.0
20	25	26,624	-48.9		09	17.6
15	20	28,534	-45.0		08	19.2
10	14	31,266	-40.7		09	22.3

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	* WALLOPS IS., VA. NASA 1018 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	WASHINGTON DULLES INT. AP 1010 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	WAYCROSS, GA. 1010 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	30	3	18.0	16.4	35	1.4	30	85	13.0	12.0	33	.7	30	44	20.3	19.6	04	2.1
1000	30	157	18.9	14.7	34	2.0	30	167	15.0	12.7	34	1.0	30	132	20.6	19.4	04	3.6
950	30	596	16.5	11.5	34	2.2	30	606	16.0	9.4	33	2.3	30	575	20.1	17.0	07	5.5
900	30	1,057	14.5	6.7	33	1.9	30	1,062	13.7	6.9	32	2.1	30	1,042	17.9	13.3	08	3.9
850	30	1,538	12.0	2.8	30	2.4	30	1,543	11.3	2.9	30	2.9	29	1,530	15.4	9.0	09	2.7
800	30	2,045	10.4	-3.1	28	3.7	30	2,048	9.2	-1.3	28	4.1	29	2,043	12.9	5.2	14	1.1
750	30	2,578	8.2	-5.9	28	4.9	30	2,584	7.0	-6.0	27	5.0	29	2,576	10.1	1.0	18	1.4
700	30	3,148	5.1	-8.1	27	5.4	30	3,147	4.6	-9.1	26	6.0	29	3,154	7.5	-4.4	19	1.0
650	30	3,747	2.3	-12.6	26	6.1	30	3,748	1.3	-13.2	26	6.9	29	3,755	4.5	-7.6	23	1.6
600	30	4,393	-1.2	-16.5	26	7.9	30	4,388	-2.1	-17.8	27	8.6	29	4,409	.7	-11.2	22	1.6
550	30	5,076	-5.2	-21.2	26	9.3	30	5,071	-5.8	-22.7	26	9.6	29	5,094	-3.2	-14.9	21	2.4
500	30	5,825	-9.9	-25.6	26	10.0	30	5,816	-10.5	-27.2	26	10.4	29	5,851	-7.7	-19.0	22	3.4
450	30	6,624	-15.3	-30.0	26	11.5	30	6,617	-15.9	-31.2	27	11.0	29	6,655	-13.1	-24.4	22	3.5
400	30	7,510	-21.6	-36.4	26	11.8	30	7,497	-22.3	-36.6	27	11.8	29	7,552	-19.1	-31.5	23	4.0
350	30	8,481	-28.5	-42.6	26	13.5	30	8,465	-29.3	-43.3	27	12.9	29	8,532	-26.1	-38.7	24	5.5
300	30	9,568	-36.5	-48.7	26	16.2	30	9,547	-37.6	-49.9	27	14.9	29	9,628	-34.5	-46.2	24	8.4
250	30	10,807	-45.5		26	18.7	30	10,782	-46.3		26	17.4	29	10,876	-44.3		24	11.1
200	30	12,264	-54.8		26	20.7	30	12,237	-54.6		26	18.7	29	12,336	-54.8		24	13.4
175	30	13,109	-59.0		26	19.2	30	13,085	-58.1		26	18.2	29	13,180	-59.6		24	11.5
150	30	14,069	-61.9		26	16.8	30	14,049	-60.9		26	16.9	29	14,134	-64.0		26	8.1
125	30	15,190	-64.4		26	13.5	30	15,176	-63.2		27	14.8	29	15,241	-67.6		27	5.0
100	30	16,550	-64.7		27	9.9	30	16,544	-63.9		27	9.9	29	16,577	-69.0		30	2.5
80	30	17,917	-62.7		27	4.6	29	17,919	-61.3		27	6.2	29	17,919	-65.5		02	1.8
70	29	18,745	-60.6		27	2.5	29	18,750	-59.7		27	3.2	29	18,737	-62.7		06	3.1
60	29	19,709	-58.4		26	1.2	29	19,719	-57.3		28	1.4	29	19,692	-60.4		08	5.3
50	29	20,862	-56.0		06	.6	29	20,877	-55.4		01	.4	27	20,836	-57.5		09	7.7
40	29	22,288	-53.5		06	2.7	29	22,307	-53.2		07	1.6	27	22,255	-54.7		09	9.3
30	29	24,152	-50.0		09	4.3	28	24,172	-50.2		08	1.7	26	24,107	-51.4		09	11.3
25	29	25,347	-48.2		09	4.6	26	25,365	-48.1		09	2.8	24	25,296	-49.2		09	11.6
20	28	26,823	-46.1		09	5.3	25	26,843	-46.3		09	2.7	23	26,774	-46.7		09	11.9
15	25	28,746	-43.6		08	5.6	23	28,769	-43.7		09	2.2	21	28,696	-43.2		08	11.3
10	19	31,487	-40.6		08	4.6	20	31,507	-40.5		10	3.3	20	31,450	-38.9		08	10.9
7	6	33,956	-35.9				11	33,953	-36.4				12	33,904	-36.0			

Standard pressure surface (mb)	WINNEMUCCA, NEV. 869 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	WINSLOW, ARIZ. 853 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	30	1,312	7.9	-4.7	15	.7	30	1,487	14.4	6.6	17	1.4
1000	30	129					30	113				
950	30	561					30	552				
900	30	1,019					30	1,021				
850	30	1,499	16.3	.1	13	.5	30	1,513	14.5	6.5	17	1.4
800	30	2,014	15.1	-2.0	25	2.1	30	2,031	17.8	5.0	23	2.5
750	30	2,553	11.2	-4.2	24	3.4	30	2,578	14.4	2.0	24	2.8
700	30	3,128	6.7	-6.2	24	5.6	30	3,159	9.7	-.5	24	2.8
650	30	3,729	2.3	-10.1	24	8.0	30	3,764	4.7	-4.0	22	3.4
600	30	4,373	-2.8	-13.8	24	9.9	30	4,415	-.4	-8.6	22	3.7
550	30	5,051	-7.5	-19.5	24	10.8	30	5,101	-5.0	-16.3	25	5.3
500	30	5,793	-12.0	-26.4	25	10.5	30	5,849	-9.2	-22.8	26	5.8
450	30	6,586	-17.4	-32.3	25	10.6	30	6,651	-14.2	-29.3	27	6.5
400	30	7,464	-23.9	-37.2	26	10.9	30	7,541	-20.8	-35.0	27	9.0
350	30	8,425	-31.3	-43.0	26	12.3	30	8,514	-28.2	-40.7	27	11.4
300	30	9,498	-39.8	-50.1	26	13.9	30	9,602	-36.3	-47.4	27	14.1
250	30	10,720	-48.5		27	16.1	30	10,843	-45.2		26	18.5
200	30	12,165	-54.5		26	19.5	30	12,306	-53.7		26	22.7
175	30	13,016	-56.8		26	19.8	30	13,156	-58.1		26	22.8
150	30	13,986	-59.7		26	18.1	30	14,116	-62.8		27	19.3
125	30	15,117	-62.2		26	15.4	30	15,227	-67.3		26	14.5
100	30	16,489	-63.7		27	10.8	30	16,564	-69.1		27	7.6
80	30	17,861	-62.2		26	5.4	30	17,899	-67.2		28	3.0
70	30	18,689	-60.5		27	3.5	30	18,711	-64.4		32	.9
60	30	19,652	-59.0		27	1.4	30	19,661	-61.2		08	2.0
50	30	20,800	-57.4		30	1.5	30	20,800	-58.5		07	3.0
40	30	22,217	-55.1		33	1.7	30	22,212	-55.9		08	4.7
30	30	24,069	-51.7		34	1.2	29	24,054	-52.7		09	6.6
25	30	25,256	-49.9		33	1.3	28	25,236	-50.6		09	7.3
20	28	26,726	-47.8		27	1.1	25	26,704	-48.2		09	7.5
15	21	28,642	-45.7		31	.2	16	28,592	-45.9		08	6.7
10	14	31,362	-43.2		01	.6						
7												

Standard pressure surface (mb)	YAKUTAT, ALASKA 1009 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	+ YAP, CAROLINE IS. 1007 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	30	12	6.6	6.0	09	1.3	30	14	27.7	24.6	26	2.6
1000	30	82	8.3	6.3	10	1.4	30	77	26.9	23.3	26	3.0
950	30	508	8.4	3.7	12	3.3	30	520	23.3	19.6	26	4.3
900	30	952	5.4	1.6	13	3.7	30	1,001	20.5	16.1	27	4.2
850	30	1,417	2.4	-1.0	13	3.9	30	1,495	18.0	12.7	27	3.3
800	30	1,904	-.8	-4.0	14	4.6	30	2,013	15.4	10.1	28	1.9
750	30	2,419	-3.7	-7.1	14	4.8	30	2,554	12.5	6.3	26	.8
700	30	2,959	-6.9	-10.9	16	4.1	30	3,136	9.6	3.6	20	.4
650	30	3,533	-10.5	-14.9	16	5.1	30	3,742	6.2	.3	14	.6
600	30	4,167	-14.3	-20.2	17	5.2	30	4,401	2.6	-3.1	13	1.8
550	30	4,800	-18.5	-25.8	18	5.3	30	5,097	-1.2	-7.2	12	2.4
500	30	5,506	-23.0	-31.0	18	5.5	30	5,856	-5.2	-12.9	12	2.6
450	30	6,271	-28.1	-36.7	19	6.0	30	6,678	-9.5	-18.9	13	2.9
400	30	7,108	-34.1	-42.5	20	5.9	30	7,581	-14.9	-25.5	11	4.4
350	30	8,029	-40.9	-46.9	21	6.2	30	8,577	-21.5	-33.4	10	5.7
300	30	9,060	-48.2		21	6.8	29	9,694	-29.9	-41.8	10	6.4
250	30	10,245	-52.7		23	7.4	29	10,966	-40.0	-50.5	08	6.9
200	30	11,692	-50.1		25	8.3	29	12,447	-52.7		07	9.1
175	30	12,564	-49.8		25	7.4	29	13,294	-60.0		07	11.3
150	30	13,572	-50.2		25	7.4	29	14,238	-67.9		07	15.0
125	30	14,760	-50.5		25	7.3	28	15,313	-75.5		07	17.2
100	30	16,213	-51.0		26	6.0	28	16,590	-78.5		08	13.9
80	29	17,661	-51.6		26	5.8	28	17,883	-71.2		08	10.9
70	29	18,527	-51.9		26	5.3	28	18,682	-66.9		09	8.1
60	29	19,525	-52.3		26	5.9	28	19,618	-64.4		08	6.7
50	29	20,703	-52.8		27	5.4	28	20,739	-61.8		08	7.4
40	28	22,139	-53.3		27	5.6	27	22,138	-57.1		09	7.3
30	26	24,000	-53.2		29	5.7	27	23,973	-53.9		10	8.6
25	24	25,175	-52.7		30	5.9	26	25,148	-52.0		10	9.0
20	22	26,610	-51.8		30	6.6	25	26,604	-48.4		10	10.0
15	21	28,475	-50.1		29	7.2	22	28,511	-45.2		10	10.1
10	18	31,125	-47.2		29	7.8	17	31,231	-41.3		09	17.8
7							10	33,661	-37.6			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 881 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.	YUMA, ARIZ. 992 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Speed M.p.s.
SURFACE	30	1,198	12.3	3.8	29	.3	21	131	26.7	12.3	06	.7
1000	30	108					21	62				
950	30	549					21	515	28.9	12.9	03	.6
900	30	1,012					21	997	26.3	10.0	17	.6
850	30	1,499	20.6	4.3	23	1.7	21	1,498	22.6	7.5	16	1.7
800	30	2,021	18.0	1.3	20	6.0	21	2,021	18.4	4.7	16	2.5
750	30	2,566	14.0	-2.0	21	7.0	21	2,567	14.4	.0	17	3.1
700	30	3,147	9.3	-5.4	20	6.2	21	3,150	10.2	-5.5	18	3.2
650	30	3,751	4.8	-10.3	21	5.8	21	3,754	5.8	-10.0	19	2.7
600	30	4,404	.2	-15.2	22	4.4	21	4,411	1.0	-14.0	23	2.3
550	30	5,088	-4.7	-20.5	24	5.6	21	5,096	-3.2	-21.3	25	2.8
500	30	5,839	-9.5	-25.4	24	7.4	21	5,853	-7.5	-27.6	27	4.5
450	30	6,639	-15.4	-31.3	25	9.8	21	6,659	-12.9	-33.0	28	6.3
400	30	7,524	-21.8	-37.0	25	12.3	21	7,554	-19.5	-38.7	27	7.6
350	30	8,494	-29.1	-43.1	26	14.4	21	8,531	-27.4	-44.6	27	9.0
300	30	9,576	-37.9	-50.4	26	16.9	21	9,621	-36.0	-51.4	26	11.5
250	30	10,809	-46.7		26	21.0	20	10,867	-44.5		26	14.9
200	29	12,264	-53.4		26	21.4	17	12,340	-53.6		26	15.7
175	29	13,117	-56.8		26	20.2	12	13,172	-59.3		26	14.9
150	29	14,086	-60.5		26	18.4	9	14,136	-65.0			
125	29	15,209	-64.6		26	14.6	5	15,255	-68.2			
100	29	16,563	-66.8		26	8.6						
80	29	17,919	-64.5		27	3.6						
70	29	18,739	-62.3		29	1.6						
60	28	19,698	-59.4		05	.7						
50	28	20,845	-57.2		05	1.6						
40	28	22,264	-54.7		06	3.2						
30	27	24,119	-51.7		09	3.6						
25	25	25,297	-49.8		08	4.5						
20	21	26,755	-47.8		07	4.3						
15	14	28,646	-46.3		08	4.6						
10	8	31,351	-43.5									
7												

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun. SEPTEMBER 1969

Sun's zenith distance

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
ALBUQUERQUE, N. MEX.									
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Sep.									
1-----	0.86	0.97	1.07	1.22	----	----	----	----	----
2-----	.85	.94	1.06	1.20	1.36	1.18	1.05	0.88	0.78
3-----	.81	.90	.99	1.17	1.37	1.17	----	.89	.75
5-----	----	----	----	----	1.32	----	----	----	----
6-----	----	.89	1.00	1.19	1.35	1.16	.99	.87	.73
7-----	(.76)	(.87)	(.97)	(1.16)	----	----	----	----	----
9-----	.77	.88	.99	1.15	1.30	----	----	----	----
10-----	.73	.83	.95	1.10	1.25	(1.01)	(.85)	(.72)	(.64)
12----	(.59)	----	----	----	----	1.07	.92	.78	----
14----	.73	.84	.96	1.12	----	----	----	----	----
15----	.77	.87	.99	1.13	1.33	(1.14)	----	----	----
16----	.80	.94	1.07	1.22	1.35	1.23	1.07	.97	.84
17----	----	----	----	----	1.27	----	----	----	----
18----	.71	.82	.94	1.12	1.30	1.15	.94	.81	.63
21----	----	----	1.09	1.21	----	----	----	----	----
22----	.85	.92	1.04	1.14	1.39	1.23	1.01	----	.78
23----	.84	.94	1.07	1.21	1.37	1.19	1.03	----	.77
24----	.90	1.00	1.10	1.21	1.40	1.26	1.13	1.00	.90
25----	.93	1.04	1.15	1.29	1.44	1.29	1.11	.99	.87
26----	.92	1.01	1.13	1.29	1.40	1.23	1.09	.94	.81
27----	.75	.82	.95	(.97)	1.29	1.14	.94	.78	.65
28----	.71	.81	.94	1.13	1.28	1.05	.82	.71	.59
29----	.75	.86	.99	1.13	1.25	1.15	.97	.83	.72
30----	.68	.80	----	----	----	----	----	----	----
Averages	0.80	0.90	1.03	1.18	1.33	1.18	1.01	0.87	0.75
OMAHA, NEBR.									
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Sep.									
1-----	----	----	----	----	----	----	HS0.91	HS0.82	HS0.72
2-----	----	----	----	----	----	----	HS .94	HS .80	.74
7-----	----	----	----	HS1.10	HS1.30	HS1.14	HS .88	HS .80	HM .66
8-----	0.80	0.91	1.03	1.21	----	----	HS .96	----	----
9-----	HS .68	HS .86	HS .96	HS1.11	HS1.31	----	----	----	----
12----	HS .66	HS .76	HS .98	HS1.09	----	----	----	----	----
19----	----	.80	HS .90	1.10	HS1.23	----	----	----	----
20----	HS .62	HS .73	HS .85	HS1.00	HM1.15	HS .96	HS .78	HS .64	HS .52
21----	----	HI .35	----	----	HI .83	----	----	----	----
23----	.84	.95	1.08	1.25	1.36	HS1.21	HS1.10	----	----
24----	.70	.85	.98	1.13	HS1.22	HS1.12	HS .88	HS .72	----
25----	----	----	----	----	----	----	HS .96	HS .82	HS .73
27----	----	----	----	----	HS1.23	1.11	----	----	----
28----	HS .66	HS .79	HS .93	----	----	----	----	----	----
29----	.60	HS .71	HS .86	----	----	----	HS .86	HS .75	----
Averages	0.69	0.77	0.95	1.12	1.20	1.11	0.92	0.77	0.67
GUAM, M. I.									
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observations due to cloudiness								

( ) Clouds present
HS Slight haze
HM Moderate haze
M Moderate haze - indeterminable
S Slight haze - indeterminable
* Values corresponding to true solar noon

Sun's zenith distance

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
MADISON, WIS.									
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Sep.									
3-----	M 0.43	M 0.53	M 0.64	S 0.89	----	----	----	----	----
9-----	S .87	S .96	S 1.45	S 1.23	----	----	S 1.06	----	----
12----	M .67	M 78	S 1.00	S 1.08	S 1.31	----	----	----	----
21----	M .50	M .60	M .76	----	----	----	----	----	----
26----	S .82	----	----	----	----	----	----	----	----
27----	S .81	S .94	S 1.08	S 1.24	S 1.34	----	----	----	----
28----	S .90	S 1.01	S 1.13	S 1.26	----	----	----	----	----
30----	S .83	S .93	S 1.03	S 1.17	----	----	----	----	----
Averages	0.73	0.82	1.01	1.15	1.33	----	1.06	----	----
BLUE HILL OBS. MASS.									
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Sep.									
10----	0.77	0.84	0.96	1.16	----	----	----	----	----
11----	.91	1.00	1.11	1.23	1.33	----	----	----	----
12----	.64	.76	.90	1.08	1.23	0.96	0.66	0.49	0.38
13----	.61	.74	.82	.94	1.13	----	----	----	----
14----	.48	.60	.72	.90	1.13	.96	.77	.62	.53
20----	.88	.99	1.11	1.25	1.39	1.25	1.08	.96	.87
21----	.89	.99	1.10	1.24	1.40	1.24	1.06	.89	.77
22----	.89	.96	1.08	1.21	1.36	1.21	.93	.79	.55
23----	.66	.76	.85	.96	1.04	.95	.85	.75	.69
Averages	0.75	0.85	0.96	1.11	1.25	1.09	0.89	0.75	0.63
TUCSON, ARIZ.									
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Sep.									
1-----	0.77	0.86	0.97	1.13	1.29	----	0.92	----	----
2-----	.77	.86	.97	1.13	1.30	1.12	----	----	----
3-----	.66	.77	.90	1.04	1.23	----	----	----	----
4-----	.56	.67	.79	.99	1.21	----	----	----	----
5-----	.72	.81	.93	1.08	1.27	----	----	----	0.70
7-----	.66	.76	.89	1.05	1.26	1.10	.87	0.75	.69
8-----	.67	.77	.89	1.04	1.23	----	----	----	----
9-----	.72	.81	.91	1.02	1.25	.94	----	----	----
13----	----	.69	.82	1.02	----	----	----	----	----
14----	----	----	----	----	1.18	----	----	----	----
15----	----	----	----	----	----	----	1.00	.87	.79
16----	.84	.93	1.03	1.18	1.34	1.13	1.00	.88	.78
17----	.67	.80	.92	1.11	1.39	1.17	.95	.80	----
18----	.67	.77	.89	1.06	1.24	1.03	.88	.74	.66
19----	.73	.84	.96	1.14	1.34	1.16	.99	.89	.80
20----	.89	.98	1.08	1.21	1.33	1.19	1.05	.92	.83
21----	.82	.91	1.03	1.18	1.35	1.11	.94	----	----
22----	.75	.85	.95	1.15	1.37	1.11	.98	.85	.75
23----	.73	.84	.97	1.13	1.29	1.08	.92	.81	.70
24----	.75	.85	.97	1.13	1.31	1.08	.90	.80	.68
25----	.74	.83	.96	1.14	1.31	1.11	.89	.74	.63
28----	----	----	----	----	1.18	1.03	.84	.73	.62
29----	.77	.86	.98	1.15	1.31	1.11	.95	.80	.69
30----	.70	.82	.92	1.06	1.21	1.04	----	----	----
Averages	0.73	0.82	0.94	1.10	1.28	1.09	0.94	0.81	0.72

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	549	594	595	346	453	570	333	335	525	434	---	496	408	479	495	557	474	529	193	396	423	498	519	522	526	512	487	487	486	438		471
AMES IOWA	514	392	461	313	349	256	482	447	486	225	429	425	399	293	225	185	388	150	406	436	359	134	379	424	365	300	410	394	384	362		359
ANNETTE ALASKA	109	379	165	311	231	75	376	176	104	316	85	427	267	364	285	63	236	296	283	151	59	74	178	149	---	138	204	152	79	166		203
APALACHICOLA FLORIDA	272	99	621	531	580	582	544	547	515	561	568	476	557	435	415	94	525	453	507	14	349	483	500	384	538	488	520	444	308	55		432
ARGONNE NAT. LAB.	329	360	392	145	229	233	452	426	550	398	523	519	396	330	300	124	451	433	412	479	357	420	107	241	336	405	423	464	267	409		364
ASTORIA OREGON	512	273	198	434	460	506	499	236	207	---	279	348	487	421	414	41	55	146	---	---	61	127	266	178	355	385	225	229	200	215		287
BARROW ALASKA	237	130	190	187	159	127	159	107	153	204	79	240	230	232	174	221	145	65	73	70	51	48	76	59	28	43	45	116	70	124		128
BETHEL ALASKA	362	177	139	---	226	223	359	360	350	284	254	236	224	98	100	261	303	314	---	205	284	270	174	177	236	38	204	42	172	101		220
BISMARCK N.DAK.	603	580	460	217	364	407	572	564	549	524	540	521	413	494	486	417	297	399	340	442	354	232	379	323	475	316	452	347	436	218		424
BLUE HILL MASS.	433	268	168	185	204	180	244	49	49	434	406	480	439	464	397	377	343	389	458	450	483	468	476	431	163	21	339	203	360	389		325
BOISE IDAHO	555	534	564	547	543	544	505	492	369	317	437	479	450	527	497	---	---	279	276	386	473	465	219	432	458	422	420	439	181	231		430
BROWNSVILLE TEXAS	458	549	599	519	607	627	450	512	483	---	360	406	373	568	574	548	515	538	557	305	472	396	537	384	399	436	448	---	523	527		488
CAPE HATTERAS N.C.	587	559	534	261	562	330	581	95	500	462	502	186	200	475	440	529	403	215	257	97	376	488	405	484	329	434	472	389	377	433		399
CARIBOU MAINE	405	589	545	549	519	41	95	114	76	341	441	202	521	531	276	64	90	428	517	506	457	449	437	375	251	93	58	200	185	315		322
CHARLESTON S.C.	181	179	408	560	360	575	382	384	482	345	444	350	497	515	111	310	344	394	179	213	79	279	461	305	468	336	425	427	376	---		358
CLEVELAND OHIO	397	167	589	310	328	238	146	422	642	541	434	499	485	473	466	117	73	435	323	245	415	477	282	76	231	406	341	214	346	261		346
COLUMBIA MISSOURI	349	316	478	300	409	459	281	525	564	570	411	493	399	453	66	56	463	440	520	514	456	335	316	519	344	490	348	444	388	---		402
DAVIS CALIFORNIA	585	590	594	596	592	498	444	570	563	550	521	540	544	552	543	518	528	456	474	478	530	511	524	497	487	470	464	471	440	471		520
DODGE CITY KANSAS	157	512	457	548	594	573	550	295	90	222	280	490	543	437	363	256	105	225	498	512	480	492	536	511	509	499	---	490	482	480		420
E. LANSING MICHIGAN	350	435	474	439	314	188	404	337	386	567	386	486	506	409	404	45	311	403	297	368	252	387	266	145	320	430	365	301	85	395		349
EL CENTRO CALIF. NPF	566	552	429	451	451	558	555	548	533	533	393	295	475	524	524	530	530	531	532	512	530	530	530	530	506	500	509	483	481	498		504
EL PASO TEXAS	321	549*	625*	624*	591	612	564	631	559	564	438	413	372	591	594	615	546	566	601	530	522	585	575	562	569	562	562	562	551	542		550*
EPPLEY NEWPORT R.I.	386	383	81	137	438	168	370	88	---	---	522	499	432	471	333	383	379	388	380	497	493	493	453	458	248	35	380	241	432	421		357
FAIRBANKS ALASKA	397	400	185	294	354	347	319	341	347	186	248	306	333	324	287	284	306	301	289	280	278	269	257	260	250	239	188	125	194	154		278
FORT WORTH TEXAS	490	405	320	563	591	548	502	429	228	135	255	570	512	429	430	448	363	486	526	367	374	230	362	551	488	489	523	500	497	500		437
FRESNO CALIFORNIA	533	527	538	538	526	347	482	511	511	506	438	468	479	497	494	474	482	482	424	468	480	464	458	454	445	428	428	432	429	446		473
GAINESVILLE FLORIDA	132	245	437	462	462	440	410	412	423	508	510	461	433	510	248	620	605	418	401	190	198	274	192	442	396	374	439	267	231	120		375
GENEVA NEW YORK	359	172	435	373	346	385	294	385	345	489	233	444	455	429	332	193	39	401	399	424	440	437	384	64	64	291	108	268	294	208		316
GLASGOW MONTANA	557	544	512	548	454	544	532	527	520	477	481	480	471	401	408	444	444	406	180	273	176	370	230	361	379	439	354	344	378	258		416
GRAND JUNCTION COLO.	607	591	551	564	565	538	494	373	496	410	494	532	---	---	---	---	492	539	402	261	205	376	---	523	524	484	361	484	489	254		464
GREAT FALLS MONTANA	577	550	302	461	474	559	556	498	516	516	423	497	468	462	459	410	463	276	302	138	295	370	251	454	308	434	302	290	361	287		409
GREENSBORO N.C.	324	233	153	318	268	421	497	278	490	438	428	449	498	500	466	454	255	279	64	62	108	412	425	76	383	271	452	444	461	394		343
INDIANAPOLIS INDIANA	303	249	353	255	316	379	229	495	390	509	208	467	470	432	323	80	139	449	451	435	450	447	310	272	415	408	142	477	375	427		355
LAKE CHARLES LA.	398	494	542	396	368	532	517	536	561	571	453	576	566	458	407	496	500	463	324	404	487	503	299	491	459	524	514	514	535	508		480
LAKELAND FLORIDA	437	410	496	566	546	430	329	446	444	544	511	474	463	240	331	445	371	341	313	348	310	348	483	486	483	495	419	228	214	332		409
LANDER WYOMING	586	432	529	583	591	571	570	506	437	436	498	468	446	445	558	452	390	509	498	450	323	508	474	451	498	483	461	428	338	323		475
LARAMIE WYOMING	572	549	495	320	438	557	537	432	312	390	489	368	456	359	224	326	412	475	465	335	214	274	478	456	471	458	397	372	367	250		408
LAS VEGAS NEVADA	581	479	568	607	571	403	473	571	578	599	487	407	306	555	537	240	532	538	547	479	538	539	537	532	525	519	517	510	460	506		508
LITTLE ROCK ARKANSAS	456	507	202	392	304	545	460	454	522	---	521	502	463	430	376	205	163	244	251	370	109	403	232	523	500	493	459	485	475	460		397
LOS ANGELES CALIF.	593	600	605	594	598	488	574	492	467	573	465	449	537	404	302	436	316	299	387	453	506	445	282	252	260	197	263	478	491	502		444
MADISON WISCONSIN	306	492	439	198	328	381	489	372	575	463	519	523	464	184	395	181	510	513	325	490	413	346	278	348	129	444	467	465	148	423		387
MANHATTAN KANSAS	334	325	300	405	499	430	336	527	480	492	471	466	338	407	191	290	272	156	462	405	277	147	472	459	339	411	434	245	397	403		372
MATANUSKA ALASKA	---	---	---	---	379	374	297	126	218	---	149	374	365	236	235	353	349	319	335	162	266	241	217	302	291	241	68	169	100	179		254
MEDFORD OREGON	595	595	597	591	588	576	510	468	553	540	474	515	450	567	526	480	236	377	214	330	476	392	258	423	479	452	408	450	352	176		455
MIAMI FLORIDA	544	550	478	620	223	195	417	619	650	544	441	213	266	321	312	373	442	233	543	535	539	480	432	---	546	244	452	280	390	610		431
MIDLAND TEXAS	490	252	529	580	571	543	479	427	307	391	138	323	453	461	431	532	382	303	432	356	341	387	354	517	515	505	508	504	509	498		434
NASHVILLE TENNESSEE	277	488	349	302	305	489	292	397	484	560	451	505	509	443	421	438	297	236	151	260	467	168	117	218	481	464	417	491	486	428		380
NEW YORK N.Y. U	421	146	53	40	351	166	380	102	374	480	496	505	469	464	434	374	437	390	426	476	522	488	474	327	154	459	375	410	479	414		370
NORTH OMAHA NEBRASKA	549	571	---	282	534	240	526	---	---	---	428	498	216	472	---	174	256	140	481	464	406	---	488	463	264	380	440	383	377	403		393
OAK RIDGE TENNESSEE	311	453	438	447	259	426	290	425	560	573	497	507	518	476	491	479	301	341	47	268	417	208	165	160	440	488	450	497	497	401		394
OKLAHOMA CITY OKLA.	369	249	405	553	564	546	522	483	318	213	460	452	433	160	416	438	498	351	520	464	190	382	455	540	480	477	495	490	476	475		429
PAGE ARIZONA	---	588	370	600	544	483	372	573	609	603	347	433	390	531	525	465	558	586	582	553	465	572	573	569	563	555	442	537	479	429		514
PALMER AAES ALASKA	254	392	306	144	244	404	412	311	172	246	157	204	284	368	261	251	354	352	351	336	275	261	289	313	302	252	97	168	129	218		270
PHOENIX ARIZONA	597	593	540	560	554	528	556	568	573	551	429	354	197	494	551	552	547	546	531	538	538	535	524	535	534	506	513	493	508	486		518
PORTLAND MAINE	447	323	203	321	143	257	80	85	37	367	505	450	427	488	433	374	53	426	490	460	484	471	470	435	90	51	175	203	339	356		315

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

SEPTEMBER 1969

Station	Day of month																														Avg.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
PROSSER WASHINGTON	520	505	521	483	535	511	529	433	336	412	290	481	495	514	470	373	115	104	147	224	204	111	133	175	188	186	145	190	143	160		321
RAPID CITY S.DAK.	550	553	521	335	551	519	536	503	389	414	497	421	399	479	466	466	412	467	433	393	343	462	---	296	433	440	428	415	390	221		439
RENO NEVADA	508	500	540	540	538	469	354	512	509	506	450	480	505	503	494	407	489	396	420	416	481	471	453	459	448	401	427	448	303	441		462
RICHLAND 25 NW WASH.	552	541	557	343	553	526	514	458	311	431	258	475	481	491	466	392	250	249	234	341	411	240	259	321	352	372	316	359	268	272		386
RIVERSIDE CALIFORNIA	630	606	626	626	593	524	588	604	615	618	523	541	570	573	455	361	470	510	457	431	476	528	528	522	481	387	473	533	516	529		530
RUSTON LOUISIANA	423	311	349	468	393	472	365	453	397	400	453	518	504	435	424	447	468	375	412	166	123	460	---	349	483	481	473	446	472	440		413
SAINT CLOUD MINN.	507	477	475	202	366	169	373	253	295	394	416	468	355	417	150	458	342	118	427	425	404	114	199	237	355	301	385	337	390	139		332
SALT LAKE CITY	607	581	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	480	515	440	432	429		---
SAN ANTONIO TEXAS	593	440	500	458	541	487	465	521	473	433	189	583	528	424	510	543	422	420	421	403	276	425	198	414	509	473	528	543	521	539		459
SANTA MARIA CALIF.	588	584	589	566	540	---	514	469	529	561	426	493	386	219	126	222	548	469	243	493	465	533	494	520	465	395	465	490	513	508		463
SAULT STE MARIE MICH	424	435	482	496	130	316	175	248	505	353	392	415	355	319	224	140	329	359	416	409	408	237	82	299	235	125	115	399	125	100		301
SEATTLE TACOMA WASH.	520	318	392	199	391	503	507	401	411	437	407	164	331	490	425	134	84	222	126	225	274	95	205	110	405	350	202	134	84	234		293
SPOKANE WASHINGTON	528	466	394	216	477	505	502	456	224	389	376	444	432	443	407	406	300	168	272	133	271	175	194	338	278	336	260	239	253	132		334
STERLING VIRGINIA	515	---	---	---	---	344	486	241	---	482	522	486	486	446	453	459	---	445	153	200	229	481	456	288	302	265	411	362	464	336		388
SWAN ISLAND W.I.	---	---	391	301	418	181	295	520	100	437	571	453	509	573	346	399	451	440	559	568	546	490	189	387	527	555	495	495	552	432		435
TALLAHASSEE FLORIDA	235	187	401	358	545	538	541	386	400	509	510	436	546	460	270	361	375	367	355	37	100	225	350	318	496	449	465	410	334	71		368
TAMPA FLORIDA	514	441	418	567	566	577	365	568	522	549	569	---	357	202	212	---	453	---	---	244	208	432	522	547	474	474	353	219	142	246		413
TUCSON ARIZONA	579	585	535	452	543	428	568	519	541	279	333	339	359	403	335	555	558	545	552	558	550	545	536	530	528	485	427	508	512	483		489
WAKE ISLAND PACIFIC	368	542	618	650	631	610	639	616	632	438	407	583	593	612	619	543	559	408	199	595	602	587	578	312	380	584	534	584	597	582		540

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

SEPTEMBER 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	91	144	97	27	53	89	130	72	14	40	7	47	67	77	70	21	79	77	52	17	19	36	60	75	16	19	8	-34	-11	-11		51

The measurement is made with a CSIRO FUNK **net exchange radiometer over a plot of** sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

These data are of an experimental nature and are published as received from the Palmer Exp. Station. **The instrument with which they were measured has not been checked by the** ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	19.29	15.27	16.81	12.55	13.97	10.30	17.99	16.93	17.64	9.94	16.33	16.10	14.56	11.60	9.82	8.99	14.44	6.98	14.80	15.15	12.78	6.15	13.61	15.74	13.26	11.24	14.08	13.19	12.66	12.19		13.18

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

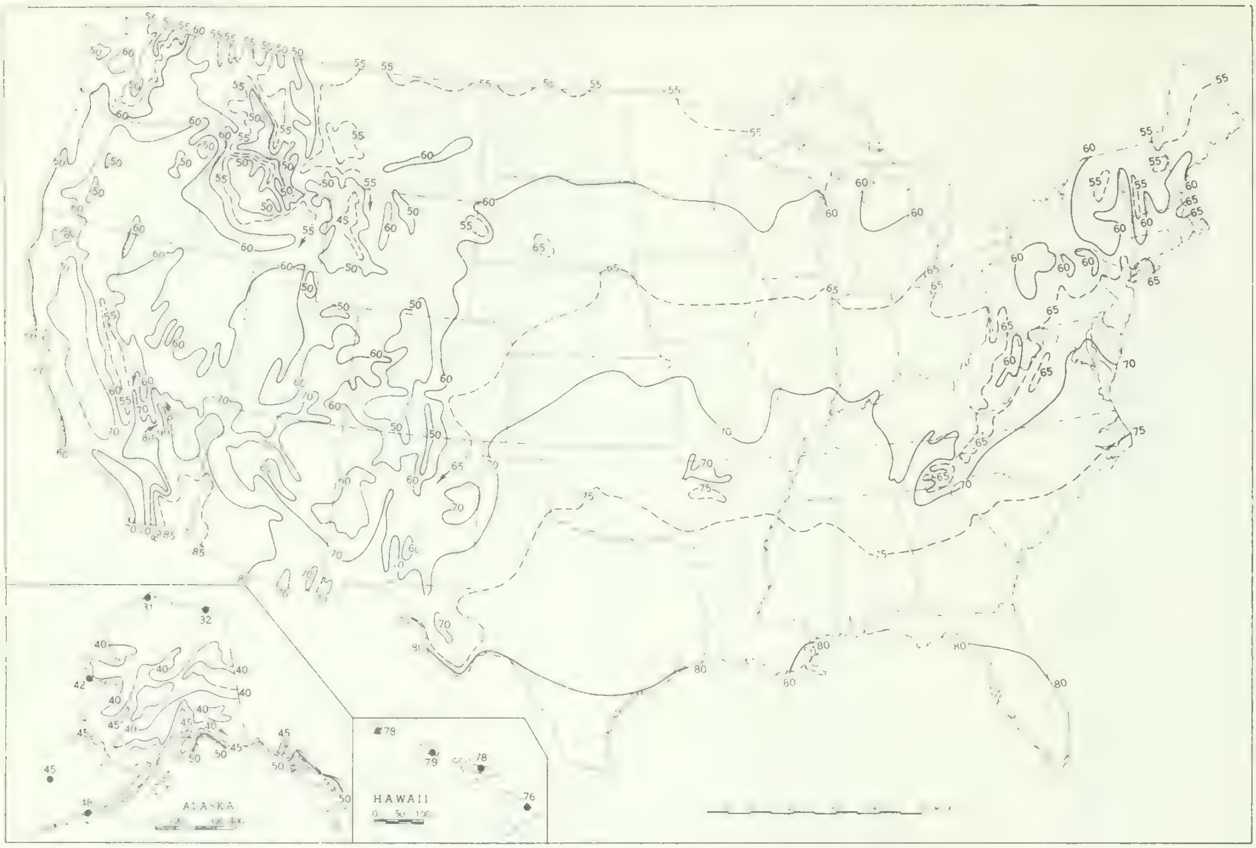
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code [illegible] defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
	Data will be delayed																															

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column [illegible] is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., [illegible] atmo-cm ozone implies an ozone layer of [illegible] centimeter thick. The code [illegible] designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), September.



B. Temperature Departure from 30 - Year Mean (°F 1931-60), September 1969.

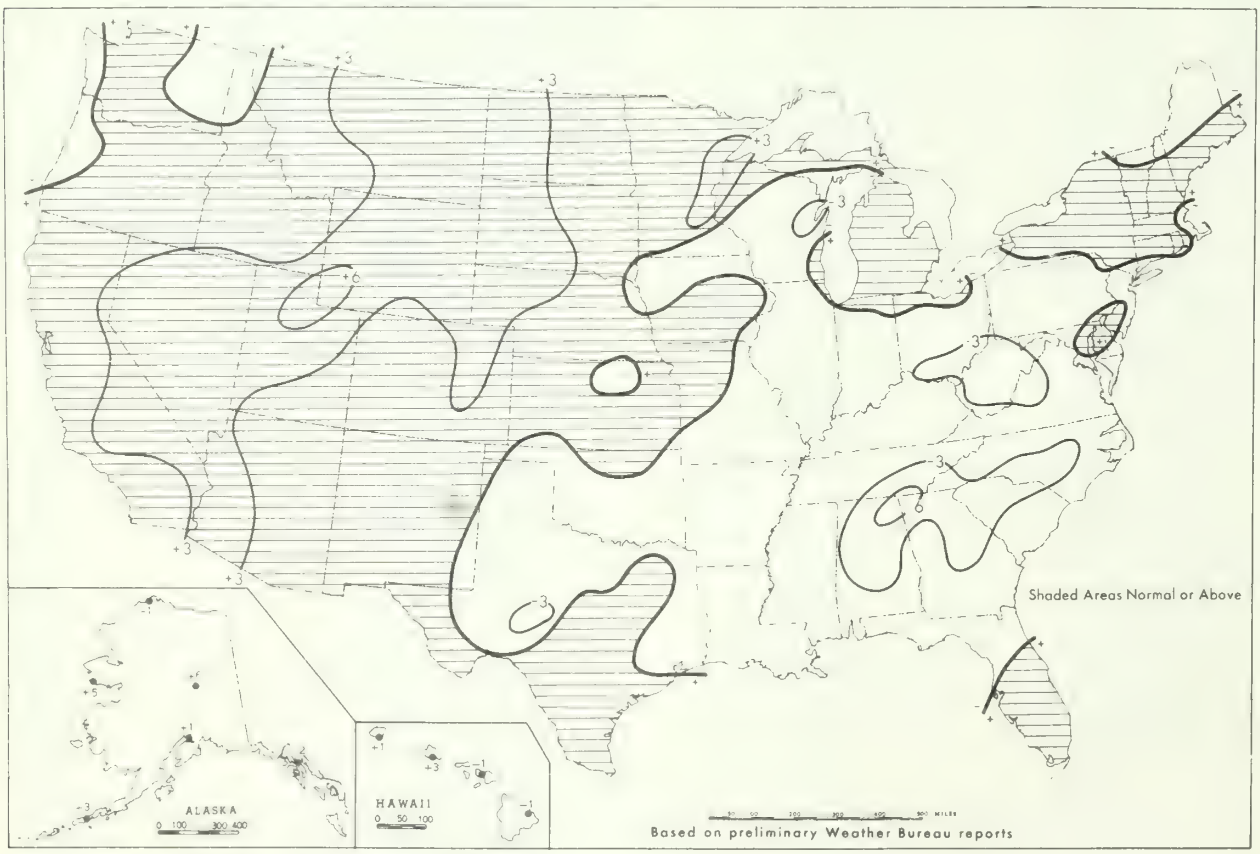


Chart II. Total Precipitation (Inches), September 1969.

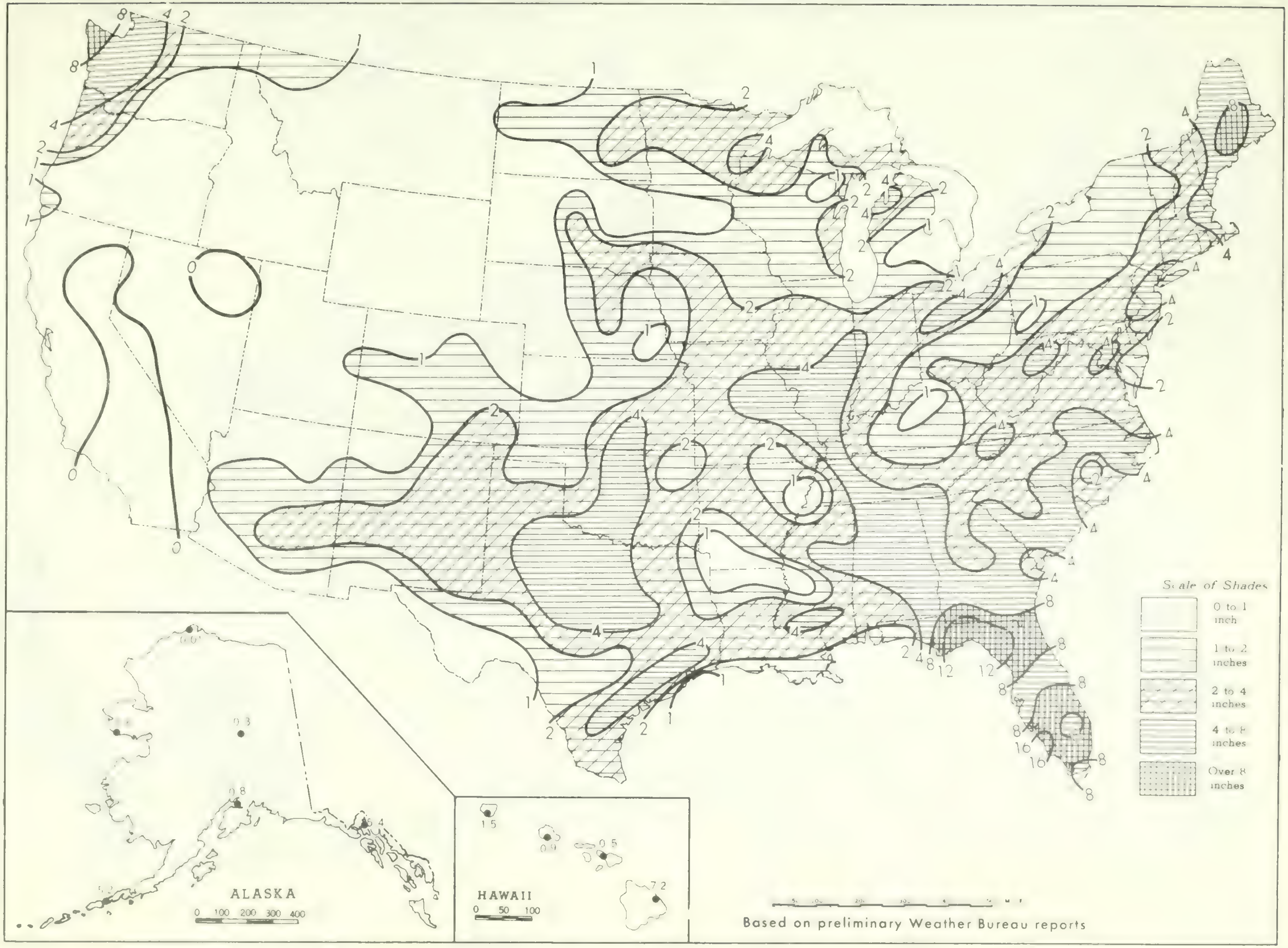


Chart III. Percentage of Normal Precipitation, September 1969.

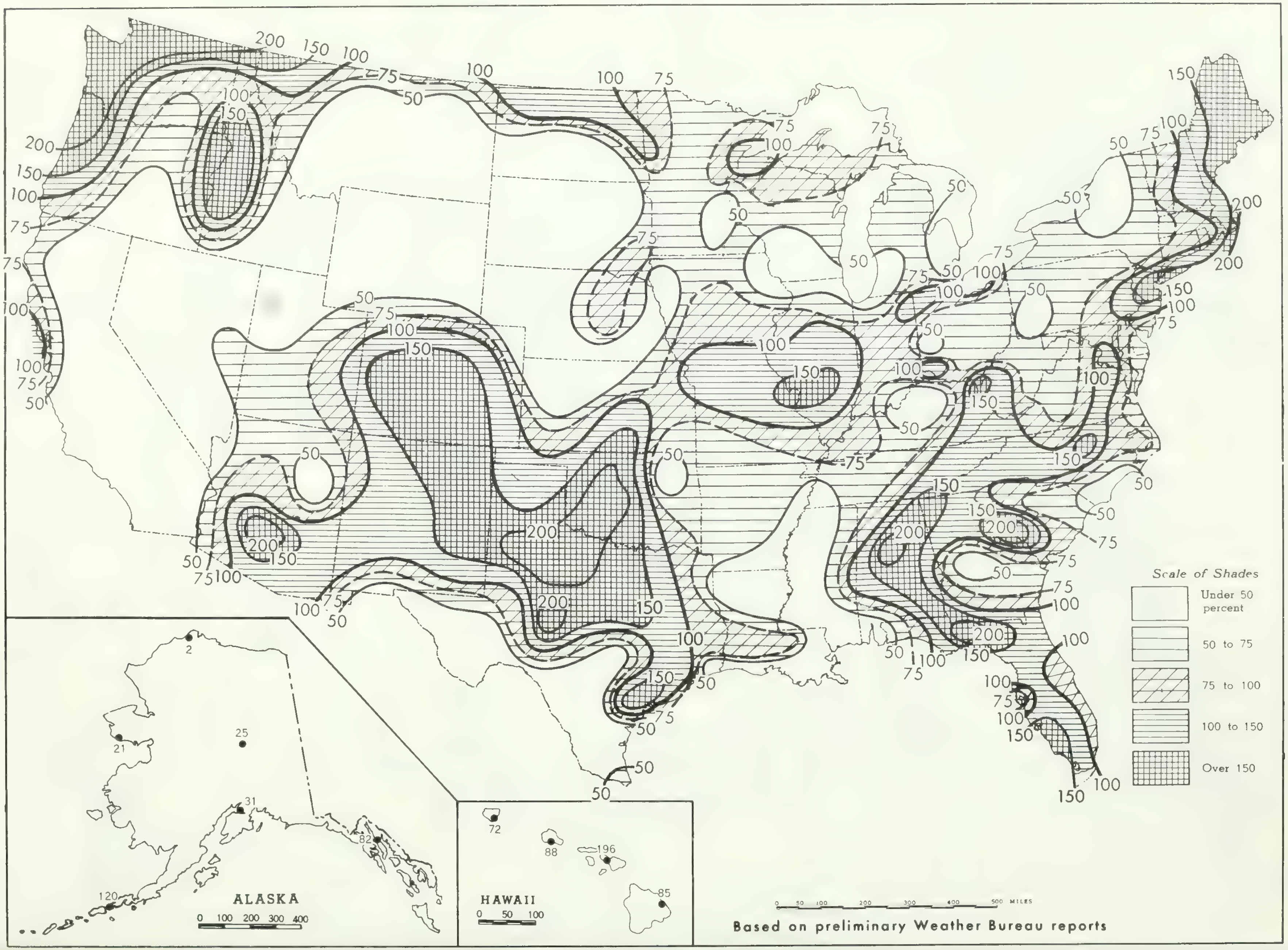
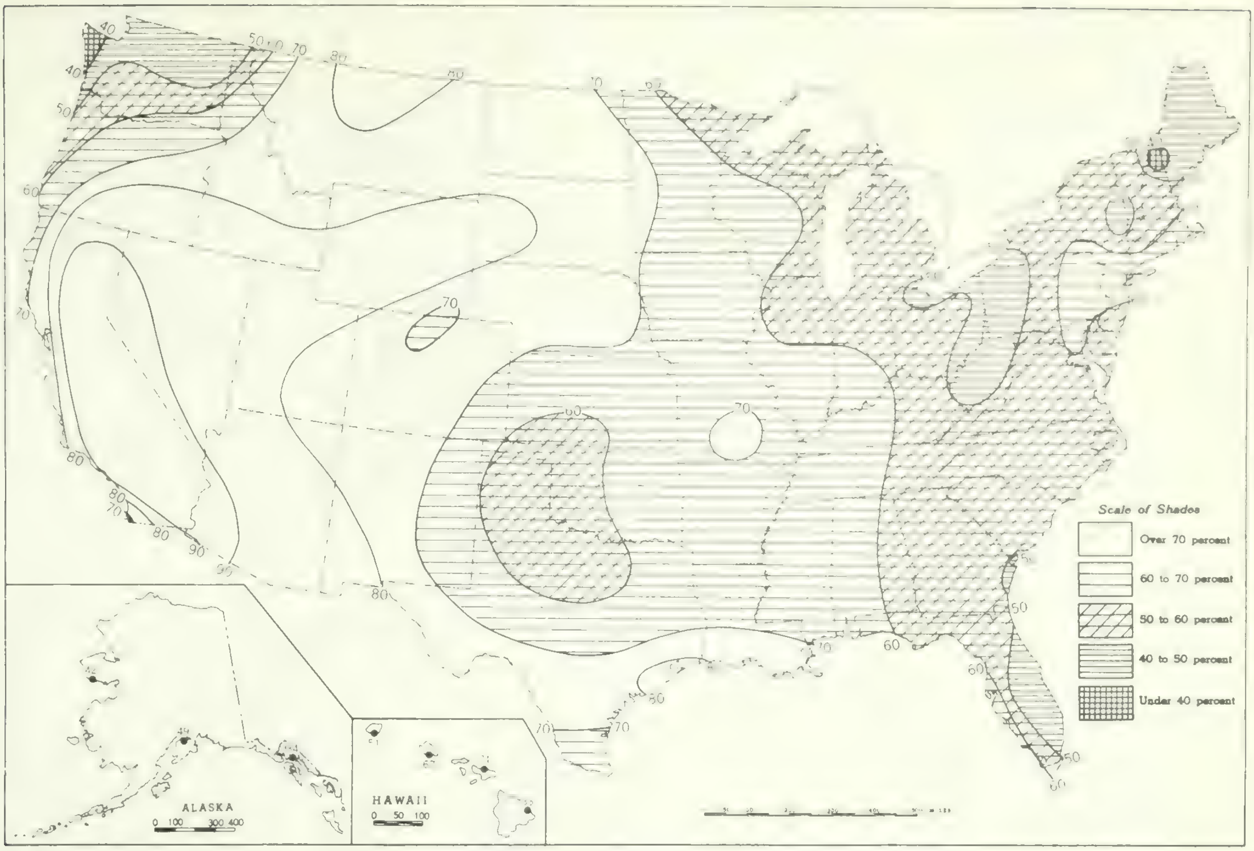


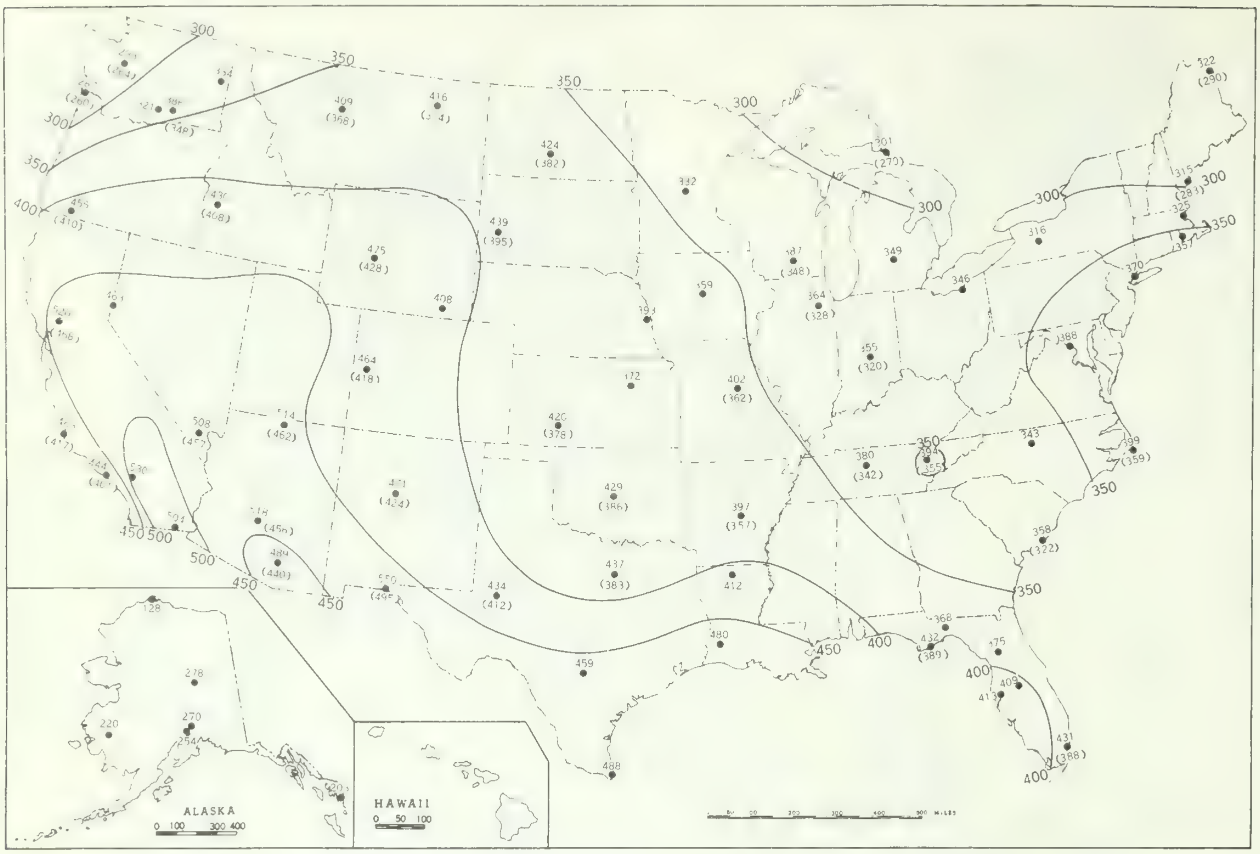
Chart VI. A. Percentage of Possible Sunshine, September 1969.



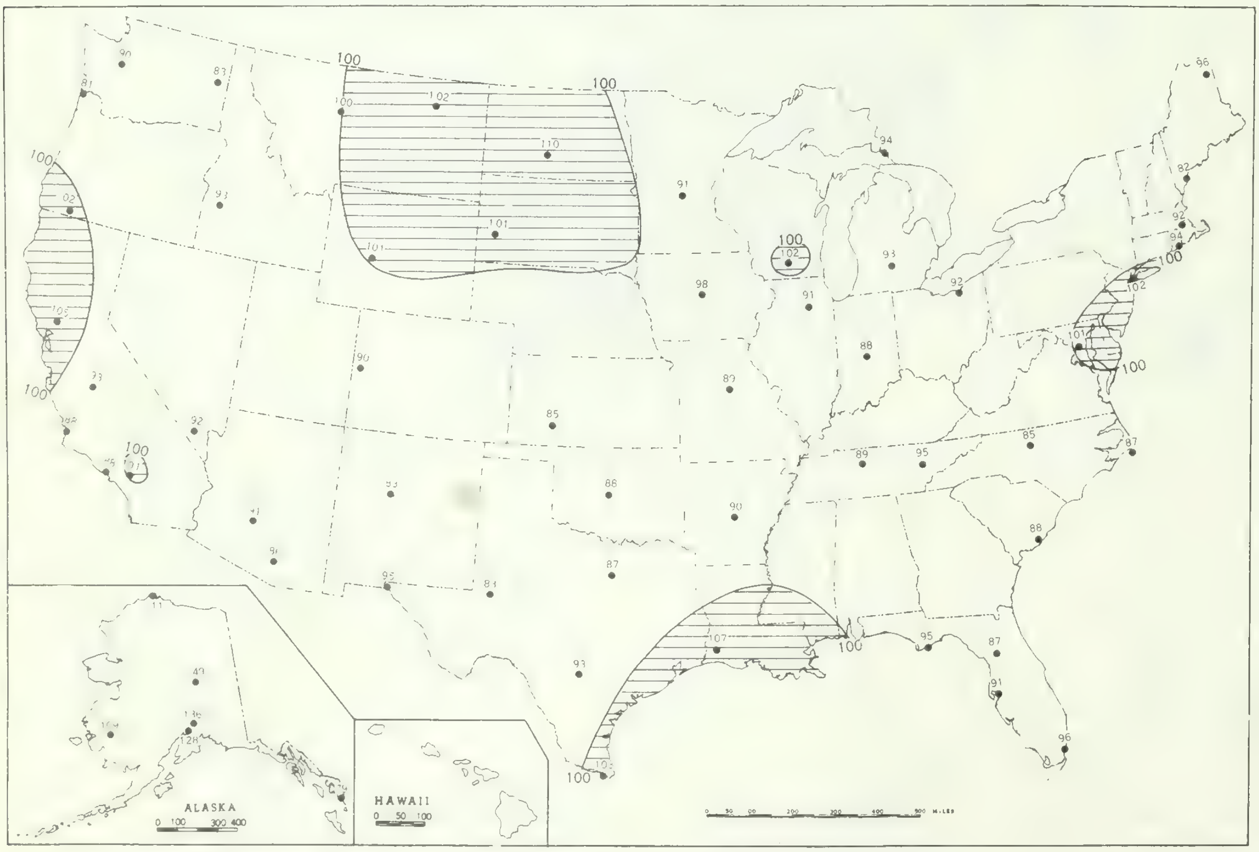
B. Percentage of Mean Monthly Sunshine, September 1969.

A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, September 1969.

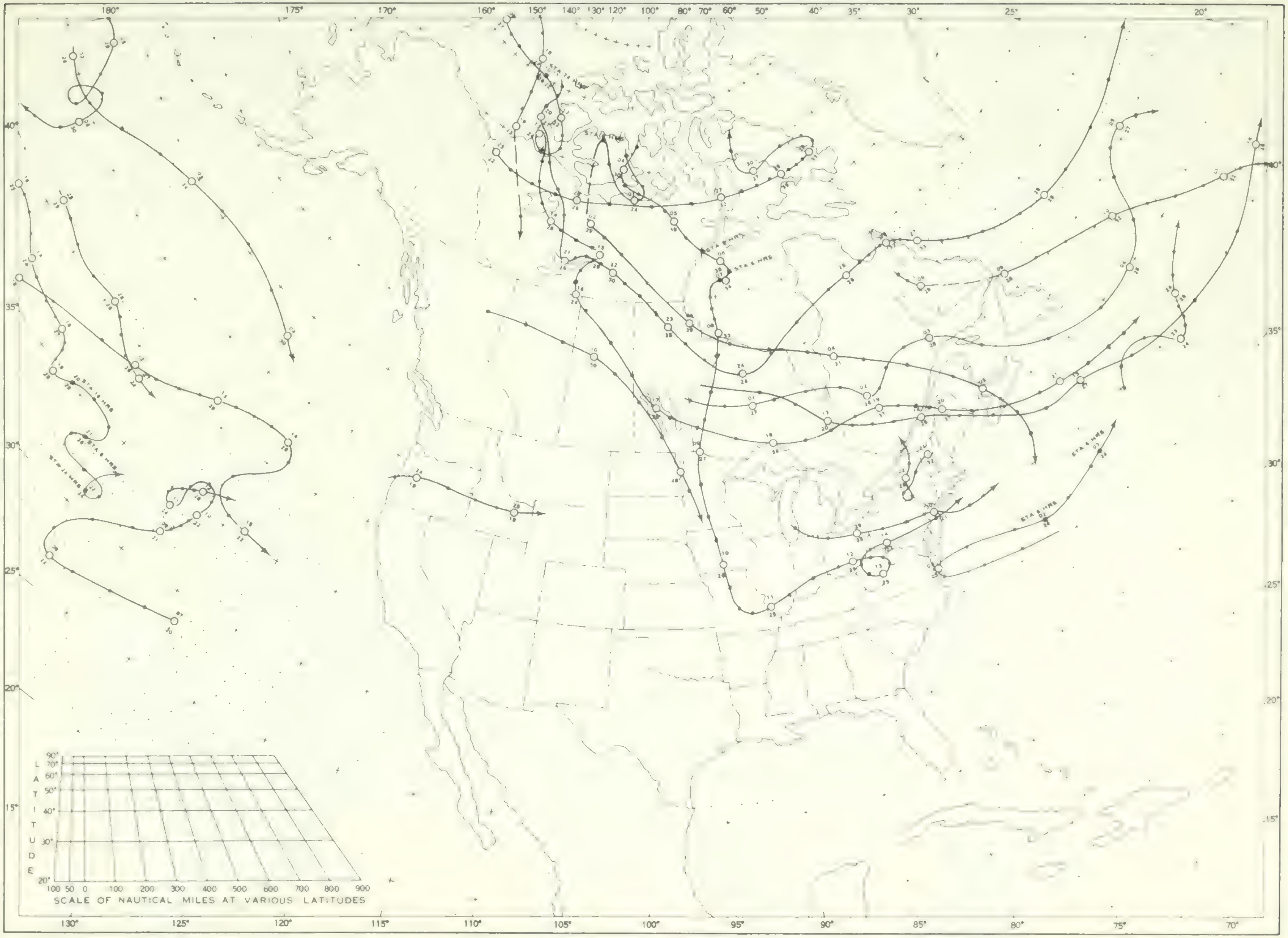


B. Percentage of Mean Daily Solar Radiation, September 1969.



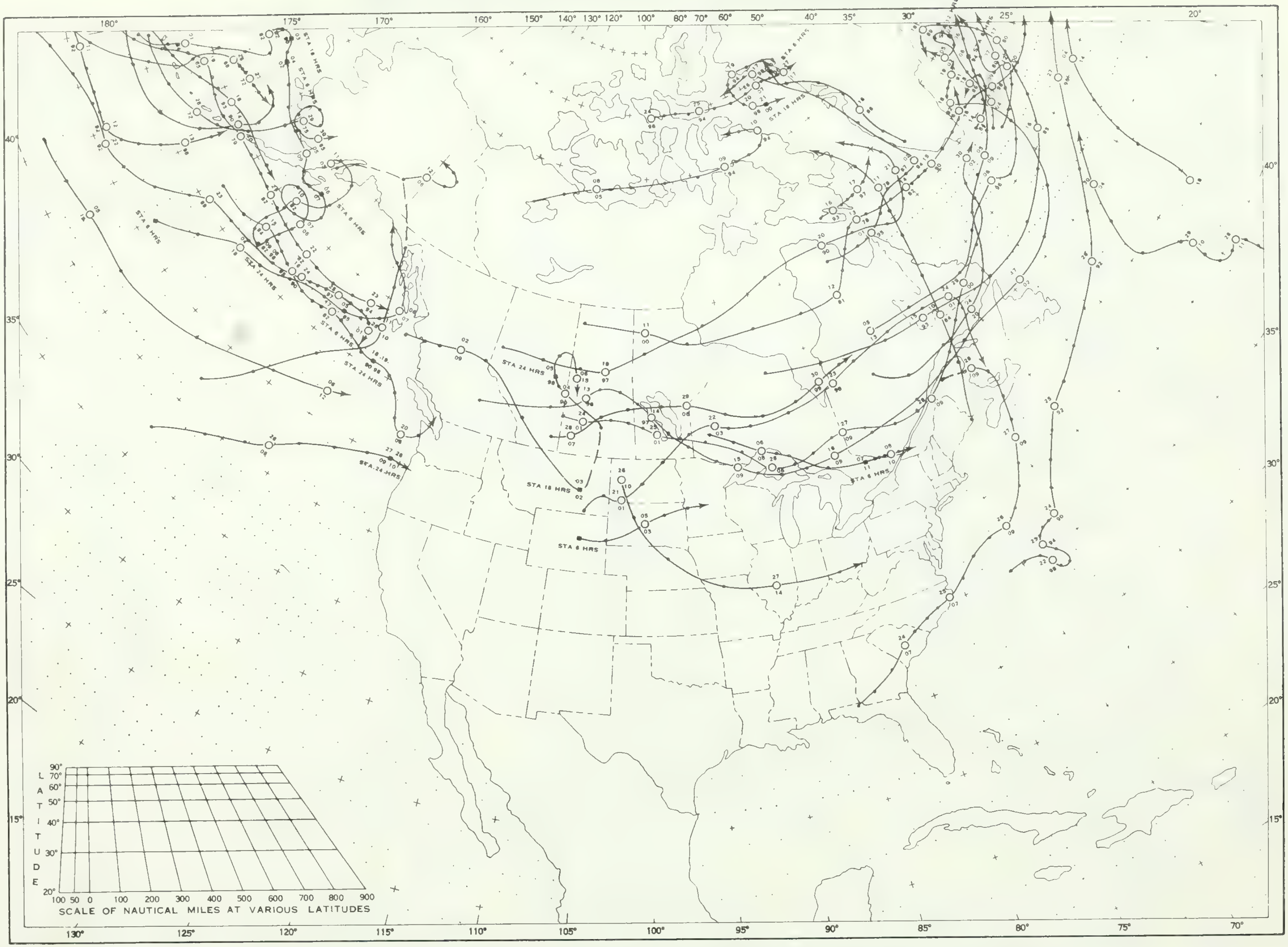
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, **September 1969.**



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, September 1969.



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, **September 1969**. Inset Departure of Average Pressure (mb) from Normal, **September 1969**.

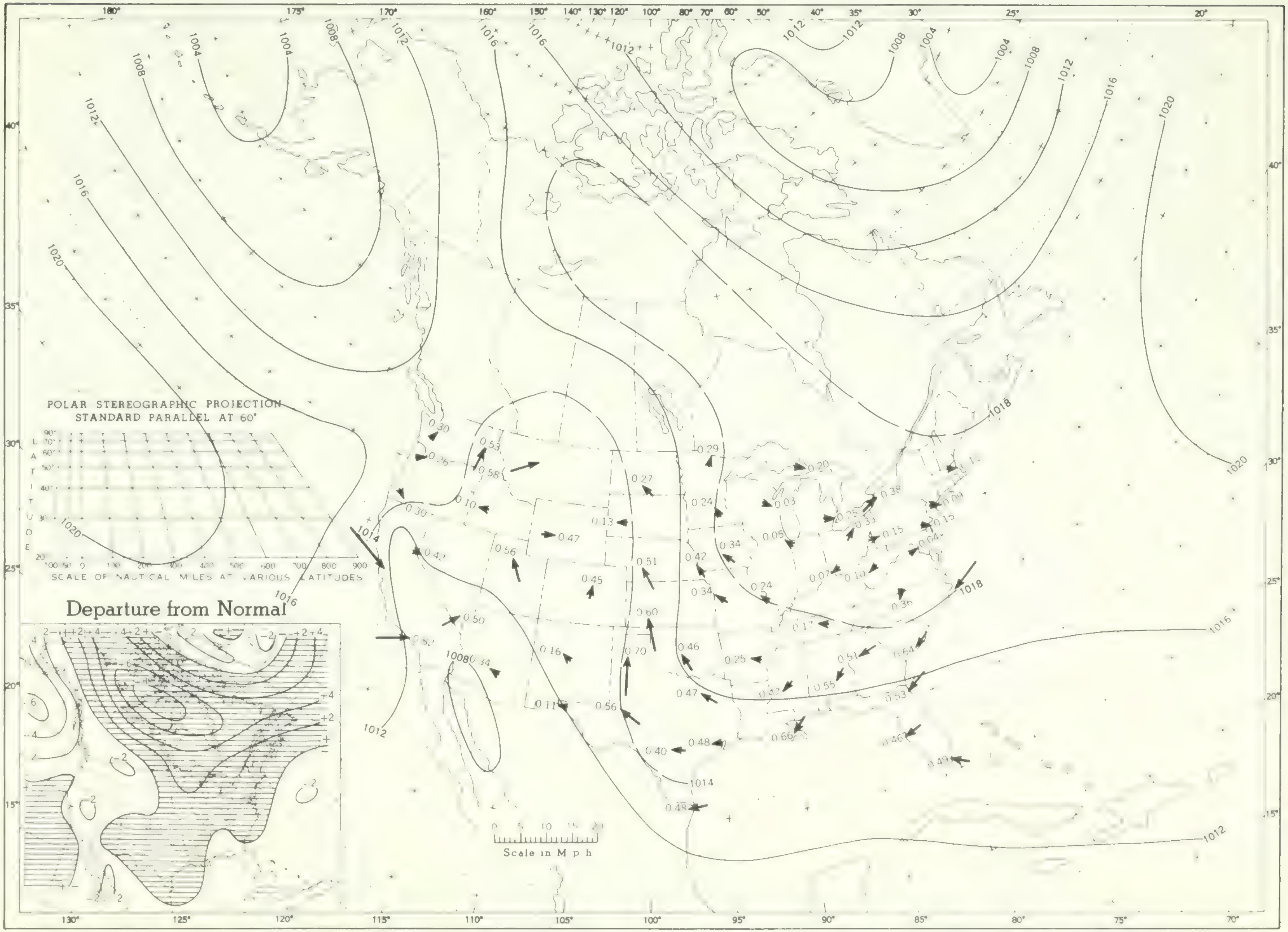
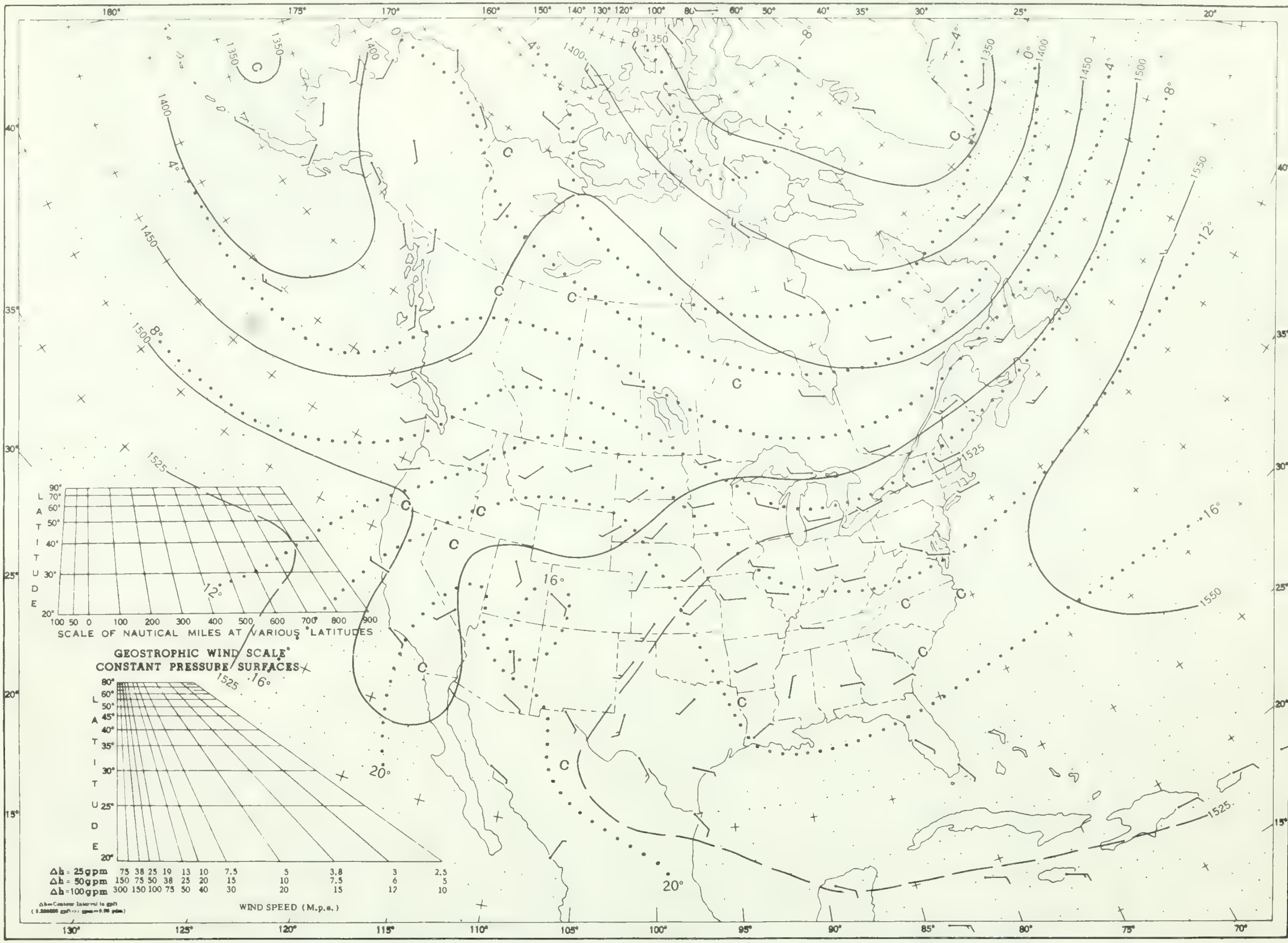
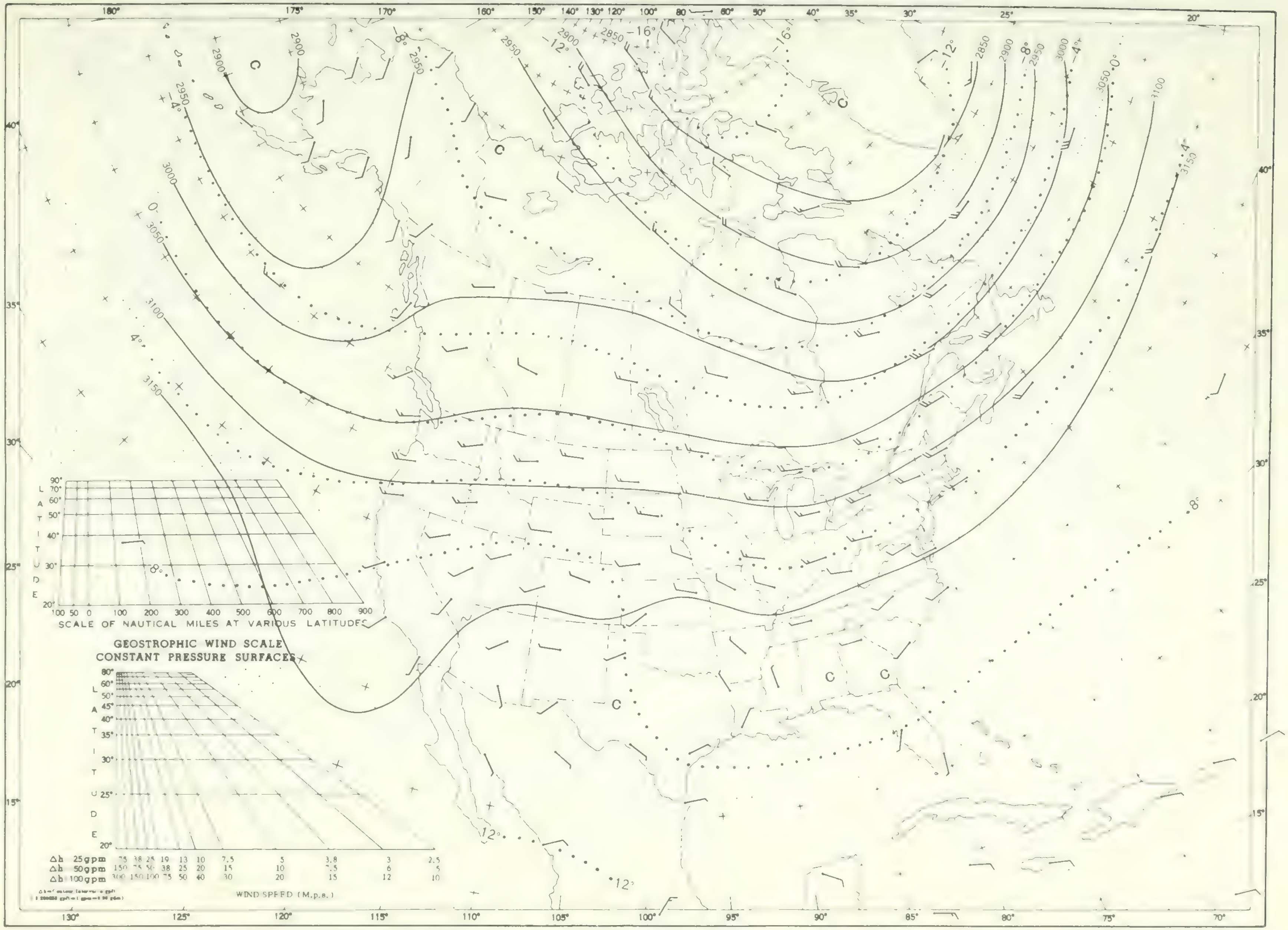


Chart XI. 850-mb Surface, 1200 GMT, September 1969. Average Height and Temperature, and Resultant Winds.



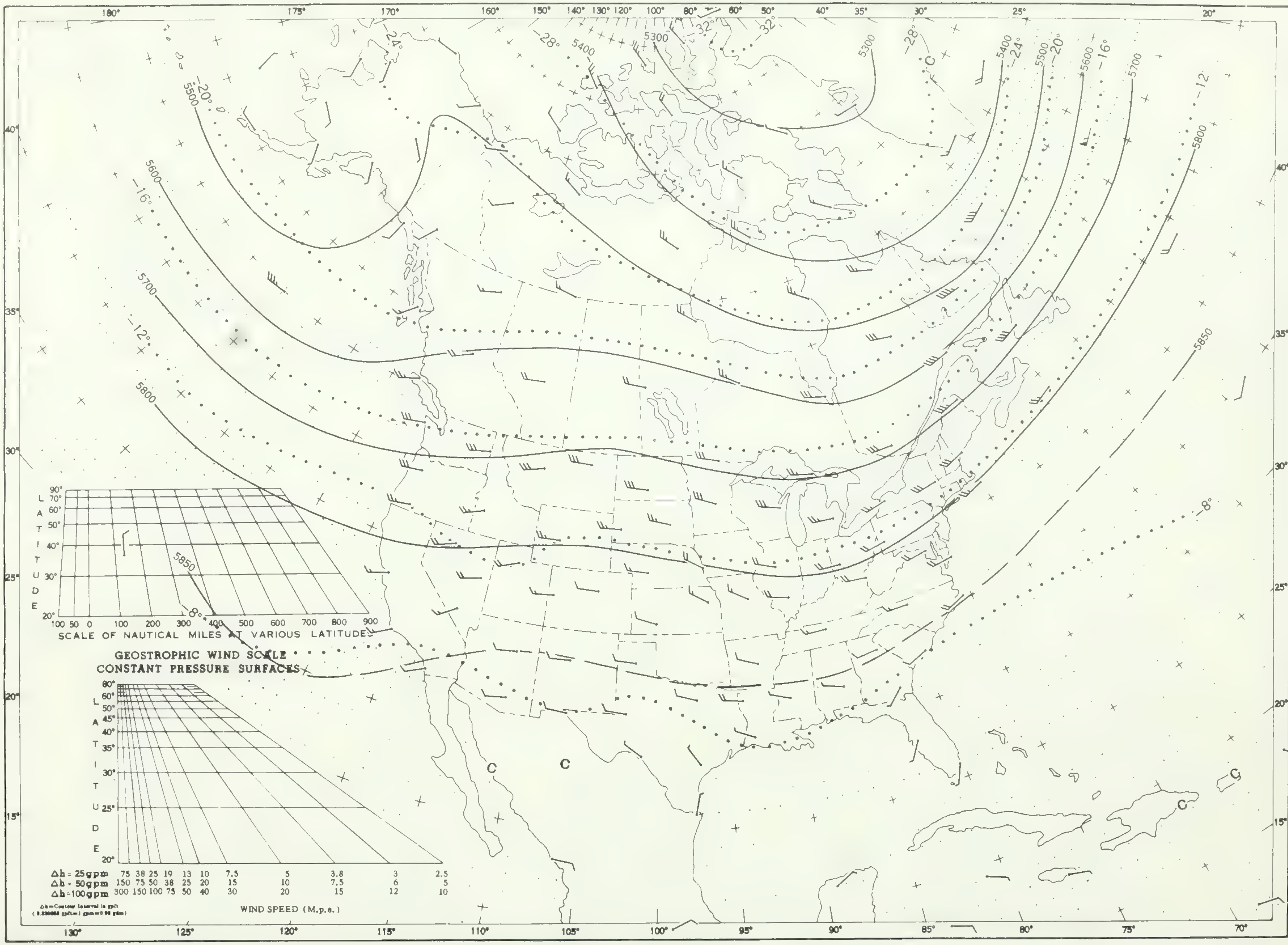
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb Surface, 1200 GMT, **September 1969**. Average Height and Temperature, and Resultant Winds



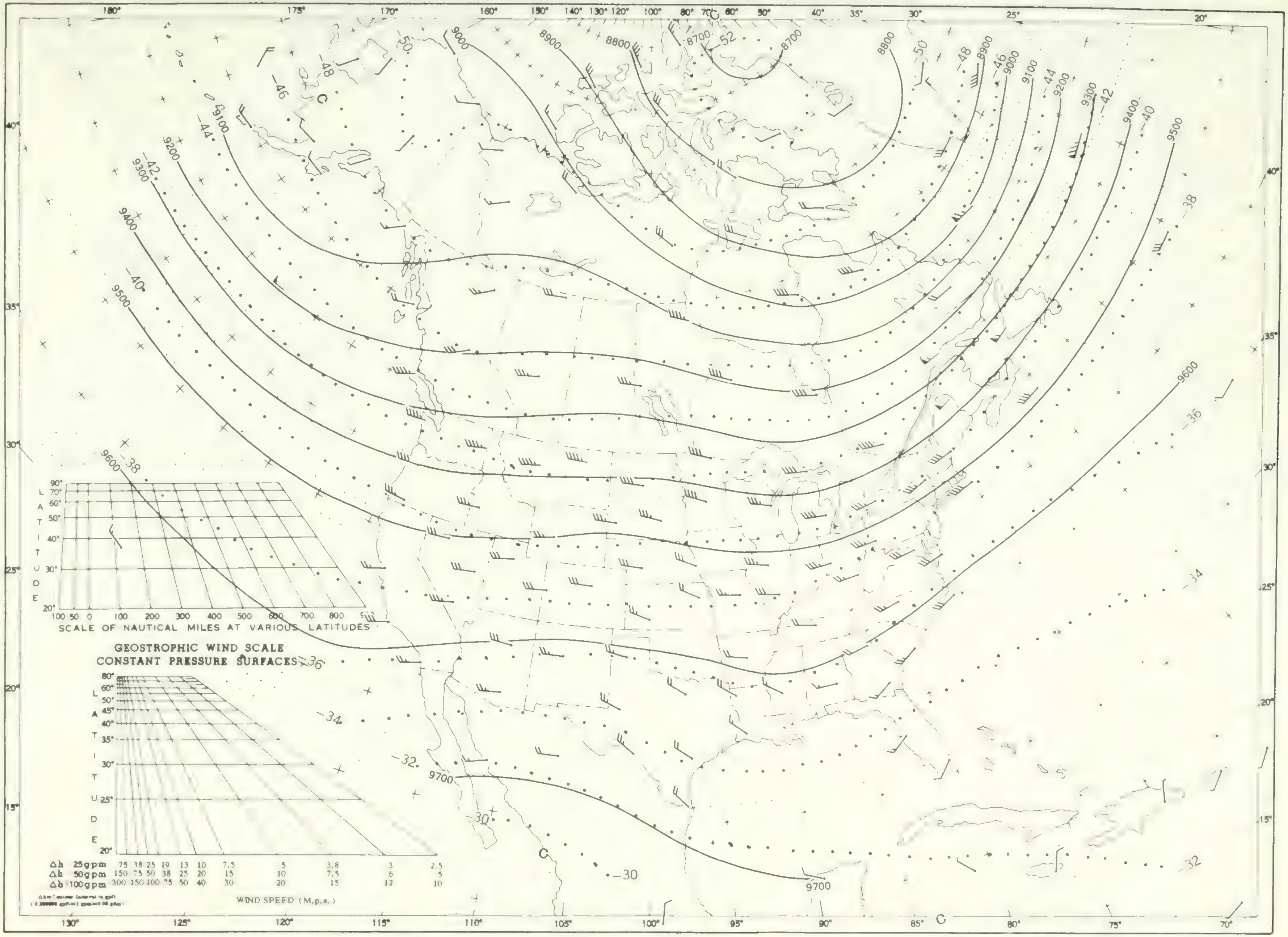
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, September 1969. Average Height and Temperature, and Resultant Winds.



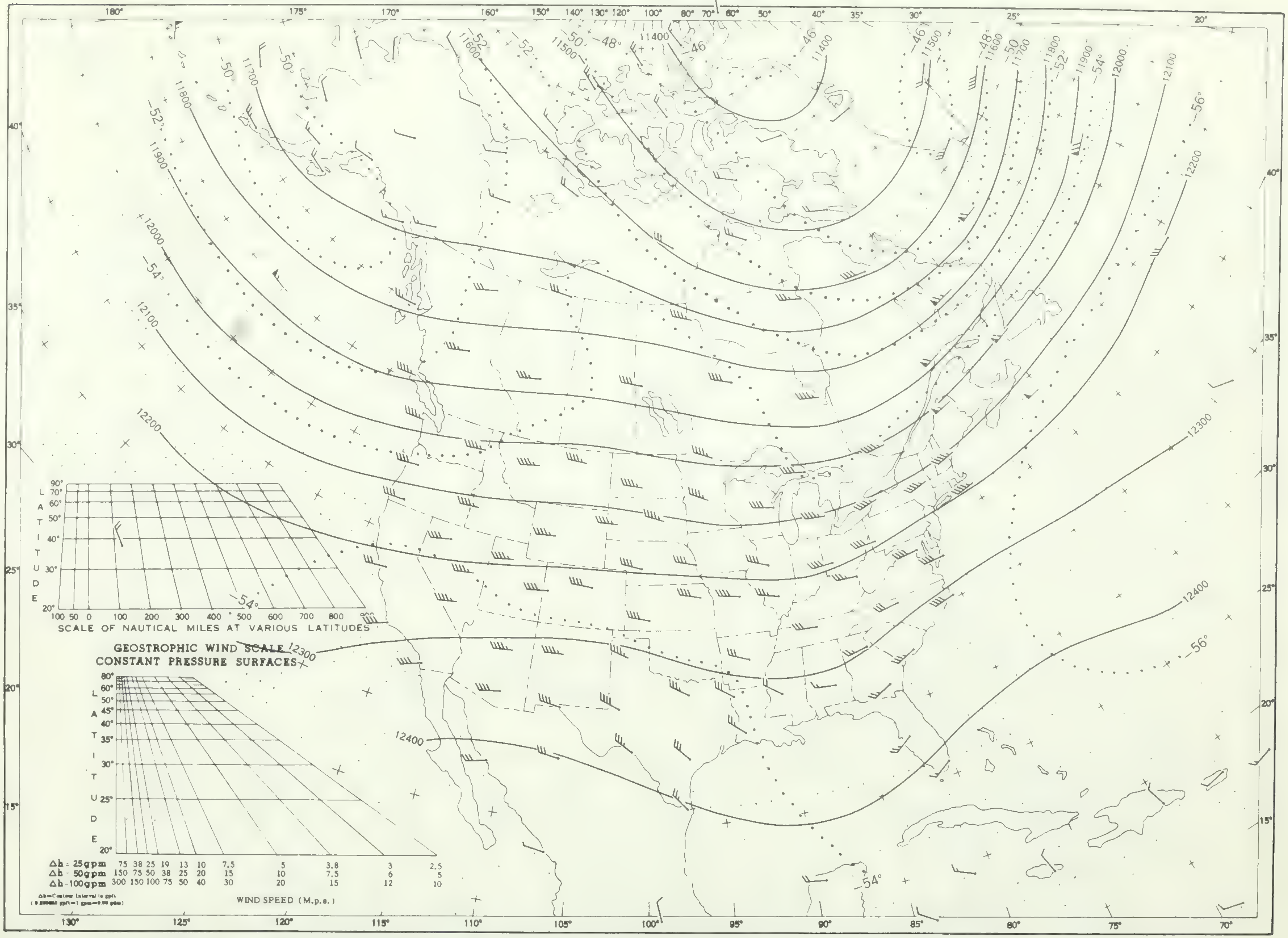
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, September 1969. Average Height and Temperature, and Resultant Winds.



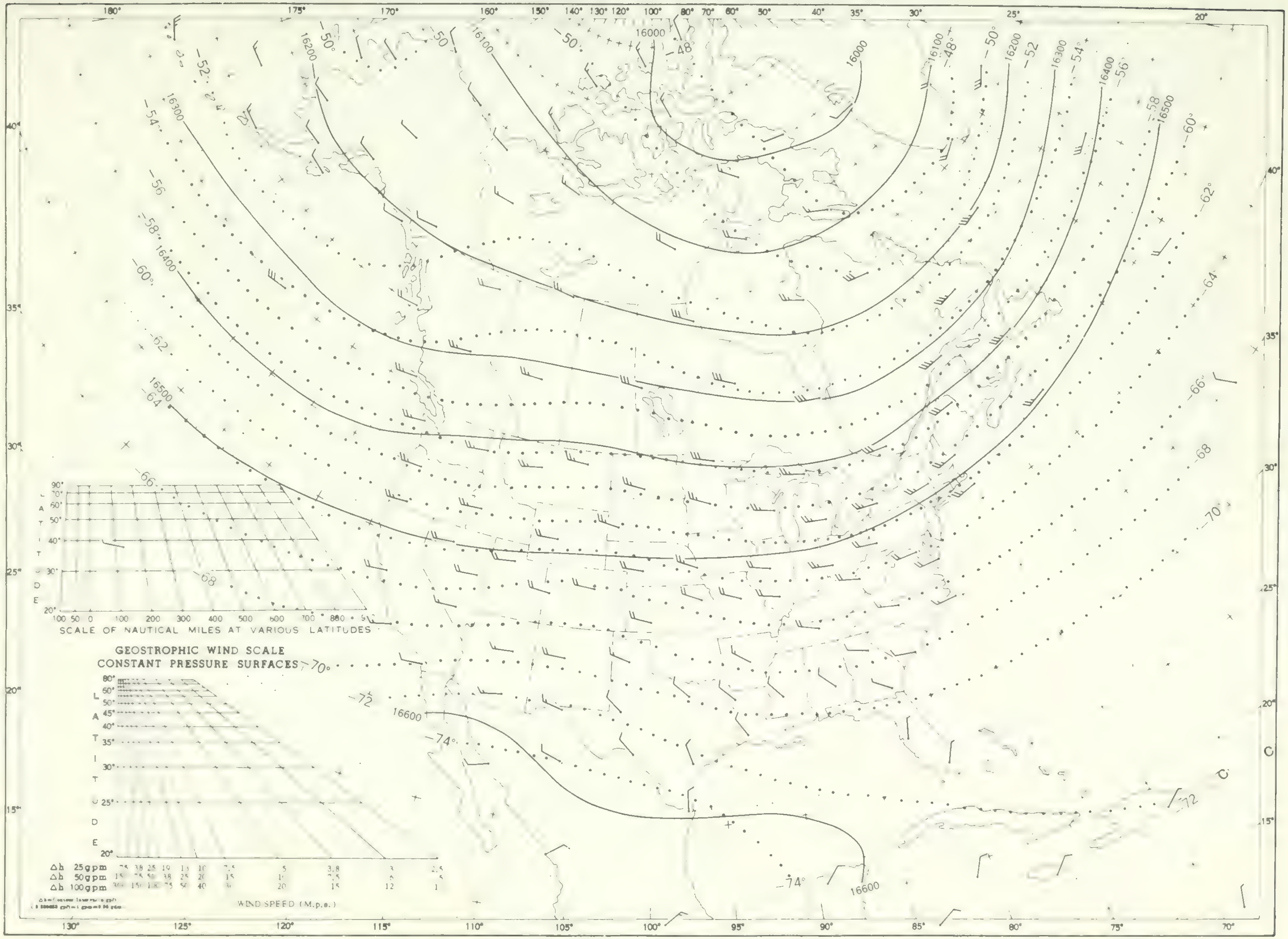
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV 200-mb. Surface, 1200 GMT, September 1969. Average Height and Temperature, and Resultant Winds.



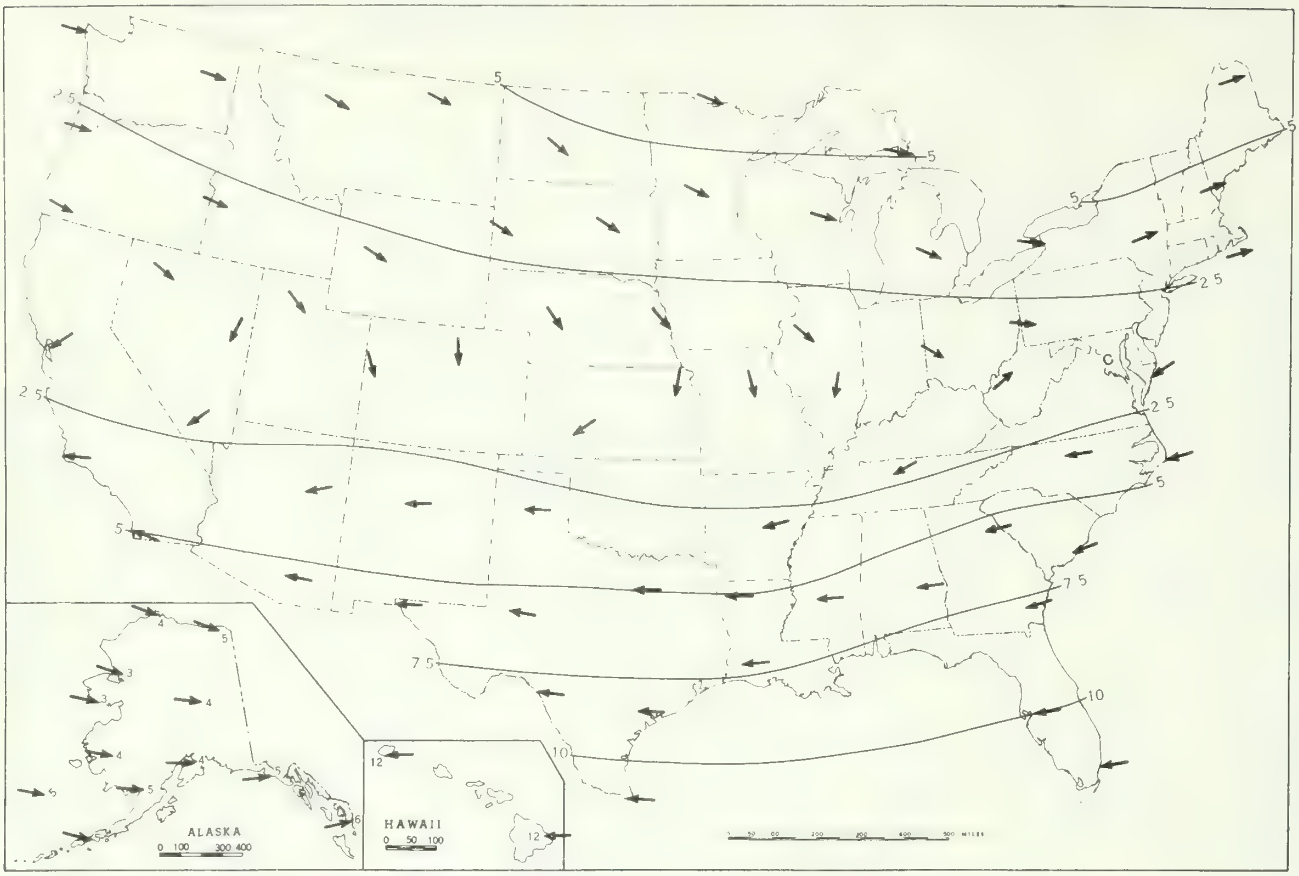
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, **September 1969**. Average Height and Temperature, and Resultant Winds

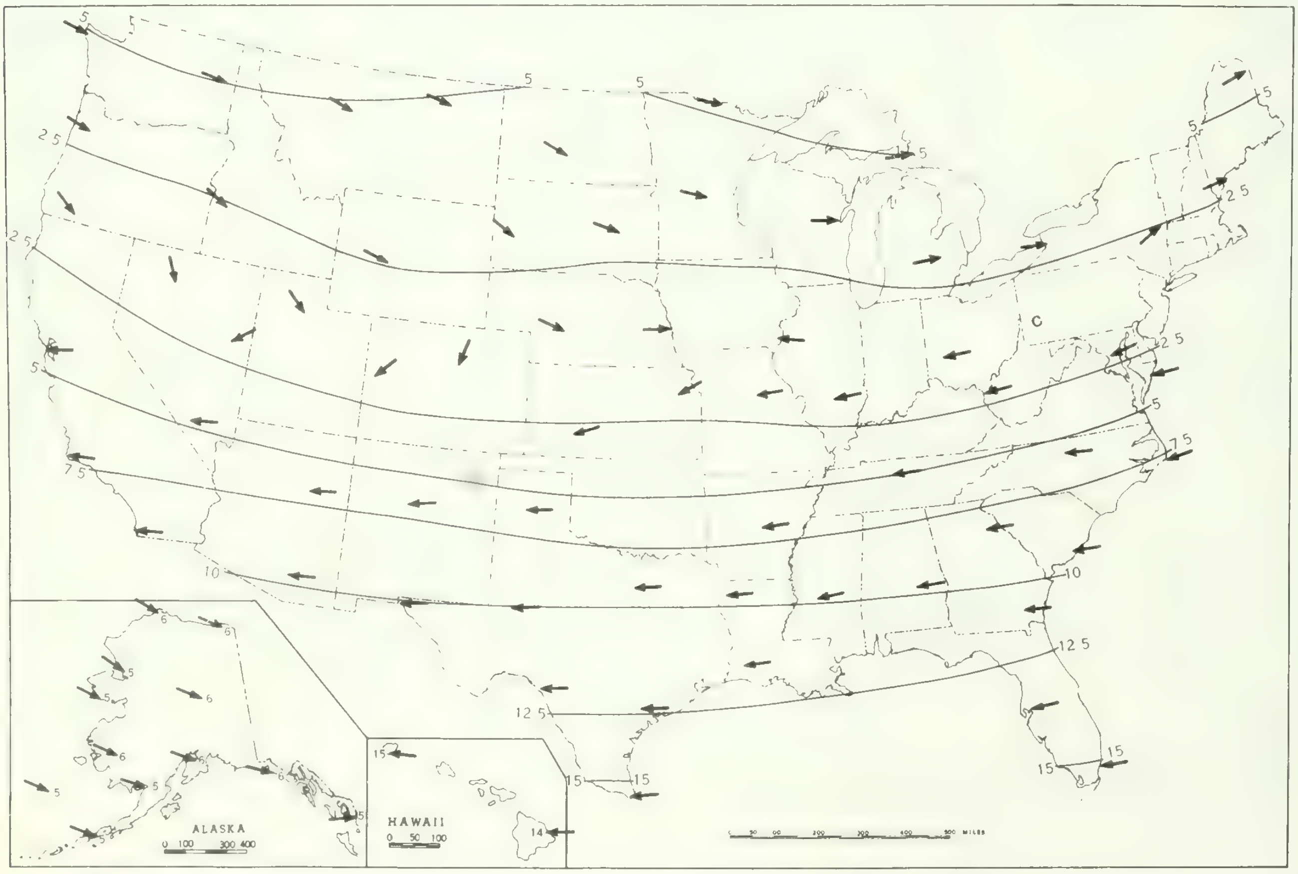


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, September 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, September 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-ESSA-ASHEVILLE, N. C. -3/12/70-1930

...MENT OF COMMERCE
...AL SCIENCE SVCS ADMN
...ATHER RECORDS CENTER
...ERAL BUILDING
...ORTH CAROLINA 28801

POSTAGE AND FEES PAID
UNITED STATES
DEPARTMENT OF COMMERCE
OFFICIAL BUSINESS

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

OCTOBER 1969
Volume 20 No. 10

Asheville 1970

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 10 OCTOBER 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. October 1969 was the coldest October in several decades over much of the West and North Central.
2. Record-low temperatures for so early in the season occurred at many spots in the Northeast.
3. Some locations in the central Rocky Mountains and the central Great Plains received more snow than in any previous October.

TEMPERATURE.--The battle between the polar and tropical air masses produced quick temperature changes over much of the Nation. This is characteristic of autumn weather in the middle latitudes.

A surge of wintry air pushed into the Far West early in October, ending the warm spell which had persisted through most of September. High pressure and cool weather dominated the weather in the western half of the Nation through the rest of the month. Subfreezing temperatures occurred frequently, except along the coast and in the southern portions of the southwestern deserts. Alamosa, Colo., registered 0° on Monday morning, October 13. October temperatures averaged 9° to 12° colder than normal over parts of the northern and central Rocky Mountains and more than 6° below normal over the western edge of the adjoining Great Plains. Temperatures changed erratically over the eastern half of the Country, however.

Mild weather prevailed over the central Great Plains at the beginning of October. A sharp change to cooler weather occurred about the middle of the first week. On the 9th a cold front stretched from north to south across the northern Great Plains. East of the front, brisk southerly winds carried Gulf air northward to the Great Lakes where Milwaukee, Wis., registered 77° in the afternoon after a morning minimum of 35°. West of the cold front, chilly air swept southward across the northern Rocky Mountains and western Great Plains, holding afternoon maximums in the 50's and 60's.

About the middle of the second week, a severe storm tumbled the temperatures to below freezing over the northern Great Plains and much of the central Great Plains. Las Vegas, N. Mex., registered 23° on the morning of October 12 and by the 13th, the temperature at Alamosa, Colo., had dropped to zero. As this big storm brought severe cold to the Central States, with afternoon temperatures in the 40's common in Iowa, summer heat prevailed farther east with maximums in the 80's from Ohio to the Gulf of Mexico. The middle of the 3d week of October brought the first widespread freezing temperatures of the season to the central and southern Appalachians. Chattanooga, Tenn., registered 30° on the morning of the 18th.

Unseasonably warm air continued from southern New England to the Gulf of Mexico until October 20 when Boston, Mass., and Baltimore, Md., registered 79° and 87°, respectively.

Cold northerly winds brought polar air across the Great Lakes and by the 23d, temperatures in the 20's were common in New England. Much of the Northeast had never been so cold so early in the autumn. Autumn chill intensified over the eastern two-thirds of the Country in the last few days of the month.

October temperatures averaged near or slightly above normal along the Gulf coast, in Florida, and along the Atlantic coast as far north as Maryland and slightly cooler than normal elsewhere in the East. The West averaged cooler than normal as was said earlier in this summary. In parts of the West, October 1969 was the coldest October in many years.

PRECIPITATION.--Rain fell along the northern Pacific coast early in October with snow above 4,000 feet in Washington. It accumulated to 1 to 3 inches above 7,500 feet in southern Idaho. Snow fell in the northern and central Rocky Mountains, reaching a depth of 4 inches at Leadville, Colo., by the morning of October 2.

Snow began late on October 3 in north-central and northeastern Colorado and continued until early on the 5th. The greatest amounts fell along the eastern slopes of the mountains and the adjacent plains in the northern part of Colorado, accumulating to 8 inches to 2 feet or more. The heavy, wet snow caused widespread damage to trees in full leaf and to power and communication lines and forced the removal of cattle from mountain ranges.

Showers and thunderstorms occurred from the northern and central Great Plains to the Great Lakes. A low-pressure system moved inland from the Gulf, causing widespread rains from the middle and eastern Gulf coast northward to the Ohio River. About the middle of the first week of October, torrential rains caused flash floods in southwestern Kansas and between Del Rio and San Antonio, Texas. Uvalde, Texas, measured 12.70 inches on the morning of October 5. Flash flooding from the Texas rains is described in the General Summary of River and Flood Conditions in this publication.

Near the end of the first week of October, heavy rains fell along a cold front that extended from Lower Michigan to Texas. As the front moved eastward, the precipitation zone moved eastward also. Flood-producing showers fell in Louisiana during the night of October 6; 10.50 inches at Oaknolia in 12 hours.

A Pacific front moved inland over the western coast and gale winds pounded the shore from Washington to California. Substantial rains fell in the Northwest in connection with this storm.

A second storm of near-record severity struck Colorado on October 11 and 12. Drifting snow blocked the roads in the mountains and in the eastern Great Plains. Like the previous storm, trees and powerlines sustained heavy damage. After this storm, snowfall in many areas had exceeded previous records for the entire month of October.

Freezing rain fell south of the snow belt, as far south as New Mexico and the Texas Panhandle. East of the snow belt, showers and thunderstorms dumped heavy rain from Texas to the Ohio River Valley. The 4- to 10-inch storm totals caused flash flooding along the streams in several States, especially Oklahoma, Missouri, and Illinois.

About midmonth heavy snow spread over the Upper Mississippi River Valley and blowing and drifting continued in the central Great Plains. Snow accumulated to a foot deep in northeastern Colorado and western

Nebraska. South of the snow belt, torrential rains along a slow-moving cold front which stretched from the Great Lakes to Texas, caused a quick rise in rivers across a 5-State area from Oklahoma to central Illinois. Flooding was most extensive in Missouri.

The second storm in less than a week to hit the central Great Plains developed in the central Rockies shortly after midmonth. It dumped 8 inches of snow at North Platte, Nebr., during the forenoon of October 15 and by the following day was bringing snow from the Dakotas to Wisconsin, a mixture of snow and rain in the transition zone, and rain farther south and east.

On the 18th and 19th, Tropical Storm Laurie produced some heavy showers in the Florida Keys. Laurie subsequently developed into a hurricane.

At the beginning of the last week of October, northerly winds, blowing across the Great Lakes, picked up moisture and deposited it as snow in New York and New England. Rochester, Vt., received 1 foot of snow on October 22 and even greater amounts fell in the mountains. This was one of the heaviest October snows of record in New England.

Locally heavy rains fell in the Rio Grande Valley in the last week of October with several inches falling in the Laredo vicinity accompanied by winds gusting to 68 m.p.h.

Many areas received heavy snow in the last few days of October. Ten inches fell at Bozeman, Mont., on the 28th. Several inches fell in parts of Colorado, eastern Wyoming, much of the Nebraska Panhandle, and western Kansas.

October rainfall exceeded the normal amounts over a wide area from Utah and New Mexico to the Great Lakes, in a narrow strip from the middle Rio Grande to Illinois and Indiana, and in the southern and eastern portions of the Florida Peninsula.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	92	11+	Valley Head	29	18	Hodges	6.90	Phenix City 2NNW	0.10
Alaska	Goose Bay Nike Site	74	7	Hughes	-17	31	Whittier	37.81	3 Stations	.00
Arizona	Cortaro 3SW	112	8	Fort Valley	7	12	Lukachukai	4.27	17 Stations	.00
Arkansas	Greenbrier	96	2	Calico Rock	21	28	[illegible]	14.16	[illegible]	.84
California	Indio US Date Garden	108	1	White Mountain 2	-6	17	Klamath	7.70	121 Stations	.00
Colorado	6 Stations	92	2+	Red Feather Lakes 2SE	-12	13	Wolf Creek Pass 1E	9.10	[illegible]	1.20
Connecticut	Norwich Pub Util Plt	82	12	Coventry	14	24	Westbrook	2.89	Stevenson Dam	1.39
Delaware	Milford 2WSW	85	3	2 Stations	19	24	Middletown 1WSW	2.00	[illegible]	.73
Florida	2 Stations	94	23+	De Funiak Springs	43	18	Key West WBAP	21.57	[illegible]	.51
Georgia	Macon WBAP	92	13	Blairsville Exp Sta	26	18	Atkinson 1W	7.36	Louisville 3S	.04
Hawaii	Mauna Kea Beach 98	95	9	Mauna Loa Slope Obs	34	29+	Mount Waialeale 1047	18.60	11 Stations	.00
Idaho	Swann Falls Power House	80	1	Galena	-1	13	Headquarters	3.54	May Ranger Station	.11
Illinois	Brookport Dam 52	92	3	Mount Carroll	19	23	Quincy FAA AP	10.84	Chester	1.72
Indiana	Mount Vernon	88	1	Logansport Radio WFAL	16	29	Lowell	7.28	Evans Landing Dam 43	.88
Iowa	Sidney	92	3+	4 Stations	14	28	Fort Madison	8.73	Sheldon	2.02
Kansas	2 Stations	97	3+	2 Stations	20	31+	Girard	10.02	Liberal	.94
Kentucky	Pikesville	92	13	Tomahawk 1WSW	16	25+	Mayfield Radio WNGO	6.67	Pikeville	.68
Louisiana	3 Stations	95	5+	Epps 6W	31	15	Oaknolia	12.24	Houma	.34
Maine	Houlton FAA AP	78	12	Hiram	11	29+	Jonesboro	3.03	Madison	.83
Maryland	Baltimore WB City	89	20	Oakland 1SE	13	24	Emmitsburg 2SE	2.92	Woodstock	.49
Massachusetts	2 Stations	82	13+	2 Stations	13	24	Pembroke	3.12	Lowell	1.02
Michigan	Lansing WBAP	86	1	Herman	1	23	Boyne Falls	8.22	Detroit City Airport	1.02
Minnesota	St James Filtration Pl	88	3	Cotton 10E	5	23	Walker AH GWAH Ching	5.80	Blanchard Power Sta	1.16
Mississippi	Allen	95	4	2 Stations	31	29+	Fulton 3W	7.15	Mount Pleasant	.56
Missouri	2 Stations	94	4+	Edgerton	17	28	Odessa	12.14	Fredericktown	1.47
Montana	2 Stations	80	23	Summit	-5	26	Shonkin 7S	4.20	Glen 4N	T
Nebraska	Hebron	95	1	Harrisburg 10NW	3	14	Nebraska City	6.70	Hay Springs 12S	1.22
Nevada	Sunrise Manor Las Vegas	100	1	Jiggs	7	6	Vya	D 2.84	4 Stations	.00
New Hampshire	Kenne	81	12	Mount Washington	-1	23	Mount Washington	7.26	Manchester	1.04
New Jersey	Phillipsburg	86	13	Chatsworth	12	24	Split Rock Pond	2.88	Atlantic City	.51
New Mexico	Jal	98	2	Lake Maloya	5	13	Pearl	[illegible]	Afton 5ESE	.56
New York	Fredonia	85	13	Old Forge	7	24	Westfield 3SW	5.15	Freehold 2NW	1.11
North Carolina	Elizabethtown Lock 2	89	20	Transou	17	30	Lake Toxaway 2SW	5.70	2 Stations	.90
North Dakota	4 Stations	78	9+	2 Stations	8	31+	Bottineau	2.50	Shields	T
Ohio	Ironton	91	13	3 Stations	15	28+	Paulding 1NE	3.34	Middlebourne	.70
Oklahoma	8 Stations	94	9+	Kenton	20	13+	Webbers Falls	15.15	Woodward Field Station	.57
Oregon	2 Stations	82	22+	Hampton	4	13	Valsetz	10.62	Arlington	.30
Pennsylvania	Farrell Sharon	90	13	Coudersport 5NW	10	24	Mahaffey	4.17	Virginville	.36
Puerto Rico	Dorado 4W	96	2	Cerro Maravilla	59	27+	Hacienda Constanza	23.97	Culebra Island	1.19
Rhode Island	2 Stations	79	20+	Kingston	15	24	Newport	3.30	Providence WBAP	1.62
South Carolina	Georgetown	89	14	Ninety Nine Islands	25	24	Givhans Ferry State Pk	4.61	Johnston 2SSW	.21
South Dakota	Fort Meade	86	2	Zeona 2ESE	1	27	Arlington	4.91	Dupree 15SSE	.15
Tennessee	4 Stations	90	4+	Mountain City No 2	19	18	2 Stations	4.81	Sparta 2NW	1.01
Texas	2 Stations	103	13	3 Stations	22	14+	Taylor Ranch	16.90	Presidio	.09
Utah	Saint George	95	1	Flaming Gorge	2	13	Silver Lake Brighton	5.66	Saint George	.11
Vermont	2 Stations	80	13	3 Stations	9	25+	Searsburg Station	4.47	Union Village Dam	1.26
Virginia	Partlow 3WNW	90	13	Wytheville 1S	13	30+	Diamond Springs	3.73	2 Stations	.46
Washington	3 Stations	80	23+	Anatone	12	13	Cougar 6E	10.62	Priest Rapids Dam	.08
West Virginia	Williamson	91	14	Seneca State Forest	7	24	Rowlesburg 1	3.16	Franklin 2NE	.61
Wisconsin	8 Stations	86	12+	Laona 4SSW	0	23	Beloit	5.76	Amery	2.37
Wyoming	Morrisey	84	8	Laramie FAA AP	-15	13	Albin	4.72	Belknap Ranch	.23

+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In	In.			In	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	995.9	1018.5	74	53	63.9	- 1.8	86	12	38	18	0	0	54	74	2.51	- 0.44	1.25	6	1	0.0	0	3.6	8	27	W	20	10	11	10	5.5	69
HUNTSVILLE	524	996.3	1019.3	73	52	62.5	0.7	87	12	36	18	0	0	52	73	2.49	- 1.23	1.15	7	0	0.0	0	3.5	9	23	10	29+	12	9	10	5.4	
MOBILE	211	1008.5	1016.4	80	62	71.2	1.3	91	4	47	16	1	0	60	70	0.67	- 2.36	0.76	6	0	0.0	0	6.0	5	21	1	14+	11	6	14	5.6	
MONTGOMERY	183	1010.5	1017.9	79	56	67.0	0.4	87	13+	44	18	0	0	56	73	1.60	- 1.68	1.61	3	1	0.0	0	5.4	5	22	[illegible]	20	9	10	12	5.8	48
ALASKA												B																				
ANCHORAGE	114	1001.0	1006.0	48	35	41.2	5.4	61	13	14	26	0	11	32	72	0.90	- 0.97	0.37	11	0	0.2	T	[illegible]	16	31	16	11+	7	4	20	[illegible]	38
ANNETTE	[illegible]	1010.8	1014.9	[illegible]	44	50.8	4.1	66	6	37	13	0	0	42	78	9.56	- 7.32	1.45	16	0	0.0	0	4.7	12	31	14	31+	6	6	19	7.2	
BARROW	31	1012.2	1012.9	20	[illegible]	15.9	- 0.7	36	25	-13	31	0	31	14	91	0.45	- 0.05	0.16	9	0	[illegible]	4	4.2	9	32	24	25	3	6	22	[illegible]	
BARTER ISLAND	39	1011.2	1012.9	27	16	21.4	4.2	46	12	- 8	30	0	31	18	85	0.12	- 0.72	0.03	6	[illegible]	3.3	3	5.1	10	40	9	17	[illegible]	[illegible]	27	9.0	
BETHEL	125	998.0	1003.8	42	28	35.1	3.7	56	16	7	31	0	21	31	87	0.88	- 0.66	0.38	9	0	0.6	1	5.7	4	29	2	21	[illegible]	4	26	8.8	
BETTLES	644	985.1	1011.0	36	22	29.1		53	13	- 3	31	0	22	23	79	0.99		0.36	10	0	1.2	T	5.6	1	22	7	11	5	8	18	7.2	
BIG DELTA	1268	961.1	1008.5	44	26	35.1		66	13	0	27	0	20	24	66	T		T	0	0	T	T	7.2	14	35	16	14+	7	5	19	6.6	
COLD BAY	96	995.9	999.4	47	[illegible]	42.9	2.8	50	23+	27	10	0	3	38	82	3.90	- 0.69	0.57	23	0	[illegible]	1	2.6	36	33	15	21	[illegible]	7	24	[illegible]	
FAIRBANKS	436	991.5	1008.7	45	24	34.0	7.8	65	13+	3	27	0	25	21	65	0.10	- 0.75	0.08	2	0	3.7	3	2.2	3	20	27	9	6	8	17	6.7	
GULKANA	1572	951.9	1010.8	43	23	32.6		65	6	- 4	25	0	21	23	72	0.21		0.11	4	0	1.1		3.9	17	37	18	11	8	4	19	6.6	
HOMER	67			49	36	42.1		58	16	18	26	0	9			8.55	5.04	1.83	20	0	0.0	0						6	3	22	7.5	
ILIAMNA	186			47	35	40.7		56	16	23	21	0	10			5.26		1.39	19	0	T	0						6	1	24	7.9	
JUNEAU	12	1013.2	1014.[illegible]	49	34	41.4	- 0.2	58	6	17	26	0	14	37	91	3.77	- 4.56	0.98	16	0	0.0	0	6.7	11	34	12	31	9	0	22	7.2	41
KING SALMON	49	998.0	1000.2	46	31	38.8	3.1	59	15	15	26	0	14	31	75	2.33	0.18	0.57	15	0	T	T	4.8	6	33	9	10	5	4	24	8.5	
KOTZEBUE	10	1007.1	1007.6	35	26	30.9	6.2	50	7	3	30	0	22	26	83	0.55	- 0.04	0.20	11	0	1.0	1	7.5	8	33	11	22	3	9	19	7.8	
MC GRATH	344	993.2	1006.1	40	26	33.2	6.4	59	17	5	30	0	19	23	68	0.64	0.68	0.20	9	[illegible]	4.3	5	1.8	6	21	8	10	5	7	21	8.0	
NOME	13	1004.7	1005.6	39	28	33.5	3.8	55	17	2	30	0	18	25	71	1.00	- 0.71	0.33	8	0	T	T	4.8	5	35	36	31	4	6	21	7.8	18
ST. PAUL ISLAND	22	1002.4	1003.2	43	35	39.1	1.9	47	24+	27	16+	0	10	35	82	2.30	- 0.85	0.98	19	0	0.8	T	10.4	1	44	36	31+	0	7	24	9.0	
SHEMYA	122	1007.5	1011.3	45	37	41.1	1.4	49	4+	33	14+	0	0	34	76	3.40	0.64	1.13	17	0	0.9	T	6.3	34	46	1	10	0	12	19	7.9	
SUMMIT	2401	920.8	1008.4	41	25	33.2		59	6	8	22	0	23	24	73	2.04		0.66	12	0	17.7	10	6.1	3	32	15	6	6	10	15	6.6	
TALKEETNA	345	993.9	1007.2	47	27	36.9	3.8	59	15	1	27	0	19	29	78	2.18	- 0.67	0.85	12	0	0.3	T	1.8	1	17	18	9	9	4	18	6.7	
UNALAKLEET	15	1005.1	1005.6	39	29	34.3		54	17	0	30	0	18	26	73	1.05		0.37	12	0	0.5	T	9.0	8	31	8	22+	4	5	22	8.0	
YAKUTAT	28	1010.2	1011.1	50	33	41.4	- 0.5	60	13	16	27	0	14	34	78	18.79	- 0.80	4.57	19	0	0.0	0	5.6	10	38	12	11	7	3	21	7.2	
ARIZONA																																
FLAGSTAFF	7006	786.0	1015.2	55	26	40.5	- 6.5	72	1	9	12	0	26	23	54	1.14	- 0.38	0.99	2	2	1.5	T	1.8	18	25	22	3	13	6	12	4.5	
PHOENIX	1117	971.6	1010.2	84	55	69.5	- 1.2	98	1	45	31	6	0	38	36	0.08	- 0.38	0.08	1	2	0.0	0	0.4	19	32Y	[illegible]	21	19	7	5	3.0	88
TUCSON	2584	923.1	1010.1	81	52	66.8	- 3.2	95	1	41	30	6	0	35	35	0.03	- 0.61	0.03	1	1	0.0	0	3.3	20	31	W	18	21	8	2	2.4	94
WINSLOW	4895	850.0	1014.0	67	37	51.8	- 5.6	85	8+	25	12	0	10	29	47	0.40	- 0.26	0.25	2	1	T	0	4.1	25	40	21	18	12	10	9	4.6	
YUMA	194	1003.4	1010.5	85	58	71.6	- 2.9	100	1	50	21+	7	0	36	32	0.01	- 0.37	0.01	1	0	0.0	0	2.1	33	31	N	11	21	8	2	2.3	94
ARKANSAS																																
FORT SMITH	447	1001.0	1017.7	74	50	61.9	- 1.9	92	3+	34	28	6	0	47	63	9.05	5.60	3.75	8	4	0.0	0	2.4	8	30	W	12	10	5	16	6.2	48
LITTLE ROCK	257	1008.5	1018.1	75	50	62.4	- 0.7	91	2	36	15	3	0	50	68	3.60	0.72	1.88	7	2	0.0	0	1.3	7	31	E	30	12	7	12	5.2	65
CALIFORNIA																																
BAKERSFIELD	475	997.3	1014.8	78	52	64.6	- 2.2	90	1	45	19	1	0	41	46	T	- 0.32	T	0	0	0.0	0	2.1	36	17	33	2	15	8	8	3.7	
BISHOP	4108	873.0		72	33	52.4	- 5.0	88	1	24	13	0	15			0.02	- 0.41	0.02	1		0.0	0						17	7	7	3.5	
BLUE CANYON	5280			57	40	48.7	- 5.1	73	1	31	18	0	3			6.96	3.55	4.01	5		4.3	2			28	7	11	17	1	13	4.5	
EUREKA U	43			62	48	55.2	0.8	76	7	42	25	0	0			3.20	0.01	1.22	12		0.0	0			34	N	10	12	6	13	5.4	64
FRESNO	328	1003.1	1014.7	75	44	59.7	- 4.9	90	1	37	6	1	0	43	61	0.06	- 0.37	0.06	1	1	0.0	0	1.6	31	22	NW	2	17	5	9	3.8	84
LONG BEACH	34	1012.2	1013.6	78	55	66.3	- 0.2	93	7	47	20	3	0	49	62	0.00	- 0.17	0.00	0	0	0.0	0	1.6	24	20	26	17	15	11	5	4.0	
LOS ANGELES	97	1009.1	1012.8	74	58	66.1	1.2	88	7	52	20	0	0	52	67	0.00	- 0.39	0.00	0	0	0.0	0	2.7	24	30Y	W	17	16	9	6	3.8	
LOS ANGELES U	270			76	59	67.3	- 0.1	88	7+	53	19	0	0			0.00	- 0.41	0.00	0		0.0	0						13	15	3	3.5	86
MT SHASTA P	3544	893.0	1017.7	59	35	46.9	- 5.0	75	22	26	4	0	10	34	66	1.00	- 1.44	0.66	7		0.0	0	1.3	33								
OAKLAND	6	1015.6	1015.9	69	53	60.6	- 0.5	78	31+	46	18	0	0	50	73	2.06	1.28	1.69	5	0	0.0	0	2.1	31	28	2	11	17	3	11	4.4	
RED BLUFF	342	1003.4	1016.2	74	49	61.4	- 4.2	91	1	41	13	2	0	38	49	1.25	- 0.12	1.19	2	1	0.0	0	4.6	35	31	NW	1	17	5	9	4.0	75
SACRAMENTO	17	1014.6	1015.4	74	48	61.0	- 2.5	89	1	38	19	0	0	43	60	0.72	- 0.05	0.69	3	0	0.0	0	2.0	31	33	N	3	18	3	10	3.8	87
SANDBERG R	[illegible]	861.5		62	44	52.8	- 5.9	79	1	32	18	0	1			0.01	- 0.48	0.01	1		0.0	0			39	34	9	15	7	9	3.9	
SAN DIEGO	13	1012.2	1013.3	73	59	66.0	- 0.1	85	7	53	30	0	0	51	63	0.04	- 0.45	0.04	1	0	0.0	0	3.0	28	21	NW	16	15	13	3	3.6	77
SAN FRANCISCO	8	1015.2	1016.0	70	52	61.2	0.7	80	6	46	19+	0	0	47	65	1.96	1.22	1.57	5	0	0.0	0	4.7	29	39	27	1	17	2	12	4.4	
SAN FRANCISCO U	52			68	55	61.9	0.5	79	31	52	25+	0	0			2.61	1.72	2.35	5		0.0	0			28	NW	11					70
SANTA MARIA	236			75	46	60.3	- 0.1	87	31+	38	13	0	0			0.14	- 0.46	0.14	1		0.0	0						19	7	5	3.3	
STOCKTON	22	1014.6	1015.7	73	48	60.5	- 3.5	89	1	39	29	0	0	41	54	1.07	0.44	0.90	3	0	0.0	0	3.8	31	32	36	11+	17	4	10	3.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	772.7		53	24	38.6	- 5.8	73	2	0	13	0	26			2.37	1.77	1.27	8		[illegible]	18						8	[illegible]	[illegible]	[illegible]	
COLORADO SPRINGS	6145	810.7	1018.0	52	31	41.5	- 8.8	81	2	5	13	0	17	29	71	[illegible]	2.17	1.14	13	1	31.7	[illegible]	[illegible]	1	[illegible]	34	[illegible]	[illegible]	4	18	[illegible]	
DENVER	5283	836.4	1017.2	50	28	39.0	12.4	85	2	3	13	0	18	30	76	4.17	[illegible]	[illegible]	14	1	[illegible]	11	[illegible]	[illegible]	32	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GRAND JUNCTION	4843	851.7	1015.4	58	36	47.4	- 7.6	81	2	29	31	0	6	31	58	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	T	2.3	[illegible]	33	NW	28+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PUEBLO	4684	855.7	1015.6	62	38	49.9	- 4.9	90	2	23	13	1	7	33	60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	4	[illegible]	[illegible]	11	[illegible]	[illegible]	16	[illegible]	[illegible]
CONNECTICUT																																
BRIDGEPORT	7	1019.3	1020.1	62	46	54.7	- 0.7	73	3	26	24	0	2	43	65	[illegible]	- 1.36	1.40	6	1	T	[illegible]	4.8	31	[illegible]	[illegible]	22	14	7	[illegible]	[illegible]	
HARTFORD	169	[illegible]	1019.7	64	39	51.7	- 1.3	81	20	21	24	0	9	38	63	1.45	- 1.79	0.93	[illegible]	[illegible]	T	T	[illegible]	28	31	NW	22	[illegible]	[illegible]	11	[illegible]	[illegible]
DELAWARE																																
WILMINGTON	74	1018.0	1021.1	68	44	56.0	- 0.6	84	3	24	24	0	4	44	68	1.47	1.44	[illegible]	[illegible]	1	T	T	[illegible]	[illegible]	42	[illegible]	21	[illegible]	[illegible]	9	4.8	
DIST. OF COLUMBIA																																
WASH NAT. AP	10	1019.0	1021.3	70	48	58.8	- 0.2	86	20	29	24	0	2	45	64	[illegible]	- 1.9[illegible]	[illegible]	[illegible]	[illegible]	0.[illegible]	[illegible]	[illegible]	29	[illegible]	NW	22	14	6	11	4.[illegible]	[illegible]
FLORIDA																																
APALACHICOLA	13			79	66	72.2	1.0	87	4	57	30	0	0			[illegible]	[illegible]	[illegible]	[illegible]	1	0.[illegible]	[illegible]			37	[illegible]	1	[illegible]	7	13	[illegible]	[illegible]
DAYTONA BEACH	31	1014.6	1015.8	83	71	77.1	3.7	87	21+	66	14+	0	0	68	76	[illegible]	1.36	2.14	[illegible]	[illegible]	[illegible]	[illegible]	6.6	7	[illegible]	11	[illegible]	7	[illegible]	18	[illegible]	
FORT MYERS	15	[illegible]	[illegible]	84	72	78.3	2.2	89	20+	66	14	0	0	70	80	11.03	6.94	[illegible]	13	[illegible]	[illegible]	[illegible]	5.8	7	22	7	[illegible]	7	[illegible]	16	[illegible]	
JACKSONVILLE	20	1015.6	1016.6	80	67	73.7	2.7	90	1	55	18	1	0	68		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KEY WEST	4	1011.5	[illegible]	84	76	80.3	1.3	87	16+	73	26+	0	0	73	79	[illegible]	[illegible]	4.77	[illegible]	5	[illegible]	[illegible]	7.7	9	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]
LAKELAND	214			83	70	76.3	1.8	88	[illegible]	66	27+	0	0			4.61	1.68	1.80	15		[illegible]	[illegible]						7	4	[illegible]	[illegible]	[illegible]
MIAMI	7	1012.5	1012.8	86	75	80.3	2.5	90	3	68	14	1	0	70	74	[illegible]	5.36	5.47	17	[illegible]	[illegible]	[illegible]	6.8	9	28	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	
ORLANDO	108	1010.8	[illegible]	85	71	77.9	3.9	91	1	66	14+	1	0	69	80	9.4[illegible]	[illegible]	[illegible]	15	3	[illegible]	[illegible]	[illegible]	8	[illegible]	11	[illegible]	[illegible]	[illegible]	17	[illegible]	
PENSACOLA	112	1011.9	1015.9	79	64	71.3	0.9	88	4	52	16	0	0	60	72	[illegible]	- [illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	5.5	8	17	[illegible]	14+	[illegible]	4	[illegible]	[illegible]	
TALLAHASSEE	55	[illegible]	[illegible]	82	62	72.1	2.5	89	[illegible]	51	18+	0	0	63	78	1.[illegible]1	- 1.[illegible]	0.43	5	[illegible]	[illegible]	[illegible]	5.8	6	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	
TAMPA	19	[illegible]	[illegible]	84	70	76.9	2.2	89	11+	64	14+	0	0	67	76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WEST PALM BEACH	15	1012.9	1013.4	85	73	78.8	0.6	92	3	65	14	1	0	70	77	13.47	5.51	[illegible]	[illegible]	4	0.0	[illegible]	[illegible]	7	38	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	
GEORGIA																																
ATHENS	802	990.2	1019.3	74	53	63.1	0.1	85	14	36	24	0	0	51	70	[illegible]	- 0.88	[illegible]	[illegible]	[illegible]	0.0	[illegible]	4.[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
ATLANTA	[illegible]	982.4	[illegible]	73	52	62.5	0.1	85	3	38	24	0	0	52	73	[illegible]	- [illegible]	[illegible]	[illegible]	1	0.0	[illegible]	4.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	11	[illegible]	[illegible]
AUGUSTA	136	[illegible]	1018.7	79	53	65.1	- 0.1	88	14	38	24	0	0	54	74	[illegible]	- [illegible]	[illegible]	7	[illegible]	0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24+	[illegible]	[illegible]	13	[illegible]	
COLUMBUS	385	1004.1		78	56	67.0	1.6	87	20+	43	24+	0	0	55	70	0.51	- 1.46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	
MACON	354	1005.8	1018.8	81	55	67.8	1.6	92	13	42	24	2	0	55	72	[illegible]	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]
ROME	637			72	48	60.0	- 1.2	85	12	33	30	0	0			1.38	- 1.[illegible]	[illegible]	[illegible]		[illegible]	[illegible]										
SAVANNAH	46	1016.3	1017.9	79	61	69.9	2.7	88	20+	46	30+	0	0	60	76	4.04	1.46	[illegible]	[illegible]	1	0.0	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]
HAWAII																																
HILO	27	[illegible]	1015.0	83	66	74.5	- 0.6	85	26+	64	31+	0	0	67	77	3.19	- 7.61	1.42	20	[illegible]	0.0	[illegible]	1.1	18	19	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HONOLULU	7	1014.2	1014.7	88	[illegible]	80.5	2.3	90	28+	69	6+	6	0	67	66	[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NE	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]
KAHULUI	48	[illegible]	[illegible]	87	66	76.1	1.[illegible]	90	30+	60	6	3	0			[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LIHUE	103	1010.8	[illegible]	83	71	77.1	0.2	85	17+	63	3	0	0	69	78	[illegible]	- 0.58	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	NE	1	4	[illegible]	[illegible]	[illegible]	[illegible]
IDAHO																																
BOISE	2838	917.4	1018.[illegible]	58	34	45.9	5.7	71	22+	23	14	0	12	30	59	[illegible]	- [illegible]	[illegible]	[illegible]	0	1.[illegible]	T	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LEWISTON	[illegible]			58	38	47.9	4.1	74	[illegible]	26	13	0	5			1.[illegible]	- [illegible]	[illegible]	[illegible]		0.[illegible]	[illegible]						4	[illegible]	18	[illegible]	
POCATELLO	4454	[illegible]	[illegible]	55	[illegible]	[illegible]	6.4	71	7	16	13	0	18	26	56	[illegible]	- 0.33	0.18	8	0	T	T	[illegible]	23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ILLINOIS																																
CAIRO	314			[illegible]	52	60.7	- 1.2	89	3	36	28+	0	0			4.[illegible]	1.12	1.61	7		0.0	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]
CHICAGO O'HARE	658	[illegible]	1018.6	61	42	51.8	- 1.[illegible]	85	1	25	28+	0	8	40	66	6.55	3.8[illegible]	4.61	12	4	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
CHICAGO MIDWAY	[illegible]	[illegible]	1018.6	[illegible]	44	[illegible]	- 1.8	86	1	29	28+	0	4	41	64	[illegible]	1.17	[illegible]	[illegible]	5	0.[illegible]	[illegible]	4.[illegible]	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MOLINE	582	996.6	1018.3	62	42	51.7	- [illegible]	88	4	22	28	0	7	40	68	4.63	[illegible]	[illegible]	11	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PEORIA	[illegible]	994.6	1018.8	62	41	51.5	- [illegible]	86	4	21	28	0	10	41	69	5.67	3.14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROCKFORD	[illegible]	[illegible]	1018.[illegible]	59	40	49.8	- 2.7	86	4	[illegible]	28+	0	10	39	69	8.[illegible]	5.62	[illegible]	11	5	0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	4	[illegible]	[illegible]	
SPRINGFIELD	588	[illegible]	1018.6	65	[illegible]	54.0	- 2.7	88	4	24	28	0	5	44	71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	11	4	16	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In.	M.p.h.		M.p.h.							%
INDIANA																																
EVANSVILLE	381	1005.4	1019.5	68	45	56.7	- 2.4	85	4	26	28	0	6	45	69	4.20	1.63	1.35	9	2	0.0	0	0.7	13	21	5	13	12	5	14	5.5	57
FORT WAYNE	791	989.5	1019.9	63	43	52.6	- 0.4	81	1	28	24+	0	7	42	70	5.49	2.63	2.26	9	2	0.0	0	2.8	23	30	W	7	8	9	14	6.3	55
INDIANAPOLIS	792	989.6	1019.3	65	43	53.8	1.6	79	4	24	28+	0	8	45	75	4.83	2.21	1.51	10	1	0.0	0	1.9	19	30	W	11	13	3	15	5.6	58
SOUTH BEND	773	990.5	1018.9	60	43	51.4	2.0	80	1	29	29+	0	6	43	75	4.70	1.53	1.04	12	2	T	T	3.4	21	24	22	20	3	12	16	7.3	
IOWA																																
BURLINGTON	692			61	41	51.2	- 4.2	86	4	22	28	0	8	43	71	7.25	4.55		13	4	0.0		1.9	23	31	20	9	11	5	15	6.1	
DES MOINES	938	983.4	1018.4	59	41	50.0	- 4.2	86	4	22	28	0	6	37	64	2.87	0.81	0.93	11	5	T	T	1.3	24	35	5	9	9	5	17	6.6	44
DUBUQUE	1056	978.7		57	38	47.6	- 3.1	86	1	20	27	0	15			4.31	1.57	1.06	14		T	0						8	7	16	6.4	
SIOUX CITY	1095	977.7	1017.8	56	37	46.6	- 7.4	87	3	19	28	0	8	39	76	2.70	1.28	0.79	10	4	T	T	1.3	29	32	NW	21	7	4	20	7.1	41
WATERLOO	868	985.8	1018.1	56	36	45.9	- 5.8	83	4	15	28	0	13	37	75	3.04	0.92	0.96	13	3	T	T	1.8	22	30	18	9	7	7	17	6.7	
KANSAS																																
CONCORDIA	1470	963.8	1017.0	62	41	51.2	- 6.5	89	3	24	27	0	6	42	75	3.26	1.58	0.97	12	5	0.0	0	1.5	15	34	5	9	7	7	17	6.6	46
DODGE CITY	2582	925.2	1016.3	62	43	52.6	- 5.7	90	9	28	14	1	5	41	72	1.66	0.24	0.69	7	3	0.0	0	1.5	15	34	NW	15+	5	4	22	7.6	38
GOODLAND	3654	888.3	1016.2	54	37	45.2	- 7.9	83	2	25	12	0	9	35	74	4.10	3.34	1.08	14	2	14.7	6	1.5	32	32	34	15	5	5	21	7.6	
TOPEKA	876	985.8	1018.0	63	43	52.7	- 5.5	88	3	21	28	0	5	43	72	3.98	1.64	1.31	12	6	0.0	0	0.6	18	38	5	9	7	7	17	6.5	44
WICHITA	1321	969.2	1017.1	64	45	54.6	- 5.3	87	3+	30	14	0	3	43	69	2.80	0.40	0.70	10	6	0.0	0	1.9	16	42	5	9	5	5	21	7.2	38
KENTUCKY																																
COVINGTON	869	988.5	1020.1	67	45	55.7	- 0.4	85	13+	27	28+	0	5	44	66	1.53	- 0.73	0.47	10	1	0.0	0	2.2	22	25	32	13	9	11	11	5.8	
LEXINGTON	966	984.8	1020.3	69	47	57.9	- 0.2	86	13	28	24+	0	4	43	61	1.53	- 0.75	0.55	9	1	0.0	0	2.5	18	21	18	10	10	9	12	5.5	
LOUISVILLE	477	1001.7	1019.6	68	46	57.3	- 0.6	86	13+	28	28	0	5	45	68	1.69	- 0.56	0.55	8	1	0.0	0	1.1	18	34	NW	20	9	10	12	5.8	60
LOUISIANA																																
BATON ROUGE	64	1013.5	1016.1	81	59	70.2	1.1	91	4	45	14	3	0	59	71	6.04	3.59	4.86	7	2	0.0	0	4.3	6	23	35	1	12	6	13	5.4	
LAKE CHARLES	9	1014.6	1015.5	81	60	70.8	0.3	90	5+	43	15	2	0	60	75	4.42	1.36	1.21	7	4	0.0	0	4.7	7	20	12	30+	10	9	12	5.3	
NEW ORLEANS	4	1015.2	1016.2	80	63	71.1	0.7	90	11+	48	16+	2	0	62	75	0.51	- 2.33	0.16	6	0	0.0	0	6.5	5	22	3	23	12	8	11	5.3	
SHREVEPORT	254	1007.5	1016.7	79	57	67.8	- 0.5	93	2	42	15	7	0	53	64	3.16	0.35	1.89	8	2	0.0	0	2.8	9	23	17	12	11	6	14	5.6	64
MAINE																																
CARIBOU	624	993.9		50	33	41.1	- 1.9	69	12	18	22	0	16			1.55	- 1.81	0.58	9		2.3	1						4	11	16	7.2	
PORTLAND	47	1016.3	1018.8	58	40	48.9	0.3	72	14+	22	24	0	8	40	74	2.51	- 0.69	0.78	8	0	3.8	2	2.1	27	25	NW	21+	14	3	14	5.4	58
MARYLAND																																
BALTIMORE	148	1015.6	1021.2	70	46	57.7	0.7	87	20	25	24	0	5	43	62	1.10	- 2.08	0.50	5	0	0.0	0	2.3	29	34	NW	22	13	9	9	4.6	62
MASSACHUSETTS																																
BLUE HILL OBS R	629			61	43	51.6	- 1.1	77	20	22	24	0	5			2.53	- 1.22	1.35	10		T	T			40	W	20					61
BOSTON	15	1018.3	1019.2	62	47	54.3	- 0.7	79	20	30	24+	0	2	43	69	1.64	- 1.50	0.88	6	1	T	T	5.1	28	29	W	20	12	6	13	5.2	66
NANTUCKET	43	1019.3		61	45	53.2	- 1.1	71	8+	30	24	0	2			1.65	- 2.05	0.49	8		0.0	0			32	W	23	7	9	15	6.2	63
WORCESTER	986	982.7	1020.1	59	41	49.7	- 0.8	76	12	20	24	0	6	38	67	1.78	- 1.69	0.74	7	1	T	0	4.2	28	31	35	20	12	8	11	5.0	
MICHIGAN																																
ALPENA	689	991.9	1017.6	53	36	44.3	- 2.0	70	6+	18	23	0	11	39	80	4.78	2.36	1.57	19	2	4.3	2	2.3	24	30	SE	1	1	7	23	8.4	27
DETROIT	619			60	44	52.0	- 1.8	80	13	25	23	0	6	40	65	1.02	- 1.61	0.44	9	0	T		3.9	25	35	29	21					
DETROIT M WAYNE CO	633	994.2	1018.6	61	41	51.4	- 0.8	82	13	22	24+	0	7	40	69	1.41	- 1.16	0.45	12	1	T	T	3.1	24	30	NW	22	3	11	17	7.2	43
FLINT	771	990.2	1018.2	59	40	49.2	- 2.2	79	1	23	23	0	7	40	72	2.96	0.59	0.78	15	4	T	T	3.9	23	22	23	13+	5	9	17	7.3	
GRAND RAPIDS	784	989.2	1018.5	58	38	47.9	- 3.2	83	1	19	23	0	9	39	73	6.30	3.69	2.01	14	5	T	T	3.5	21	54	SW	7	1	12	18	7.8	35
HOUGHTON LAKE	1149	975.6	1018.4	53	38	45.4	- 1.6	75	1	16	23	0	10	40	81	5.45	2.46	1.48	16	3	2.0	1	3.7	24	24	28	20	2	10	19	7.9	
LANSING	841	986.8	1018.7	60	40	50.0	- 1.3	86	1	20	23	0	8	42	75	2.74	0.24	0.90	14	3	T	T	4.4	24	33	NW	21	2	11	18	7.5	37
MARQUETTE U	677			51	38	44.5	- 3.5	71	9	23	23	0	6			5.20	2.87	1.72	19		4.3	4			30	SW	9	1	8	22	8.3	35
MUSKEGON	625	994.9	1018.2	58	42	49.7	- 2.8	81	1	24	29	0	6	42	76	6.56	4.01	2.20	16	4	T	T	3.3	24	28	21	7	1	8	22	8.2	
SAULT STE MARIE	721	989.5	1016.3	50	36	42.7	- 3.6	69	2	20	23+	0	13	37	80	6.29	3.47	0.89	22	3	11.6	5	0.7	25	25	W	27	1	3	27	9.0	21
MINNESOTA																																
DULUTH	1428	964.4	1016.8	48	33	40.7	- 3.9	71	4	16	23	0	13	32	72	2.42	0.25	0.37	15	1	4.3	1	2.4	24	41	SW	10	2	7	22	8.2	29
INTERNATIONAL FALLS	1179	971.9	1015.9	45	30	37.6	- 4.8	71	4	14	23	0	20	32	84	2.87	1.13	2.14	11	4	3.0	2	1.6	26	25	30	7	2	4	25	8.8	
MINNEAPOLIS	834	986.5	1017.2	55	38	46.5	- 2.4	87	4	22	28	0	8	37	73	2.53	0.94	0.77	12	2	2.4	2	2.8	25	31	SW	9	6	7	18	7.2	35
ROCHESTER	1297	969.2	1017.4	55	36	45.4	- 4.5	83	4	17	28	0	14	35	70	3.18	1.48	1.19	12	2	2.1	2	3.6	23	29	31	21+	7	5	19	7.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In	In.			In.	In.	M.p.h.		M.p.h.							%
MINNESOTA																																
ST. CLOUD	1034	978.7	1017.2	52	34	43.2	- 4.1	83	4	16	28	0	13		72	1.29	- 0.35	0.53	7		4.0	2						6	6	20	7.2	
MISSISSIPPI																																
JACKSON	310	1005.8	1017.5	79	54	66.2	- 0.8	91	4+	37	29	3	0	57	76	2.26	0.22	0.88	10	2	0.0	0	3.3	7	24	N	1	9	9	13	6.0	49
MERIDIAN	290	1006.8	1017.8	76	54	65.0	- 0.6	88	4	42	29+	0	0	56	74	0.95	- 1.27	0.48	6	0	0.0	0	2.5	4	18	36	14	7	12	12	[illegible]	
MISSOURI																																
COLUMBIA	778	987.8	1018.3	64	45	54.5	- 4.2	88	3	26	28	0	6	44	71	8.99	5.87	4.78	11	4	0.0	0	2.1	17	34	NW	19	11	4	16	6.0	
KANSAS CITY	742	993.9	1018.0	64	47	55.7	- 4.5	89	3+	28	28	0	2	44	67	6.50	3.64	2.28	14	7	0.0	0	1.4	18	41	SE	9	9	8	14	6.1	48
ST. JOSEPH	811			65	43	54.0	- 3.4	91	3	20	28	2	4	42	71	3.40	1.22		14		0.0		0.4	21	21	33	13+	8	9	14	6.1	
ST. LOUIS	535	998.6	1019.1	67	45	56.1	- 2.3	89	3	30	29+	0	4	46	72	5.77	2.91	2.14	10	3	0.0	0	2.2	18	45	SW	10	12	4	15	5.6	55
SPRINGFIELD	1268	971.6	1018.3	67	44	55.5	- 4.2	91	3	23	28	1	4	42	64	6.26	2.50	3.27	9	3	T	T	3.6	17	30	SE	12	9	10	12	6.0	56
MONTANA																																
BILLINGS	3567	892.7	1018.9	48	32	40.0	- 9.5	73	23	18	14	0	17	27	64	1.56	0.47	0.68	10	0	10.2	2	5.5	29	34	NW	9	4	7	20	7.7	39
GLASGOW	2284	934.6	1018.1	48	30	38.7	- 6.7	68	1	17	27	0	20	28	71	1.33	0.69	0.87	10	0	1.0	T	5.5	32	35	30	9	5	3	23	7.6	
GREAT FALLS	3662	889.9	1020.1	47	29	38.1	- 9.4	71	22	14	13	0	18	28	71	1.89	0.16	0.29	11	[illegible]	5.0	2	5.9	25	38	SW	20	5	2	24	8.0	[illegible]
HAVRE	2584	925.2	1019.0	49	28	38.8	- 7.0	68	8+	13	16	0	23	26	65	0.48	- 0.31	0.32	8	1	1.3	T	5.0	28	32	NW	6	5	4	22	7.7	45
HELENA	3828	887.8	1020.9	47	29	38.1	- 7.5	69	22	16	15	0	21	27	69	1.26	0.40	0.50	11	1	11.0	6	4.9	28	32	W	20	[illegible]	3	23	7.8	41
KALISPELL	2965	914.0	1020.5	50	29	39.8	- 4.1	67	22	16	18	0	21	29	69	1.07	- 0.17	0.41	10	0	2.2	1	2.7	3	21	36	24	6	5	20	[illegible]	
MILES CITY	2629	925.5	1017.9	50	31	40.3	- 8.7	70	23	18	17	0	20	30	70	1.19	0.22		13		2.6		5.2	31								
MISSOULA	3190	907.2	1021.1	51	30	40.2	- 3.8	62	21	15	19	0	16	30	74	0.67	- 0.32	0.40	9	1	T	T	1.7	4	26	N	3+	4	8	19	7.4	43
NEBRASKA																																
GRAND ISLAND	1841	[illegible]	1017.9	56	36	46.0	- 7.4	86	3	21	27	0	9	37	74	3.43	2.47	1.11	9	4	4.4	2	1.4	29	25	33	21+	6	6	19	6.9	
LINCOLN	1150			60	41	50.4	- 6.3	91	3	22	28	1	4			2.88	1.30	0.82	11		T	T			52	SW	9	7	9	15	[illegible]	46
NORFOLK	1544			54	36	45.2	- 7.7	86	3	17	28	0	10			2.63	1.45	0.75	8		1.4	1						7	[illegible]	21	7.2	
NORTH PLATTE	2775	918.4	1017.8	53	31	41.7	- 9.3	81	2	11	16	0	16	34	78	2.91	2.00	0.94	12	[illegible]	15.7	9	1.6	35	32	SE	2	7	5	19	[illegible]	59
OMAHA	977	982.1	1017.7	61	40	50.1	- 5.6	91	3	20	28	1	8	39	68	2.24	0.51	0.70	13	[illegible]	T	T	[illegible]	[illegible]	29	NW	21	7	7	17	6.7	[illegible]
SCOTTSBLUFF	3957	880.5	1018.2	51	31	41.1	9.3	81	2	9	14	0	17	31	73	3.22	2.43	0.93	9	[illegible]	21.6	8	4.3	32	40	29	2	6	7	18	[illegible]	
VALENTINE	2587			53	31	42.3	- 7.0	80	2	14	27	0	15			1.87	1.99	0.57	10		4.7	3			36	[illegible]	23	6	[illegible]	16	[illegible]	42
NEVADA																																
ELY	6253	808.3	1016.1	55	25	40.4	- 5.5	77	1	14	5	0	27	22	57	0.91	0.18	0.36	8	[illegible]	2.2	1	1.2	29	41	NW	10+	14	6	11	5.1	[illegible]
LAS VEGAS	2162	937.0	1017.0	76	50	62.8	- 3.8	97	1	39	19	2	0	29	33	0.27	0.07	0.25	3	0	0.0	0	1.7	30	32	W	18	15	11	5	3.7	87
RENO	4404	866.2	1016.9	63	27	45.3	3.9	84	1	18	6	0	24	24	46	0.40	0.11	0.27	3	[illegible]	0.0	0	1.2	36	45	W	8	14	9	8	4.3	[illegible]
WINNEMUCCA	4301	868.[illegible]	1018.2	60	25	42.6	5.1	85	1	15	5	0	25	27	61	1.43	0.62	0.51	7	2	3.5	1	1.4	34	28	NW	10	15	[illegible]	11	4.8	[illegible]
NEW HAMPSHIRE																																
CONCORD	342	1006.8	1019.5	60	35	47.5	- 1.2	76	12	10	24	0	12	38	71	1.56	- 1.10	0.90	7	0	2.1	2	2.2	27	30	NW	23	10	10	11	[illegible]	58
MT WASHINGTON OBS	6262			37	25	30.8	- 0.1	56	6	- 1	23	0	21			7.26	1.07	1.89	16	0	34.4	6			[illegible]	W	23	[illegible]	6	17	[illegible]	41
NEW JERSEY																																
ATLANTIC CITY	64	1018.[illegible]	102[illegible].7	65	43	53.9	[illegible]	82	[illegible]	23	24	0	5	46	77	2.09	- 1.11	1.32	6	1	0.0	0	2.5	30	29	28	22	13	9	9	[illegible]	55
ATLANTIC CITY U	11			66	52	58.6	- 0.1	83	3	33	24+	0	0			0.51	- 2.88	0.20	5						35	WNW	21					
NEWARK	7	1019.3	1020.4	65	47	56.2	- 0.4	80	20+	28	24	0	2	42	61	1.75	- 1.36	0.98	9	1	0.0	0	3.5	27	31	30	22	15	8	8	4.6	
TRENTON U	56			65	47	56.0	- 0.8	80	20+	29	24	0	2			1.25	- 1.59	0.56	4		0.0	0			40	NW	22+	13	9	9	4.9	[illegible]
NEW MEXICO																																
ALBUQUERQUE	5311	836.8	1019.0	66	41	53.8	- 4.2	84	2+	28	30	0	3	32	51	2.37	1.62	1.80	6	1	0.0	0	1.5	9	38	E	11+	12	11	8	4.7	[illegible]
CLAYTON	4969			59	37	47.7	7.6	83	2	17	13	0	11			3.15	2.15	1.19	9		3.9	2						12	7	12	5.6	
ROSWELL	3617			71	45	58.[illegible]	- 0.9	92	9+	31	31	3	2			4.34	3.27	1.77	8		0.0	0			26	S	3					61
NEW YORK																																
ALBANY	275	1009.1	1020.0	62	36	49.0	- 1.8	79	12	16	24	0	11	37	66	1.55	- 1.22	0.93	6	[illegible]	T	0	2.3	24	28	[illegible]	16	6	11	12	6.5	56
BINGHAMTON	1590	961.1	1020.5	57	39	48.0	- 1.8	74	13	21	23	0	6	39	74	[illegible]	- 0.84	0.86	11	[illegible]	0.3	T	5.9	24	[illegible]	W	[illegible]	[illegible]	11	16	6.8	[illegible]
BUFFALO	705	973.2	1019.1	60	42	51.0	0.2	82	13	24	23	0	6	42	73	2.77	- 0.23	1.24	14	[illegible]	1.0	T	5.1	25	38	W	18	[illegible]	7	19	7.6	45
J.F. KENNEDY	13	1017.6	1020.5	67	49	58.1	0.5	83	12	32	24	0	1	45	64	[illegible]	- 1.51	[illegible]	6	[illegible]	0.0	0	3.5	28	27	31	21	14	[illegible]		[illegible]	
NEW YORK U	132	1016.9	1020.1	66	49	57.7	0.6	80	20+	31	24	0	2	44	65	1.97	- 1.17	[illegible]	7	1	0.0	[illegible]	2.1	29	28	NW	[illegible]					54
NEW YORK LA GUARDIA	11	1017.0	1020.6	64	49	56.5	- 2.1	78	20	30	24	0	2	41	59	1.69	- 1.68	0.71	7	1	0.0	0	[illegible]	30	36	NW	22	15	6	10	4.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: .01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW YORK																																
ROCHESTER	547	999.7	1020.2	61	41	50.9	-0.9	83	13	22	23	0	7	41	70	1.69	-0.89	0.54	11	0	T	T	4.7	24	32	SW	18	5	5	21	7.4	37
SYRACUSE	410	1004.7	1019.6	61	41	51.1	-0.7	79	13	26	30	0	6	39	66	2.30	-0.88	0.60	9	0	1.7	1	2.9	23	34	S	16	7	5	19	7.0	38
NORTH CAROLINA																																
ASHEVILLE	2140	944.1	1020.6	68	44	56.2	0.4	83	13+	25	30	0	6	49	81	2.63	-0.50	1.85	8	0	0.0	0	1.1	36	24	34	21	13	9	9	4.8	64
CAPE HATTERAS R	7	1018.6	1019.2	73	61	67.1	1.7	83	2	47	18	0	0	59	77	1.41	-2.83	0.73	5	0	0.0	0	8.5	4	30	NNE	23+	9	7	15	6.4	53
CHARLOTTE	736	992.6	1020.1	70	50	60.4	-2.1	83	14	32	24	0	1	51	74	1.33	-1.63	1.03	8	0	0.0	0	4.0	3	21	NE	23	14	5	12	4.8	63
GREENSBORO	897	989.2	1020.9	70	49	59.3	0.0	82	14+	28	24	0	3	48	69	1.89	-0.82	1.03	5	1	0.0	0	2.2	1	20	N	15	16	1	14	5.2	62
RALEIGH	434	1004.4	1020.2	71	46	58.6	-1.9	81	14	26	24	0	4	49	76	2.09	-0.62	2.01	3	1	0.0	0	3.7	3	23	2	15+	11	7	13	5.4	64
WILMINGTON	28	1018.0	1019.3	76	55	65.5	0.1	87	20	35	24	0	0	58	81	0.95	-2.06	0.61	5	0	0.0	0	4.6	3	26	E	31	9	8	14	5.9	67
NORTH DAKOTA																																
BISMARCK	1647	956.3	1017.1	51	30	40.6	-6.1	78	2	14	19	0	17	29	66	0.30	-0.55	0.10	9	0	0.9	1	4.0	28	37	NW	21	5	3	23	7.7	36
FARGO	896	983.1	1016.5	48	32	40.3	-6.2	71	2	14	27	0	18	35	84	1.51	0.40	0.55	12	3	2.0	2	2.7	27	37	W	9	5	4	22	7.5	41
WILLISTON	1899	947.2	1016.9	49	30	39.4	-6.2	73	2	16	27	0	21	30	73	0.79	0.06	0.34	13	0	1.5	T	5.3	31	36	NW	6	4	6	21	7.5	48
OHIO																																
AKRON	1208	975.3	1020.3	63	42	52.2	-0.7	82	13	22	24	0	8	40	68	2.15	-0.33	1.48	10	0	0.5	1	3.3	21	27	30	22	10	4	17	6.4	
CINCINNATI OBS	761			67	46	56.3	-1.6	86	12	27	23	0	4			1.75	-0.49	0.61	7		0.0	0			16	SW	22+					56
CLEVELAND	777	990.5	1020.1	61	43	51.9	-1.5	82	13	22	24	0	6	41	69	1.90	-0.52	1.09	9	0	0.6	T	4.8	21	26	SW	20	5	7	19	7.5	53
COLUMBUS	812	990.2	1020.5	66	42	53.9	-0.3	85	13	23	23	0	9	44	72	1.52	-0.59	0.94	8	1	0.0	0	2.1	20	29	W	20+	12	8	11	5.1	58
DAYTON	1002	983.7	1019.9	67	44	55.4	-0.2	84	1	26	28+	0	7	43	66	0.98	-1.25	0.27	7	2	0.0	0	2.9	20	25	S	20+	11	9	11	5.5	55
MANSFIELD	1295			64	44	54.2	1.8	84	13	26	28+	0	5	41	64	1.82	-0.45	1.12	8	1	T	0	5.1	22	24	26	8	9	7	15	6.2	
TOLEDO	669	994.6	1019.9	62	39	50.5	-1.6	81	13	18	24	0	11	41	72	1.58	-0.81	0.37	12	2	T	0	3.2	24	29	NW	22	5	14	12	6.6	50
YOUNGSTOWN	1178	977.0	1020.3	61	41	50.9	-1.0	83	13	20	24	0	7	41	71	2.80	0.09	1.77	10	0	0.4	T	3.3	21	22	26	18+	8	7	16	6.6	
OKLAHOMA																																
OKLAHOMA CITY	1285	970.9	1017.2	68	47	57.6	-5.3	87	10	32	14	0	1	46	70	1.58	-0.93	0.64	7	2	0.0	0	1.5	12	29	NW	15	7	6	18	6.7	46
TULSA	650	993.2	1017.5	71	49	59.5	-3.3	92	3+	33	28	4	0	46	64	5.86	2.55	3.92	5	2	0.0	0	2.4	17	35	S	10	6	7	18	6.8	41
OREGON																																
ASTORIA	8	1017.3	1018.0	60	42	51.0	-1.9	70	5	33	11	0	0	43	78	5.28	-2.50	1.23	15	1	0.0	0	2.5	10	32	20	1	10	4	17	6.3	
BURNS U	4151	874.4	1018.9	56	29	42.3	-6.1	71	22+	18	15	0	25	29	66	1.03	0.17	0.45	11		1.1	1	2.8	33				10	7	14	5.5	
EUGENE	359	1004.7	1018.4	60	41	50.6	-2.6	76	6	29	14	0	2	44	84	4.22	0.39	1.23	13	1	0.0	0	0.6	20	23	35	12	5	8	18	7.0	
MEACHAM	4050	878.1	1019.2	49	33	40.8	-5.5	71	21	21	13	0	14	28	65	2.77	-0.07	1.11	10		6.5	3	0.7	22	18	30	2	7	7	17	6.9	
MEDFORD	1298	970.9	1018.8	62	37	49.6	-3.4	75	6	29	14+	0	8	40	80	2.46	0.52	0.73	12	0	0.0	0	0.5	32	17	12	15+	8	9	14	6.3	
PENDLETON	1482	965.1	1019.4	60	39	49.3	-4.4	76	21	23	13	0	5	37	67	1.13	-0.05	0.37	9	0	0.0	0	1.3	24	28	27	1	8	10	13	5.9	
PORTLAND	21	1017.3	1018.6	62	44	53.3	-0.9	74	6	31	14	0	1	44	74	3.02	-0.59	0.81	15	0	0.0	0	2.6	13	35	E	13	7	7	17	6.8	44
SALEM	196	1011.2	1018.5	61	39	49.9	-4.2	74	6	24	14	0	6	43	82	4.44	0.53	1.29	15	1	0.0	0	1.3	17	23	17	27+	8	8	15	6.5	
SEXTON SUMMIT R	3836	884.5	1017.4	53	40	46.8	-3.9	70	21	34	19+	0	0			4.62	1.21	1.03	15		T	T			39	24	7	13	5	13	5.4	
PACIFIC AREA																																
JOHNSTON	7	1012.2	1012.9	86	75	80.9	0.0	87	31+	71	12	0	0	72	75	1.26	-2.01	0.31	15	0	0.0	0	13.3	8	27	SE	17	10	12	9	5.6	70
KOROR R	94	1006.1	1009.8	88	77	82.2	1.0	90	25+	73	27	2	0	76	83	9.81	-3.28	3.46	22	0	0.0	0	3.3	26	28	SW	29	2	8	21	8.0	60
KWAJALEIN	8	1008.8	1009.5	88	78	83.1	1.2	91	14	74	31	3	0	75	76	5.04	-5.84	1.07	21	1	0.0	0	5.2	8	24	9	21	0	6	25	8.8	
MAJURO	10	1009.1	1009.6	87	77	82.4	1.9	90	14	74	12+	1	0	75	77	7.11	-8.06	2.42	21	1	0.0	0	3.1	6	25	NE	30	5	13	13	6.8	67
PAGO PAGO	12	1011.5	1011.6	85	76	80.4		88	12+	69	2	0	0	75	84	10.05		3.47	21	5	0.0	0	11.3	12	27	SE	27	1	11	19	8.1	
PONAPE R	123	1004.1	1009.6	89	71	80.0	0.3	92	27+	69	31+	13	0	74	86	12.86	-3.11	4.11	23	2	0.0	0	2.1	17	13	SW	25	2	11	18	7.4	61
TAGUAC GUAM R	361	996.6	1009.3	86	71	78.7	-0.6	89	11+	68	21	0	0	75	90	25.32	12.22	9.38	24	14	0.0	0	1.7	13	19	SW	16	0	6	25	8.7	39
TRUK MOEN ISLAND	5	1009.1	1009.4	88	75	81.4	0.8	90	18+	74	31+	2	0	75	82	10.38	-3.07	3.74	18	2	0.0	0	1.0	24	26	NE	12	0	6	25	8.9	73
WAKE	11	1012.5	1012.7	89	78	83.4	1.8	91	28+	72	5	15	0	74	77	2.41	-2.86	0.90	14	2	0.0	0	13.5	10	34	S	5	16	9	6	4.7	79
YAP R	44	1007.1	1008.9	87	74	80.9	-0.7	90	24+	71	6	2	0	76	85	11.48	-1.71	2.11	22	2	0.0	0	2.2	24	29	SW	31+	1	13	17	7.5	60
PENNSYLVANIA																																
ALLENTOWN	387	1006.4	1020.8	64	39	51.5	-2.3	78	3	22	24	0	8	41	71	1.62	-1.35	0.83	6	0	0.0	0	2.8	29	29	28	17	12	9	10	5.0	
ERIE	731	992.6	1019.8	59	42	50.0	-2.6	82	13	26	29	0	6	39	69	3.02	-0.28	0.80	14	2	1.2	1	5.4	21	30	34	22	6	5	20	7.1	
HARRISBURG	338	1007.8	1020.8	65	42	53.8	-1.9	82	20	23	24	0	7	42	68	1.63	-1.34	1.22	6	0	T	0	2.8	28	30	NW	22	10	13	8	5.2	65
PHILADELPHIA	5	1019.3	1020.4	66	44	55.0	-0.7	82	3	25	24	0	3	43	66	1.13	-1.65	0.45	5	1	0.0	0	2.0	30	31	W	21	11	11	9	5.1	62
PITTSBURGH	1137	976.0	1020.3	65	41	52.9	-0.2	85	13	21	24	0	8	39	64	2.59	0.07	1.20	10	1	0.4	1	2.6	25	31	30	20	7	11	13	6.2	54
SCRANTON	930	986.5	1021.1	61	40	50.6	-0.4	78	13	21	24	0	8	39	67	2.20	-1.30	1.06	8	1	T	0	2.0	24	27	W	22	11	9	11	5.5	61

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ○	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb	F.	F	F.	F.	F.		F.				F	%	In.	In.	In			In	In.	M.p.h.		M.p.h							%
PENNSYLVANIA																																
WILLIAMSPORT	524	[illegible]	1021.2	64	40	[illegible]	1.4	80	20+	20	24	0	9	43	76	[illegible]	[illegible]	1.33	7	[illegible]	0.0	0	[illegible]	27	[illegible]	27	20	7	[illegible]	[illegible]	5.7	
RHODE ISLAND																																
BLOCK ISLAND	[illegible]			61	48	54.6	- 0.6	[illegible]	[illegible]	30	24	0	2			[illegible]	[illegible]	1.33	7		0.0	0										
PROVIDENCE	[illegible]	1017.6	1019.8	64	42	53.3	0.1	79	20	21	24	0	8	41	67	1.62	- 1.48	1.04	7	2	0.0	0	3.9	[illegible]	29	32	22	13	7	11	4.7	66
SOUTH CAROLINA																																
CHARLESTON	[illegible]	1016.6	1018.7	78	59	68.2	2.0	86	2	43	29+	0	0	58	74	[illegible]	- 1.34	0.59	9	0	0.0	0	[illegible]	3	28Y	N	23	11	5	15	5.8	[illegible]
CHARLESTON C	9			76	62	68.9	0.8	84	14+	47	30+	0	0			1.56	- 1.18	0.88	10		0.0	0			30	NE	23					
COLUMBIA	213	[illegible]	1019.6	[illegible]	[illegible]	65.3	0.6	88	14	37	18	0	0	54	73	1.17	- 1.21	0.74	4	1	0.0	0	[illegible]	4	20	6	24+	14	5	12	4.7	[illegible]
GREENVILLE-SPARTANBURG	957	985.8	1020.5	[illegible]	51	60.9	- 1.5	84	14+	32	24	0	1	51	76	2.38	- 0.98	1.19	9	0	0.0	0	[illegible]	3	26	NW	22	15	3	13	4.9	66
SOUTH DAKOTA																																
ABERDEEN	1296	[illegible]	[illegible]	[illegible]	[illegible]	42.6	- 5.6	77	2	15	28	0	15	33	72	0.57	- 0.62	0.14	12	3	0.3	T	2.7	27	35	28	9	7	7	17	7.1	
HURON	1281	[illegible]	1017.5	[illegible]	[illegible]	[illegible]	- 6.1	75	2	18	28	0	12	33	71	2.11	0.96	1.07	9	2	1.4	T	2.8	27	41	NW	9	3	9	19	7.5	[illegible]
RAPID CITY	3162	[illegible]	1018.2	52	30	40.6	- 9.4	82	2	13	27	0	19	28	64	0.85	0.06	0.42	7	0	4.1	3	6.1	33	42	W	6	7	7	17	6.6	44
SIOUX FALLS	1418	[illegible]	1017.5	53	34	43.4	- 6.9	81	3	17	28	0	13	34	73	2.05	0.80	0.61	9	2	T	T	3.0	27	32	28	9	6	5	20	7.2	
TENNESSEE																																
BRISTOL	[illegible]	966.1	1020.7	66	44	[illegible]	2.3	83	13	28	30+	0	5	44	70	1.54	- 0.61	0.70	7	0	0.0	0	1.2	3	20	32	22	15	7	9	4.6	
CHATTANOOGA	665	994.6	1019.3	68	45	56.5	- 5.6	81	13+	28	24	0	4	46	74	1.72	- 1.30	0.46	8	0	0.0	0	0.7	5	24	NE	23	9	9	13	5.9	59
KNOXVILLE	980	984.8	1019.7	70	49	[illegible]	- 1.8	83	13	32	24	0	1	48	71	1.56	- 1.05	0.49	9	[illegible]	0.0	0	2.6	4	19	NE	23+	12	8	11	5.3	[illegible]
MEMPHIS	258	[illegible]	1018.6	[illegible]	[illegible]	62.9	- 0.2	88	4	37	29+	0	0	51	68	1.24	- 1.48	0.63	7	1	0.0	0	2.6	10	23	S	10	12	8	11	5.1	68
NASHVILLE	590	997.6	1019.3	72	49	60.6	- 0.9	88	12	32	18	0	1	49	69	2.01	- 0.31	0.52	10	0	[illegible]	0	1.5	[illegible]	[illegible]	[illegible]	11+	8	15	8	5.6	[illegible]
OAK RIDGE R	905			69	47	58.1	- 1.9	83	13+	32	24+	0	2			[illegible]	- 0.84	0.52	9		0.0	0			28Y		2	[illegible]	7	13	5.6	
TEXAS																																
ABILENE	1762	[illegible]	1015.4	[illegible]	53	61.9	- 4.3	91	2	36	13	2	0	50	69	1.98	- 0.87	0.84	8	1	0.0	0	3.2	13	36	SE	4	8	7	16	6.7	48
AMARILLO	3604	891.3	1014.5	65	44	54.5	- 6.0	91	2	28	13	2	3	41	67	2.56	[illegible]	0.90	11	1	0.0	0	3.4	16	34	SW	9	7	11	13	[illegible]	[illegible]
AUSTIN	597	[illegible]	1015.3	78	59	68.6	- 2.1	92	3+	45	15	5	0	57	70	2.65	- 0.18	1.03	6	2	0.0	0	2.7	6	26	NW	12	8	13	10	5.6	[illegible]
BROWNSVILLE	19	1012.5	1013.0	85	69	77.3	1.4	92	12	55	14	3	0	68	75	3.25	- 0.28	2.07	8	2	0.0	0	3.1	9	28	[illegible]	12+	4	20	7	5.6	55
CORPUS CHRISTI	41	1012.5	1014.2	83	66	74.2	0.4	92	12	[illegible]	14	6	0	65	76	2.85	0.09	1.50	4	3	0.0	0	[illegible]	8	34	SE	12	6	12	13	6.2	50
DALLAS	481	999.0	1016.3	76	57	66.4	- 1.4	93	11+	41	14	5	0	51	61	7.34	4.64	4.39	7	3	0.0	0	2.7	10	29	NW	12	8	12	11	5.6	[illegible]
DEL RIO	1026	978.3	1014.1	77	60	68.5	- 2.9	92	1	46	31	3	0	59	73	11.33	9.35	7.60	5	5	0.0	0	4.8	10	29	24	12	[illegible]	5	21	7.4	
EL PASO	3918	880.5	1010.6	80	56	67.7	3.3	92	2+	36	31	2	0	40	42	0.59	- 0.26	0.29	5	2	0.0	0	1.7	24	36	SW	19	22	5	4	2.9	
FORT WORTH	537	[illegible]	1016.5	75	55	65.3	2.6	93	[illegible]	42	31+	5	0	52	67	5.82	3.23	3.53	7	4	0.0	0	1.5	9	26	19	10	9	8	14	[illegible]	
GALVESTON C	7			78	69	73.9	0.4	85	12+	51	14	0	0			[illegible]	- 0.96	1.23	6		0.0	0			29	NE	14					[illegible]
HOUSTON	98	[illegible]	1015.4	82	60	71.0	1.1	91	2	44	15+	3	0	61	75	3.30	- 0.43	1.98	6	4	0.0	0	3.4	9	[illegible]	[illegible]	12	[illegible]	[illegible]	[illegible]	5.6	[illegible]
LUBBOCK	3254	[illegible]	1014.9	67	46	56.4	- 4.8	90	2	28	13	1	3	45	72	7.76	5.76	3.43	9	6	0.0	0	[illegible]	[illegible]	23	S	27+	10	8	13	5.9	
MIDLAND	2851	[illegible]	1013.9	72	[illegible]	61.0	- 4.9	94	2+	34	13	4	0	47	68	2.52	0.86	0.69	9	2	0.0	0	4.9	11	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	5.5	
PORT ARTHUR	16	1014.9	1015.6	82	[illegible]	72.0	1.7	91	12+	45	14	4	0	62	75	1.74	- 1.14	0.79	7	2	0.0	0	5.5	8	[illegible]	SE	30	13	14	[illegible]	[illegible]	[illegible]
SAN ANGELO	[illegible]	[illegible]	1014.4	74	55	64.5	- 3.8	90	2	36	31	1	0	55	75	6.59	4.76	3.92	8	3	0.0	0	4.1	11	24	17	3	7	5	19	6.7	
SAN ANTONIO	788	987.5	1015.1	79	60	69.8	- 0.8	92	3	45	15	4	0	56	66	5.85	3.35	2.97	8	3	0.0	0	4.8	6	27	N	27	8	8	15	6.0	[illegible]
VICTORIA	104	1010.5	1014.7	83	63	72.7	0.1	91	3	48	14	4	0	63	76	3.57	0.09	1.55	5	4	0.0	0	4.2	8	39Y	[illegible]	12	8	8	15	6.1	
WACO	501	998.3	1016.1	79	59	68.8	0.6	95	11+	45	14	6	0	55	65	5.53	2.98	1.69	6	4	0.0	0	1.6	6	27	34	12+	11	10	10	[illegible]	
WICHITA FALLS	994	979.7	1016.3	70	49	59.8	- 6.6	93	10+	35	14	3	0	50	75	3.16	0.29	0.71	12	4	0.0	0	2.9	[illegible]	30	31	21	[illegible]	6	16	6.4	
UTAH																																
MILFORD	5028	845.6		59	30	44.1	- 6.6	81	1	17	30+	0	20			0.90	0.13	0.57	7		4.2	T						11	5	15	5.7	
SALT LAKE CITY	4220	871.7	1016.4	59	36	47.7	[illegible]	78	1	28	14	0	7	31	59	[illegible]	0.81	0.92	10	3	[illegible]	0	1.1	17	32	NW	28	[illegible]	9	11	5.5	64
WENDOVER	4237	871.7	1017.5	55	37	46.3	- 6.9	72	1	28	15+	0	6			0.85	0.39	0.26	7		0.8	1										
VERMONT																																
BURLINGTON	332	1006.1	1019.0	55	36	45.8	1.8	73	11	20	31+	0	11	38	74	1.62	- 1.35	0.55	9	0	5.1	[illegible]	[illegible]	[illegible]	32	SW	14	6	7	18	6.8	56
VIRGINIA																																
LYNCHBURG	916			68	44	56.0	- 2.2	80	20+	21	24	0	6			0.87	- 1.77	0.75	4		0.0	0			20	NE	15	17	5	[illegible]	3.8	[illegible]
NORFOLK	22	[illegible]	[illegible]	69	55	62.2	0.2	80	20+	34	25	0	0	52	72	3.18	0.26	2.21	8	1	0.0	0	5.2	2	30	NE	5	7	10	14	[illegible]	47
RICHMOND	164	[illegible]	[illegible]	70	47	58.5	[illegible]	83	3	27	24	0	4	50	77	1.88	[illegible]	1.54	4	0	0.0	0	1.9	[illegible]	20	NW	21	[illegible]	9	10	[illegible]	[illegible]
ROANOKE	1149	[illegible]	1020.9	67	44	56.6	- 1.6	84	[illegible]	23	30	0	5	43	65	2.22	- 0.99	1.69	6	[illegible]	0.0	0	1.7	32	18	30	17	17	5	[illegible]	[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
VIRGINIA																																
WALLOPS ISLAND	9			67	52	59.3		81	3	30	24	0	1			1.87		1.33	8		0.0	0			39Y	NW	21					
WASHINGTON																																
OLYMPIA	195	1011.2	1018.6	60	38	48.9	- 2.5	77	6	22	14	0	7			2.69	- 2.59	0.92	10		0.0	0			24	4	12+	3	13	15	7.1	
QUILLAYUTE	179	[illegible]	1017.6	59	41	49.8	- 1.6	71	5	27	14	0	3	45	86	6.85	- 3.68	1.38	17	2	0.0	0	1.6	11	26	[illegible]	1	9	6	16	6.3	46
SEATTLE TACOMA	400	1001.7	1018.2	60	45	52.4	0.0	73	5	35	18	0	0	41	69	1.19	- 2.83	0.60	12	0	0.0	0	2.4	14	29	SW	1	8	8	15	6.4	45
SPOKANE	2356	934.0	1018.8	54	33	43.7	5.4	71	21	20	14	0	13	31	65	0.45	- 1.12	0.17	5	0	0.0	0	2.8	16	26	SW	8	5	10	16	6.8	42
STAMPEDE PASS R	3958	880.8		44	34	39.3	- 3.1	63	21	27	13	0	13			3.75	- 5.06	0.93	13		8.7	T						9	3	19	6.9	
WALLA WALLA U	949			60	42	50.7	- 4.4	74	22+	28	13	0	3			1.43	- 0.10	0.39	7		0.0	0			18	W	9	8	9	14	6.1	55
YAKIMA	1052	980.4	1019.3	61	34	47.3	- 3.2	71	22	22	14	0	11	31	57	0.24	- 0.36	[illegible]	3	0	0.0	0	3.2	29	25	28	1	13	6	12	[illegible]	
WEST INDIES																																
SAN JUAN P.R.	13	1010.2	1012.6	87	75	80.9	0.9	92	9	73	30+	3	0	71	75	6.99	1.16	1.32	18	10	0.0	0	3.7	11	28		16	5	18	8	6.0	74
SWAN ISLAND	28			86	77	81.8	0.1	89	5	72	29	0	0			13.64	3.94	6.27	18		0.0	0						3	12	16	7.1	
WEST VIRGINIA																																
BECKLEY	2504	931.9	1021.0	63	41	52.2	- 1.4	81	13+	22	24	0	9	40	67	1.18	- 1.53	0.50	7	1	0.0	0	2.5	18	28	14	31	13	9	9	4.7	
CHARLESTON	939	986.1	1020.4	67	41	53.9	3.4	84	13	20	24	0	8	44	72	1.52	- 1.06	0.70	5	1	0.0	0	1.1	22	21	25	20	14	9	9	5.2	
ELKINS	1970	949.5		65	35	50.1	- 2.0	83	13	13	24	0	12			1.60	- 1.43	0.55	8		T	T						7	13	11	5.9	
HUNTINGTON	827	989.8	1020.1	67	44	55.3	- 2.0	85	13	27	18	0	7	43	69	1.85	0.00	0.82	10	1	0.0	0	1.3	18	29	27	20	10	8	13	5.7	
PARKERSBURG U	615			68	45	56.5	- 0.5	87	13	27	24	0	6			1.27	- 0.78	0.64	6		0.0	0			25	W	17					62
WISCONSIN																																
GREEN BAY	682	991.5	1017.5	54	36	45.0	- 4.4	82	1	16	23	0	12	36	71	3.46	1.55	1.10	13	2	0.1	T	2.6	24	34	[illegible]	9	3	7	21	7.7	38
LA CROSSE	651	992.9	1017.7	57	39	47.8	- 3.3	84	4	17	28	0	7	39	75	3.73	1.54		13	0	0.0		2.4	22								
MADISON	858	986.1	1017.8	57	36	46.4	- 3.5	85	1	15	23	0	16	39	77	2.65	0.44	0.70	14	3	0.0	0	2.9	23	37	SW	9	9	4	18	6.8	45
MILWAUKEE	672	992.6	1018.2	56	40	47.5	- 2.5	82	1	25	23	0	11	40	75	4.48	2.38	1.62	14	3	T	T	3.6	23	33	SW	9	4	7	20	7.3	46
WYOMING																																
CASPER	5338	837.5	1017.8	49	27	37.9	-10.4	72	8+	9	14+	0	24	27	72	1.43	0.59	0.51	9	0	12.5	5	3.4	24	29	24	8	7	3	21	7.0	
CHEYENNE	6126	811.4	1015.2	46	28	37.1	-10.4	75	2	7	12	0	21	24	65	2.04	1.21	0.58	14	0	21.3	6	5.8	30	47	NW	2	9	8	14	[illegible]	43
LANDER	5563	829.0	1017.8	48	28	37.8	9.3	72	8	10	13	0	26	26	67	1.89	0.68	0.66	9	2	32.4	8	1.4	26	42	W	9	6	8	17	6.9	51
SHERIDAN	3964	879.8	1019.3	49	29	38.6	- 9.2	71	23+	11	14+	0	22	28	69	1.47	0.34	0.36	14	0	4.9	1	5.1	31	29	NW	10+	7	4	20	7.4	42

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity
	M	Mb.	Mb	C	C.	C	C	C		C.				C	%
ALABAMA															
BIRMINGHAM	189	995.9	1018.5	23.3	11.7	17.7	- 1.0	30.0	12	3.3	18	0	0	12.2	74
HUNTSVILLE	193	996.3	1019.4	21.8	11.1	16.7	- 3.4	30.6	12	2.2	18	0	0	11.1	73
MOBILE	64	[illegible]	1016.4	26.7	16.7	21.8	0.7	32.8	4	8.3	16	1	0	15.6	76
MONTGOMERY	[illegible]	[illegible]	1017.9	26.1	13.3	19.4	0.2	30.6	13+	6.7	18	0	0	13.3	73
ALASKA												8			
ANCHORAGE	35	[illegible]	1006.0	8.9	1.7	5.1	3.0	16.1	13	[illegible]	26	0	11	0.0	72
ANNETTE	34	[illegible]	1014.9	14.4	6.7	10.4	2.3	18.9	6	2.8	13	0	0	5.6	78
BARROW	[illegible]	[illegible]	[illegible]	- 6.7	-11.1	- 8.9	0.4	2.2	25	-25.0	31	0	31	-10.0	91
BARTER ISLAND	12	[illegible]	[illegible]	- 2.8	- 8.9	- 5.9	2.3	7.8	12	-22.2	30	0	31	- 7.8	85
BETHEL	38	998.0	1003.8	5.6	- 2.2	1.7	2.1	13.3	16	-13.9	31	0	21	- 6.6	87
BETTLES	196	985.1	1011.0	2.2	- 5.6	- 1.6		11.7	13	-19.4	31	0	22	- 5.0	79
BIG DELTA	386	[illegible]	[illegible]	[illegible]	- 3.3	[illegible]		18.9	15	-17.8	27	[illegible]	[illegible]	- 4.4	66
COLD BAY	[illegible]	[illegible]	999.4	8.3	3.9	6.2	1.6	[illegible]	23+	- 2.8	10	0	3	3.3	82
FAIRBANKS	135	[illegible]	1008.7	7.2	- 4.4	1.1	4.3	18.3	13+	-16.1	27	0	25	- 6.1	65
GULKANA	[illegible]	[illegible]	[illegible]	6.1	- 5.0	[illegible]		18.3	6	[illegible]	[illegible]	0	21	- 5.0	72
HOMER	[illegible]			9.4	2.2	5.6		14.4	16	- 7.8	26	0	9		
ILIAMNA	57			8.3	1.7	4.8		13.3	16	- 5.0	21	0	10		
JUNEAU	4	[illegible]	1014.0	9.4	1.1	5.2	[illegible]	14.4	6	- 8.3	26	0	14	2.8	91
KING SALMON	[illegible]	[illegible]	[illegible]	7.8	- 0.6	3.8	1.7	15.0	15	- 9.4	26	0	14	- 0.6	75
KOTZEBUE	[illegible]	[illegible]	[illegible]	1.7	- 3.3	- 1.6	3.4	10.0	7	-16.1	30	0	22	- 3.3	83
MC GRATH	[illegible]	993.2	1006.1	4.4	- 3.3	0.7	3.6	15.0	17	-15.0	30	0	19	- 5.0	68
NOME	4	[illegible]	1005.6	3.9	- 2.2	0.8	2.1	12.8	17	-16.7	30	0	18	- 3.9	71
ST. PAUL ISLAND	7	[illegible]	[illegible]	6.1	1.7	3.9	1.1	8.3	24+	- 2.8	16+	0	10	1.7	[illegible]
SHEMYA	37	1007.5	1011.3	7.2	2.8	5.1	0.8	9.4	4+	0.6	14+	[illegible]	0	1.1	76
SUMMIT	732	[illegible]	[illegible]	5.0	3.9	0.7		15.0	6	-13.3	22	0	23	- 4.4	73
TALKEETNA	[illegible]	[illegible]	[illegible]	8.3	- 2.8	2.7	2.1	15.0	15	-17.2	27	0	19	- 1.7	78
UNALAKLEET	[illegible]	[illegible]	[illegible]	[illegible]	- 1.7	1.3		12.2	17	-17.8	30	0	18	- 3.3	73
YAKUTAT	[illegible]	[illegible]	1011.1	10.0	0.6	5.2	- 0.3	15.6	13	- 8.9	27	0	14	1.1	78
ARIZONA															
FLAGSTAFF	2135	786.[illegible]	1015.2	11.8	- 3.3	4.7	- 3.6	22.2	1	-12.8	12	0	26	- 5.0	54
PHOENIX	340	971.6	1010.2	28.9	12.8	20.8	- 0.7	36.7	1	7.2	31	6	0	3.3	36
TUCSON	788	[illegible]	1010.1	27.2	11.1	[illegible]	- 1.8	[illegible]	1	[illegible]	30	6	[illegible]	1.7	35
WINSLOW	[illegible]	[illegible]	1014.0	19.4	2.8	11.0	- 3.1	29.4	8+	- 3.9	[illegible]	0	10	[illegible]	47
YUMA	[illegible]	[illegible]	1010.5	29.4	14.4	22.0	1.6	37.8	1	10.0	21+	7	0	2.2	32
ARKANSAS															
FORT SMITH	136	[illegible]	1017.7	23.3	10.0	16.6	- 1.1	33.3	3+	1.1	28	6	0	8.3	63
LITTLE ROCK	78	1008.5	1018.1	23.9	10.0	16.9	- 0.4	32.8	2	2.2	15	3	0	10.0	68
CALIFORNIA															
BAKERSFIELD	149	997.3	1014.8	25.6	11.1	18.1	- 1.2	32.2	1	7.2	19	1	0	5.0	46
BISHOP	1252	873.[illegible]		22.2	0.6	11.3	- 2.8	31.1	1	- 4.4	13	0	15		
BLUE CANYON	[illegible]			13.9	4.4	9.3	- 2.8	22.8	1	- 0.6	18	[illegible]	3		
EUREKA	18			16.7	8.9	12.9	[illegible]	24.4	7	5.6	25	0	0		
FRESNO	[illegible]	[illegible]	1014.7	23.9	6.7	15.4	- 2.7	32.2	1	2.8	6	1	0	6.1	61
LONG BEACH	[illegible]	[illegible]	1013.6	25.6	12.8	19.1	- [illegible]	33.9	7	8.3	[illegible]	3	0	9.4	62
LOS ANGELES	[illegible]	[illegible]	1012.8	23.3	14.4	18.9	0.7	31.1	7	11.1	[illegible]	0	0	11.1	67
LOS ANGELES	82			24.4	15.0	19.6	- 0.1	[illegible]	[illegible]	11.7	19	0	0		
MT SHASTA	1080	[illegible]	1017.7	[illegible]	1.7	8.3	- 2.8	23.9	[illegible]	- 3.3	4	[illegible]	10	1.1	66
OAKLAND	[illegible]	[illegible]	[illegible]	20.6	11.7	[illegible]	- 0.3	25.6	31+	7.8	18	0	0	10.0	73
RED BLUFF	[illegible]	[illegible]	1016.2	23.3	9.4	16.3	- 2.3	32.8	1	5.0	13	2	0	3.3	49
SACRAMENTO	[illegible]	[illegible]	1015.4	[illegible]	8.9	16.1	- 1.4	31.7	1	3.3	19	0	0	6.1	60
SANDBERG	1377	861.5		16.7	6.7	11.6	- 3.3	26.1	1	0.0	18	0	1		
SAN DIEGO	4	[illegible]	1013.3	22.8	15.0	18.9	- [illegible]	29.4	7	11.7	30	0	0	10.6	63
SAN FRANCISCO	2	[illegible]	1016.0	21.1	11.1	16.2	0.4	26.7	6	7.8	19+	0	0	8.3	65
SAN FRANCISCO	16			[illegible]	12.8	16.6	0.3	26.1	31	[illegible]	25+	0	0		
SANTA MARIA	72			23.9	7.8	15.7	- 0.1	30.6	31+	3.3	13	0	0		
STOCKTON	7	[illegible]	1015.7	22.8	8.9	15.8	- 1.9	31.7	1	3.9	29	0	0	5.0	54
COLORADO															
ALAMOSA	2297	[illegible]		11.7	- 4.4	3.7	- 3.2	22.8	2	-17.8	13	[illegible]	26		

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm	Mm.	Mm			Mm.	Mm.	M p.s		M p.s							%
ALABAMA																	
BIRMINGHAM	64	- 11	32	[illegible]	1	[illegible]	[illegible]	1.6	6	12.1	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	69
HUNTSVILLE	[illegible]	- 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29+	[illegible]	[illegible]	[illegible]	5.4	
MOBILE	17	- 50	19	[illegible]	[illegible]			2.7	[illegible]	[illegible]	1	14+	11	[illegible]	14	5.6	
MONTGOMERY	41	- 17	41	[illegible]	[illegible]			[illegible]	[illegible]	9.8		[illegible]	9	10	12	5.8	[illegible]
ALASKA																	
ANCHORAGE	[illegible]	- [illegible]	[illegible]	[illegible]		5	T	[illegible]	[illegible]	13.9	[illegible]	[illegible]	7	4	[illegible]	[illegible]	[illegible]
ANNETTE	[illegible]	-186	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	13.9	14	[illegible]	6	[illegible]	19	[illegible]	
BARROW	11	- 1	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	
BARTER ISLAND	[illegible]	- 18	1	8		84	76	[illegible]	1	17.9	[illegible]	17	1	3	27	[illegible]	
BETHEL	22	- 17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]		31	1	4	26	8.6	
BETTLES	[illegible]		[illegible]	[illegible]		[illegible]	T	[illegible]	[illegible]	9.8	[illegible]	11	[illegible]	[illegible]	18	[illegible]	
BIG DELTA	[illegible]					[illegible]	T	[illegible]	14	15.6	16	14+	7		[illegible]	[illegible]	
COLD BAY	[illegible]	18	14	[illegible]		56	[illegible]	1.2	36	14.8	15	21		7	24	9.0	
FAIRBANKS	[illegible]	- 19	[illegible]	[illegible]		94	76	[illegible]	[illegible]	8.9	[illegible]	9	6	8	17	[illegible]	
GULKANA	[illegible]		[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	18	11	8	4	[illegible]	[illegible]	
HOMER	[illegible]	128	[illegible]	[illegible]	[illegible]	[illegible]	0						[illegible]	[illegible]	[illegible]	[illegible]	
ILIAMNA	134		[illegible]	[illegible]		T							[illegible]	1	[illegible]	[illegible]	
JUNEAU	[illegible]	-116	[illegible]	[illegible]		[illegible]		[illegible]	11	17.4	12	31	9		[illegible]	[illegible]	41
KING SALMON	[illegible]	[illegible]	14	[illegible]		T	T	[illegible]	[illegible]	14.8	[illegible]	[illegible]	3	4	24	[illegible]	
KOTZEBUE	14	[illegible]		11		[illegible]	[illegible]	[illegible]	[illegible]	14.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MC GRATH	16	- [illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	9.4	8	[illegible]	3	[illegible]	[illegible]	[illegible]	
NOME	[illegible]	- [illegible]	[illegible]	[illegible]		T	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	18
ST. PAUL ISLAND	[illegible]	- [illegible]	[illegible]	1		[illegible]	[illegible]	[illegible]	[illegible]	19.7	36	[illegible]	[illegible]	[illegible]	24	[illegible]	
SHEMYA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	19	[illegible]	
SUMMIT	[illegible]		17	[illegible]	[illegible]	[illegible]	254	[illegible]	[illegible]	[illegible]	15	6	[illegible]	[illegible]	[illegible]	[illegible]	
TALKEETNA	[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
UNALAKLEET	[illegible]		[illegible]	[illegible]	[illegible]	13	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	
YAKUTAT	477	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
ARIZONA																	
FLAGSTAFF	[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
PHOENIX	[illegible]	- [illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	19	[illegible]	[illegible]	[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]
TUCSON	[illegible]	- [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WINSLOW	1	- 7	6	[illegible]	[illegible]	T	[illegible]	1.8	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	
YUMA	[illegible]	- 9	1	[illegible]	[illegible]	[illegible]	[illegible]	0.9	[illegible]	[illegible]	N	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ARKANSAS																	
FORT SMITH	230	142	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	13.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LITTLE ROCK	91	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CALIFORNIA																	
BAKERSFIELD	T	- [illegible]	[illegible]	[illegible]	0	0	0	[illegible]	36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
BISHOP	[illegible]	- [illegible]	[illegible]	[illegible]		0	0						[illegible]	[illegible]	[illegible]	[illegible]	
BLUE CANYON	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
EUREKA	[illegible]	T	[illegible]	[illegible]		0	0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FRESNO	2	- [illegible]	[illegible]	[illegible]	1	0	0	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84
LONG BEACH	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
LOS ANGELES	[illegible]	- [illegible]	[illegible]	[illegible]	0	0	0	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
LOS ANGELES	[illegible]	- [illegible]	[illegible]	[illegible]		0	0						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MT SHASTA	[illegible]	- [illegible]	17	[illegible]		0	0	[illegible]	[illegible]								
OAKLAND	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	11	[illegible]	
RED BLUFF	[illegible]	- [illegible]	[illegible]	[illegible]	1	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SACRAMENTO	[illegible]	- 1	18	[illegible]	0	0	0	[illegible]	[illegible]	14.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SANDBERG	T	- 12	T	1		0	0			[illegible]	34	9	[illegible]	[illegible]	[illegible]	[illegible]	
SAN DIEGO	[illegible]	- [illegible]	1	[illegible]	0	0	0	[illegible]	[illegible]	[illegible]	NW	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN FRANCISCO	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SAN FRANCISCO	56	44	[illegible]	[illegible]		0	0			[illegible]	NW	11					[illegible]
SANTA MARIA	4	[illegible]	4	[illegible]		0	0						19	[illegible]	[illegible]	3.3	
STOCKTON	[illegible]	11	[illegible]	[illegible]	0	0	0	1.7	[illegible]	14.3	36	[illegible]	17	4	[illegible]	[illegible]	
COLORADO																	
ALAMOSA	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]						8	[illegible]	11	5.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s							%
COLORADO																																
COLORADO SPRINGS	1873	810.7	1018.0	11.1	- 0.6	5.3	- 4.9	27.2	2	-15.0	13	0	17	- 1.7	71	73	55	29	13	1	551	254	1.4	1	16.5	34	15	9	4	18	6.6	
DENVER	1610	836.4	1017.2	10.0	- 2.2	3.9	- 6.9	29.4	2	-16.1	13	0	18	- 1.1	76	106	80	35	14	1	792	279	0.3	19	14.3	NW	1	9	7	15	6.5	51
GRAND JUNCTION	1476	851.7	1015.4	14.4	2.2	8.6	- 4.2	27.2	2	- 1.7	31	0	6	- 0.6	58	51	32	16	12	4	15	T	1.0	13	14.8	NW	28+	8	3	20	6.7	43
PUEBLO	1428	855.7	1015.6	16.7	3.3	9.9	- 2.7	32.2	2	- 5.0	13	1	7	0.6	60	52	27	24	8	0	99	102	1.6	4	19.2	N	11	5	10	16	6.5	46
CONNECTICUT																																
BRIDGEPORT	2	1019.8	1020.1	16.7	8.9	12.6	- 0.4	22.8	3	- 3.3	24	0	2	6.1	65	51	- 35	36	6	1	T	0	2.1	31	17.9	30	22	14	7	10	4.5	
HARTFORD	52	1013.2	1019.7	17.8	3.9	10.9	- 0.7	27.2	20	- 6.1	24	0	9	3.3	63	37	- 44	24	9	0	T	T	1.1	28	13.9	NW	22	10	10	11	5.3	73
DELAWARE																																
WILMINGTON	23	1018.0	1021.1	20.0	6.7	13.3	- 0.3	28.9	3	- 4.4	24	0	4	6.7	68	37	- 37	16	5	1	T	T	1.0	29	14.3	28	21	10	12	9	4.8	
DIST. OF COLUMBIA																																
WASH NAT'L AP	3	1019.0	1021.3	21.1	8.9	14.9	- 0.1	30.0	20	- 1.7	24	0	2	7.2	64	29	- 49	16	5	0	0	0	0.7	29	13.0	NW	22	14	6	11	4.6	66
FLORIDA																																
APALACHICOLA U	4			26.1	18.9	22.3	0.6	30.6	4	13.9	30	0	0			75	13	68	6	1	0	0			16.5	SE	1	11	7	13	5.7	51
DAYTONA BEACH	9	1014.6	1015.8	28.3	21.7	25.1	2.1	30.6	21+	18.9	14+	0	0	20.0	76	177	35	54	21	2	0	0	3.0	7	13.0	11	1	7	6	18	7.3	
FORT MYERS	5	1013.2	1013.6	28.9	22.2	25.7	1.2	31.7	20+	18.9	14	0	0	21.1	80	281	176	61	13	2	0	0	2.6	7	9.8	7	24	7	8	16	6.5	
JACKSONVILLE	6	1015.6	1016.6	26.7	19.4	23.2	1.5	32.2	1	12.8	18	1	0	20.0		249	118	72	17	2	0	0	2.8	6	14.8	NE	31+	5	4	22	7.5	35
KEY WEST	1	1011.5	1012.3	28.9	24.4	26.8	0.7	30.6	16+	22.8	26+	0	0	22.8	79	548	400	126	19	6	0	0	3.4	9	17.9	SE	2	3	11	17	7.2	55
LAKELAND U	65			28.3	21.1	24.6	1.0	31.1	22+	18.9	27+	0	0			117	43	46	15		0	0						7	4	20	6.8	49
MIAMI	2	1012.5	1012.8	30.0	23.9	26.8	1.4	32.2	3	20.0	14	1	0	21.1	74	345	136	139	17	4	0	0	3.0	9	12.5	6	30+	6	11	14	6.7	
ORLANDO	33	1010.8	1015.2	29.4	21.7	25.5	2.2	32.8	1	18.9	14+	1	0	20.6	80	240	139	65	15	3	0	0	2.7	8	11.6	12	24	5	9	17	7.2	
PENSACOLA	34	1011.9	1015.9	26.1	17.8	21.8	0.5	31.1	4	11.1	16	0	0	15.6	72	65	- 11	54	4	0	0	0	2.5	8	7.6	33	14+	13	4	14	5.4	
TALLAHASSEE	17	1014.2	1016.6	27.8	16.7	22.3	1.4	31.7	11+	10.6	18+	0	0	17.2	78	31	- 31	11	5	0	0	0	2.6	5	8.9	6	23+	7	11	13	6.2	
TAMPA	6	1013.9	1014.2	28.9	21.1	24.9	1.2	31.7	11+	17.8	14+	0	0	19.4	76	79	9	30	12	0	0	0	2.8	7	8.9	9	24	6	5	20	7.2	44
WEST PALM BEACH	5	1012.9	1013.4	29.4	22.8	26.0	0.3	33.3	3	18.3	14	1	0	21.1	77	342	140	87	20	4	0	0	4.1	7	17.0	36	23	5	10	16	7.2	
GEORGIA																																
ATHENS	244	990.2	1019.3	23.3	11.7	17.3	0.1	29.4	14	2.2	24	0	0	10.6	70	50	- 22	26	5	0	0	0	1.8	4	7.2	7	31+	13	5	13	5.1	
ATLANTA	308	982.4	1019.2	22.8	11.1	16.9	0.1	29.4	3	3.3	24	0	0	11.1	73	39	- 23	18	6	1	0	0	1.8	6	11.6	E	29	9	11	11	5.6	67
AUGUSTA	41	1013.5	1018.7	25.6	11.7	18.4	- 0.1	31.1	14	3.3	24	0	0	12.2	74	28	- 23	20	7	0	0	0	1.3	2	8.9	3	24+	12	6	13	5.2	
COLUMBUS	117	1004.1		25.6	13.3	19.4	0.9	30.6	20+	6.1	24+	0	0	12.8	70	8	- 37	5	3	0	0	0	2.5	5	10.3	6	29	9	12	10	5.4	
MACON	108	1005.8	1018.8	27.2	12.8	19.9	0.9	33.3	13	5.6	24	2	0	12.8	72	21	- 30	13	3	0	0	0	2.1	4	8.9	NE	29+	10	10	11	5.3	64
ROME	194			22.2	8.9	15.6	- 0.7	29.4	12	0.6	30	0	0			35	- 39	14	7		0	0										
SAVANNAH	14	1016.3	1017.9	26.1	16.1	21.1	1.5	31.1	20+	7.8	30+	0	0	15.6	76	103	37	53	12	1	0	0	2.5	4	11.2	NE	23	7	8	16	6.5	57
HAWAII																																
HILO	8	1013.9	1015.0	28.3	18.9	23.6	- 0.3	29.4	26+	17.8	31+	0	0	19.4	77	81	-193	36	20	0	0	0	0.5	18	8.5	E	25	7	21	3	4.8	62
HONOLULU	2	1014.2	1014.7	31.1	22.8	26.9	1.3	32.2	28+	20.6	6+	6	0	19.4	66	24	- 22	19	5	0	0	0	3.0	5	10.3	NE	7	10	19	2	4.7	65
KAHULUI	15	1012.2	1014.5	30.6	18.9	24.5	- 0.7	32.2	30+	15.6	6	3	0			8	- 14	5	4	0	0	0	3.6	5	13.0	NE	7	18	12	1	3.5	84
LIHUE	31	1010.8	1015.9	28.3	21.7	25.1	0.1	29.4	17+	17.2	3	0	0	20.6	78	80	- 22	29	14	2	0	0	2.8	4	11.2	NE	10	4	20	7	5.9	59
IDAHO																																
BOISE	865	917.4	1018.2	14.4	1.1	7.7	- 3.2	21.7	22+	- 5.0	14	0	12	- 1.1	59	16	- 5	3	9	0	30	T	0.3	6	13.4	NW	1	9	8	14	5.5	70
LEWISTON	431			14.4	3.3	8.8	- 2.3	23.3	22	- 3.3	13	0	5			28	- 3	9	10		0	0						4	9	18	7.3	
POCATELLO	1358	863.5	1017.7	12.8	- 0.6	5.9	- 3.6	21.7	7	- 8.9	13	0	18	- 3.3	56	14	- 8	5	8	0	T	T	1.3	23	17.0	SW	2	9	9	13	6.2	60
ILLINOIS																																
CAIRO	96			21.1	11.1	15.9	- 0.7	31.7	3	2.2	28+	0	0			102	28	41	7		0	0			11.2	S	11+	12	6	13	5.4	54
CHICAGO O HARE	201	993.9	1018.6	16.1	5.6	11.0	- 0.7	29.4	1	- 3.9	28+	0	8	4.4	66	166	97	117	12	4	0	0	1.2	22	11.6	12	9	9	6	16	6.2	
CHICAGO MIDWAY	185	995.9	1018.6	17.2	6.7	11.8	- 1.0	30.0	1	- 1.7	28+	0	4	5.0	64	100	30	34	12	5	0	0	1.8	21	13.4	S	9	9	6	16	6.2	46
MOLINE	177	996.6	1018.3	16.7	5.6	10.9	- 1.7	31.1	4	- 5.6	28	0	7	4.4	68	118	55	52	11	4	0	0	1.1	22	16.1	SW	9	10	6	15	6.0	50
PEORIA	199	994.6	1018.8	16.7	5.0	10.8	- 2.1	30.0	4	- 6.1	28	0	10	5.0	69	144	80	94	8	5	0	0	1.1	19	13.4	W	20+	10	5	16	6.0	49
ROCKFORD	221	990.9	1018.0	15.0	4.4	9.9	- 1.5	30.0	4	- 5.6	28+	0	10	3.9	69	211	143	82	11	5	0	0	0.9	22	13.4	22	9	11	4	16	6.0	
SPRINGFIELD	179	996.3	1018.6	18.3	6.1	12.2	- 1.5	31.1	4	- 4.4	28	0	5	6.7	71	147	73	58	10	5	0	0	1.4	19	16.1	NW	10	11	4	16	5.9	58
INDIANA																																
EVANSVILLE	116	1005.4	1019.5	20.0	7.2	13.7	- 1.3	29.4	4	- 3.3	28	0	6	7.2	69	107	41	34	9	2	0	0	0.3	13	9.4	S	13	12	5	14	5.5	57
FORT WAYNE	241	989.5	1019.9	17.2	6.1	11.4	- 0.2	27.2	1	- 2.2	24+	0	7	5.6	70	139	67	57	9	2	0	0	1.3	23	13.4	W	7	8	9	14	6.3	55
INDIANAPOLIS	241	989.8	1019.3	18.3	6.1	12.1	- 0.9	26.1	4	- 4.4	28+	0	8	7.2	75	123	56	38	10	1	0	0	0.8	19	13.4	W	11	13	3	15	5.6	58
SOUTH BEND	236	990.5	1018.9	15.6	6.1	10.8	- 1.1	26.7	1	- 1.7	29+	0	6	6.1	75	119	39	26	12	2	T	T	1.5	21	10.7	22	20	3	12	16	7.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C.	C.	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s.		M.p.s.							%
IOWA																																
BURLINGTON	211			16.1	5.0	10.7	- 2.3	30.0	4	- 5.6	28	0	8	6.1	71	184	116	[illegible]	13	4	[illegible]		[illegible]	23	13.9	[illegible]	9	11	5	15	6.1	
DES MOINES	286	978.4	1018.4	[illegible]	5.0	[illegible]	- 2.3	30.0	4	- 5.6	28	0	6	[illegible]	64	78	21	24	11	[illegible]	T	T	[illegible]	24	15.6	[illegible]	3	9	5	17	6.6	44
DUBUQUE	322	[illegible]		13.9	3.3	8.7	- 1.7	30.0	1	- 6.7	27	0	15			[illegible]	[illegible]	27	14		T							8	7	16	6.4	
SIOUX CITY	334	977.7	1017.8	13.3	2.8	8.1	- 4.1	30.6	3	- 7.2	28	0	8	3.9	76	69	33	[illegible]	10	4	T	T	0.6	29	14.3	NW	21	7	4	20	7.1	41
WATERLOO	265	985.8	1018.1	13.3	2.2	7.7	- 3.2	28.3	4	- 9.4	28	0	13	2.8	75	77	[illegible]	24	13	[illegible]	T	T	[illegible]	22	13.4	18	9	7	7	17	6.7	
KANSAS																																
CONCORDIA	440	961.8	1017.0	16.7	5.0	10.7	- 3.6	31.7	3	- 4.4	27	0	6	5.6	75	[illegible]	40	[illegible]	12	5	[illegible]	[illegible]	[illegible]	15	15.2	[illegible]	9	7	7	17	6.6	46
DODGE CITY	787	[illegible]	1016.3	16.7	6.1	11.4	- 3.2	32.2	9	- 2.2	14	1	5	5.0	72	42	6	18	[illegible]	3			[illegible]	15	15.2	NW	15+	5	4	22	7.6	38
GOODLAND	1114	888.[illegible]	[illegible]	[illegible]	2.8	7.3	- 4.4	28.3	2	- 3.9	12	0	9	1.7	74	[illegible]	85	27	14	[illegible]	373	152	0.7	32	14.3	34	15	5	5	21	7.6	
TOPEKA	267	985.8	1018.0	17.2	6.1	11.5	- 3.1	31.1	3	- 6.1	28	0	5	6.1	72	101	42	33	12	6	0	0	[illegible]	18	17.0	[illegible]	9	7	7	17	6.5	44
WICHITA	[illegible]	[illegible]	1017.[illegible]	17.8	7.2	12.5	- 2.9	30.6	3+	- 1.1	14	0	3	6.1	69	71	10	18	10	5	0	[illegible]	0.8	16	18.8	[illegible]	[illegible]	5	[illegible]	21	7.2	38
KENTUCKY																																
COVINGTON	265	988.5	1020.1	19.4	7.2	13.2	- 0.2	29.4	13+	- 2.8	28+	0	5	6.7	66	[illegible]	[illegible]	[illegible]	[illegible]	1	0	[illegible]	1.0	22	11.2	[illegible]	13	9	11	11	6.8	
LEXINGTON	[illegible]	984.8	1020.3	20.6	8.3	14.4	- 0.1	30.0	13	- 2.2	24+	0	4	6.1	61	44	[illegible]	14	[illegible]	1	[illegible]	0	1.1	18	9.4	18	[illegible]	10	[illegible]	12	5.5	
LOUISVILLE	145	1001.7	1019.6	20.0	7.8	14.1	- 0.3	30.0	13+	- 2.2	28	0	5	7.2	68	43	- 14	14	8	1	[illegible]	0	[illegible]	18	15.2	NW	[illegible]	9	10	12	6.8	62
LOUISIANA																																
BATON ROUGE	[illegible]	[illegible]	1016.1	[illegible]	15.0	21.2	0.6	32.8	4	7.2	14	3	0	[illegible]	71	153	91	[illegible]	7	2	[illegible]	0	1.9	6	10.3	35	[illegible]	12	6	13	5.4	
LAKE CHARLES	3	1014.6	1015.5	27.2	15.6	21.6	0.2	32.2	5+	6.1	15	2	0	15.5	75	112	35	31	7	4	0	0	2.1	7	8.9	12	30+	10	9	12	[illegible]	
NEW ORLEANS	1	[illegible]	1016.2	26.7	17.2	21.7	0.4	32.2	11+	8.9	16+	2	0	16.7	75	13	- [illegible]	4	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	9.8	3	23	12	8	11	[illegible]	
SHREVEPORT	77	1007.5	1016.7	26.1	13.9	19.9	- 0.3	33.9	2	5.6	15	7	0	11.7	64	[illegible]	9	48	8	[illegible]	[illegible]	0	1.3	9	[illegible]	17	12	11	6	14	5.6	64
MAINE																																
CARIBOU	19[illegible]	993.9		10.0	0.6	5.1	- 1.1	20.6	12	- 7.8	22	0	16			[illegible]	- 46	[illegible]	7		58	[illegible]						4	[illegible]	16	7.2	
PORTLAND	14	[illegible]	1018.8	14.4	4.4	9.4	0.2	22.2	14+	- 5.6	24	0	8	4.4	74	64	- 18	[illegible]	8	0	97	51	0.9	27	11.2	NW	21+	14	3	14	6.4	58
MARYLAND																																
BALTIMORE	45	[illegible]	1021.2	21.1	7.8	14.3	0.4	30.6	20	- 3.9	24	0	5	6.1	62	28	- 53	13	5	0	[illegible]	0	1.0	29	15.2	NW	[illegible]	13	9	[illegible]	4.6	62
MASSACHUSETTS																																
BLUE HILL OBS	192			16.1	6.1	10.9	- 0.6	25.0	20	- 5.6	24	0	5			64	- 41	34	10		T	T			17.9	W	[illegible]					[illegible]
BOSTON	5	1018.3	1019.2	16.7	8.3	12.4	- 0.4	26.1	20	- 1.1	24+	0	2	6.1	69	42	- 38	22	6	1	T	T	[illegible]	28	13.0	W	[illegible]	[illegible]	6	13	[illegible]	66
NANTUCKET	13	[illegible]		16.1	7.2	11.8	- 0.6	21.7	8+	- 1.1	24	0	2			42	- 52	12	8		0	[illegible]			14.3	W	23	7	9	15	[illegible]	[illegible]
WORCESTER	301	982.7	1020.1	15.0	5.0	9.8	- 0.4	24.4	12	- 6.7	24	0	6	3.3	67	45	- 43	19	7	1	T	0	1.9	28	13.9	35	[illegible]	12	8	11	5.0	
MICHIGAN																																
ALPENA	[illegible]	991.9	1017.6	11.7	2.2	6.8	- 1.1	21.1	6+	- 7.8	23	0	11	3.9	80	[illegible]	[illegible]	40	19	[illegible]	[illegible]	51	[illegible]	24	13.4	[illegible]	[illegible]	1	7	23	8.4	[illegible]
DETROIT	189			15.6	6.7	11.1	- 1.0	26.7	13	- 3.9	23	0	6	4.4	65	26	- 41	11	9	0	T		[illegible]	25	15.6	29	21					
DETROIT METRO WAYNE CO	193	994.2	1018.6	16.1	5.0	10.8	- 0.4	27.8	13	- 5.6	24+	0	7	4.4	69	36	- 29	11	12	1	T	T	1.4	24	13.4	NW	22	3	11	17	7.2	[illegible]
FLINT	235	[illegible]	1018.2	15.0	4.4	9.6	- 1.2	26.1	1	- 5.0	23	0	7	4.4	72	75	15	[illegible]	15	4	T	T	1.7	23	9.8	[illegible]	13+	5	[illegible]	17	[illegible]	
GRAND RAPIDS	239	[illegible]	1018.5	14.4	3.3	8.8	- 1.8	28.3	1	- 7.2	23	0	9	3.9	73	[illegible]	94	51	14	[illegible]	T	T	1.6	21	24.1	SW	[illegible]	1	12	18	7.8	35
HOUGHTON LAKE	350	975.6	1018.4	11.7	3.3	7.4	- 0.9	23.9	1	- 8.9	23	0	10	4.4	81	138	62	38	16	[illegible]	51	[illegible]	1.7	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
LANSING	256	986.8	1018.7	15.6	4.4	10.0	- 0.7	30.0	1	- 6.7	23	0	8	5.6	75	[illegible]	6	23	14	[illegible]	T	T	[illegible]	24	14.8	NW	21	2	11	19	7.5	[illegible]
MARQUETTE	[illegible]			10.6	3.3	6.9	- 1.9	21.7	9	- 5.0	23	0	6			132	73	44	19		109	102			13.4	SW	9	1	8	22	8.3	35
MUSKEGON	191	994.9	1018.2	14.4	5.6	9.8	- 1.6	27.2	1	- 4.4	29	0	6	5.6	76	167	102	56	16	4	T	T	1.5	24	12.5	21	7	1	8	22	[illegible]	
SAULT STE MARIE	[illegible]	989.5	1016.3	10.0	2.2	5.9	- 2.0	20.6	2	- 6.7	23+	0	13	2.8	80	[illegible]	88	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	1	3	[illegible]	[illegible]	[illegible]
MINNESOTA																																
DULUTH	435	964.4	1016.8	8.9	0.6	4.8	- 2.2	21.7	4	- 8.9	23	0	13	[illegible]	72	61	6	9	15	1	[illegible]	[illegible]	1.1	24	18.3	SW	[illegible]	2	7	[illegible]	[illegible]	[illegible]
INTERNATIONAL FALLS	359	971.9	1015.9	7.2	- 1.1	3.1	- 2.7	21.7	4	-10.0	23	0	20	0.0	84	[illegible]	[illegible]	54	11	4	76	51	[illegible]	26	21.2	[illegible]	[illegible]	[illegible]	4	25	8.8	
MINNEAPOLIS	[illegible]	986.5	1017.2	12.8	3.3	8.1	- 1.3	30.6	4	- 5.6	28	0	8	[illegible]	73	64	24	[illegible]	12	[illegible]	61	51	1.3	[illegible]	13.9	SW	9	6	7	18	[illegible]	35
ROCHESTER	395	967.2	1017.4	12.8	2.2	7.4	- 2.5	28.3	4	- 8.3	28	0	14	1.7	[illegible]	81	38	30	[illegible]	2	[illegible]	51	1.6	[illegible]	[illegible]	31	21+	[illegible]	5	19	[illegible]	
ST CLOUD	315	978.7	1017.2	11.1	1.1	6.2	- 2.3	28.3	4	- 8.9	28	0	13		72	[illegible]	- 9	[illegible]	7		[illegible]	51						5	6	[illegible]	[illegible]	
MISSISSIPPI																																
JACKSON	94	[illegible]	1017.[illegible]	26.1	12.2	19.0	- 0.4	32.8	4+	2.8	29	3	0	13.9	76	57	6	[illegible]	10	[illegible]	0	[illegible]	1.5	7	[illegible]	N	[illegible]	9	[illegible]	13	[illegible]	49
MERIDIAN	88	[illegible]	1017.8	24.4	12.2	18.3	- 0.3	31.1	4	5.6	29+	0	0	13.3	74	24	- 32	12	6	0	[illegible]	[illegible]	1.1	4	[illegible]	36	14	7	[illegible]	12	[illegible]	
MISSOURI																																
COLUMBIA	237	987.8	1018.3	17.8	7.2	12.5	- 2.3	31.1	3	- 3.3	28	0	6	6.7	71	228	149	[illegible]	[illegible]	4	0	[illegible]	0.9	17	15.2	NW	[illegible]	11	4	16	[illegible]	
KANSAS CITY	226	[illegible]	1018.0	17.8	8.3	13.2	- 2.5	31.7	3+	- 2.2	28	0	2	6.7	67	165	92	58	14	7	[illegible]	[illegible]	0.6	18	13.9	[illegible]	9	9	8	14	6.1	46

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C				C	%	Mm.	Mm.	Mm			Mm	Mm	M p.s.		M.p.s							%
MISSOURI																																
ST JOSEPH	247			18.3	6.1	12.2	- 1.9	32.8	3	- 6.7	28	2	4	5.6	71	86	31		14		0		0.2	21	9.4	33	13+	8	9	14	6.1	
ST LOUIS	163	998.6	1019.1	19.4	7.2	13.4	- 1.3	31.7	3	- 1.1	29+	0	4	7.8	72	147	74	54	10	3	0	0	1.0	18	20.1	SW	10	12	4	15	5.6	55
SPRINGFIELD	386	972.6	1018.3	19.4	6.7	13.1	- 2.3	32.8	3	- 5.0	28	1	4	5.6	64	159	64	83	9	3	T	T	1.6	17	13.4	SE	10	9	10	12	6.0	56
MONTANA																																
BILLINGS	1087	892.7	1018.9	8.9	0.0	4.4	- 5.3	22.8	23	- 7.8	14	0	17	- 2.8	64	[illegible]	12	17	10	0	239	51	2.5	29	15.2	NW	9	4	7	20	7.7	39
GLASGOW	696	934.6	1018.1	8.9	- 1.1	3.7	- 3.7	20.0	1	- 8.3	27	0	20	- 2.2	71	34	18	22	10	0	25	T	2.5	32	15.6	30	9	5	3	23	7.6	
GREAT FALLS	1116	889.9	1020.1	8.3	- 1.7	3.4	- 5.2	21.7	22	-10.0	13	0	18	- 2.2	71	23	4	7	11	0	127	51	2.6	25	17.0	SW	20	5	2	24	8.0	40
HAVRE	788	925.2	1019.0	9.4	- 2.2	3.8	- 3.9	20.0	8+	-10.6	16	0	23	- 3.3	65	12	- 8	8	8	1	33	T	2.2	28	14.3	NW	6	5	4	22	7.7	45
HELENA	1167	882.8	1020.9	8.3	- 1.7	3.4	- 4.2	20.6	22	- 8.9	15	0	21	- 2.8	69	27	10	13	11	1	279	152	2.2	28	14.3	W	20	5	3	23	7.8	41
KALISPELL	904	914.0	1020.5	10.0	- 1.7	4.3	- 2.3	19.4	22	- 8.9	18	0	21	- 1.7	69	27	- 4	10	10	0	56	25	0.3	3	9.4	36	24	6	5	20	7.3	
MILES CITY	801	923.5	1017.9	10.0	- 0.6	4.6	- 4.8	21.1	23	- 7.8	17	0	20	- 1.1	70	28	6		13	0	56		2.3	31								
MISSOULA	972	907.2	1021.1	10.6	- 1.1	4.6	- 2.1	20.6	21	- 9.4	19	0	16	- 1.1	74	17	- 8	10	9	1	T	T	0.3	4	11.6	N	3+	4	8	19	7.4	43
NEBRASKA																																
GRAND ISLAND	561	950.9	1017.9	13.3	2.2	7.8	- 4.1	30.0	3	- 6.1	27	0	9	2.8	74	87	63	28	9	4	112	51	0.6	29	11.2	33	21+	6	6	19	6.9	
LINCOLN	351			15.6	5.0	10.2	- 3.5	32.8	3	- 5.6	28	1	4			73	33	21	12		T	T			23.2	SW	9	7	9	15	6.5	46
NORFOLK	471			12.2	2.2	7.3	- 4.3	30.0	3	- 8.3	28	0	10			67	37	19	8		36	25						7	3	21	7.1	
NORTH PLATTE	846	918.4	1017.8	11.7	- 0.6	5.4	- 5.2	27.2	2	-11.7	16	0	16	1.1	78	74	51	24	12	2	399	229	0.7	35	14.3	SE	2	7	5	19	7.1	39
OMAHA	298	982.1	1017.7	16.1	4.4	10.1	- 3.1	32.8	3	- 6.7	28	1	8	3.9	68	57	13	18	13	0	T	T	0.2	30	13.0	NW	21	7	7	17	6.7	58
SCOTTSBLUFF	1206	880.5	1018.2	10.6	- 0.6	5.1	- 5.2	27.2	2	-12.8	14	0	17	- 0.6	73	77	59	24	9	0	549	203	1.5	32	17.9	29	2	6	7	18	6.9	
VALENTINE	789			11.7	- 0.6	5.7	- 3.9	26.7	2	-10.0	27	0	15			47	25	14	10		119	76			16.1	[illegible]	23	6	9	16	6.9	42
NEVADA																																
ELY	1906	808.3	1016.1	12.8	- 3.9	4.7	- 3.1	25.0	1	-10.0	5	0	27	- 5.6	57	23	5	9	8	0	56	25	0.5	29	13.9	NW	10+	14	6	11	5.1	62
LAS VEGAS	659	937.0	1013.0	24.4	10.0	17.1	- 2.1	36.1	1	3.9	19	2	0	- 1.7	33	7	2	6	3	0	0	0	0.8	30	14.3	W	28	15	11	5	3.7	87
RENO	1342	866.2	1016.9	17.2	- 2.8	7.4	- 2.2	28.9	1	- 7.8	6	0	24	- 4.4	46	10	- 3	7	3	0	0	0	0.5	36	15.6	W	8	14	9	8	4.3	94
WINNEMUCCA	1311	868.9	1018.2	15.6	- 3.9	5.9	- 2.8	29.4	1	- 9.4	5	0	25	- 2.8	61	36	16	13	7	2	99	25	0.6	34	12.5	NW	10	15	5	11	4.8	80
NEW HAMPSHIRE																																
CONCORD	104	1006.8	1019.5	15.6	1.7	8.6	- 0.7	24.4	12	-12.2	24	0	12	3.3	71	40	- 28	23	7	0	53	51	1.0	27	13.4	NW	23	10	10	11	5.5	58
MT WASHINGTON OBS	1909			2.8	- 3.9	- 0.7	- 0.1	13.3	6	-18.3	23	0	21			184	27	48	16	0	874	152			44.7Y	W	23	8	6	17	6.8	41
NEW JERSEY																																
ATLANTIC CITY	20	1018.3	1020.7	18.3	6.1	12.2	- 1.8	27.8	3	- 5.0	24	0	5	7.8	77	53	- 28	34	6	1	0	0	1.1	30	13.0	28	22	13	9	9	4.6	59
ATLANTIC CITY U	3			18.9	11.1	14.8	- 0.1	28.3	3	0.6	24+	0	0			13	- 73	5	5						15.6	WNW	21					
NEWARK	2	1019.3	1020.4	18.3	8.3	13.4	- 0.2	26.7	20+	- 2.2	24	0	2	5.6	61	44	- 35	25	9	1	0	0	1.6	27	13.9	30	22	15	8	8	4.6	
TRENTON U	17			18.3	8.3	13.3	- 0.4	26.7	20+	- 1.7	24	0	2			32	- 40	14	4		0	0			13.4	NW	22+	13	9	9	4.9	60
NEW MEXICO																																
ALBUQUERQUE	1619	836.8	1013.0	18.9	5.0	12.1	- 2.3	28.9	2+	- 2.2	30	0	3	0.0	51	60	41	46	6	1	0	0	0.7	9	17.0	E	11+	12	11	8	4.7	72
CLAYTON	1515			15.0	2.8	8.7	- 4.2	28.3	2	- 8.3	13	0	11			80	55	30	9		99	51						12	7	12	5.6	
ROSWELL	1102			21.7	7.2	14.5	- 0.5	33.3	9+	- 0.6	31	3	2			110	83	51	8		0	0			11.6	S	3					67
NEW YORK																																
ALBANY	84	1009.1	1020.0	16.7	2.2	9.4	- 1.0	26.1	12	- 8.9	24	0	11	2.8	66	39	- 31	24	6	0	T	0	1.0	24	12.5	S	16	6	12	13	6.5	56
BINGHAMTON	485	961.1	1020.5	13.9	3.9	8.9	- 1.0	23.3	13	- 6.1	23	0	6	3.9	74	57	- 21	22	11	2	8	T	1.7	24	13.4	W	20	5	10	16	6.8	57
BUFFALO	215	993.2	1019.1	15.6	5.6	10.6	0.1	27.8	13	- 4.4	23	0	6	5.6	73	70	- 6	31	14	0	25	T	2.3	25	17.0	SW	18	5	7	19	7.4	45
J.F. KENNEDY	4	1019.6	1020.5	19.4	9.4	14.5	0.3	28.3	12	0.0	24	0	1	7.2	64	43	- 38	26	6	2	0	0	1.6	28	16.5	31	21	14	10	7	4.5	
NEW YORK U	40	1016.9	1020.1	18.9	9.4	14.3	- 0.3	26.7	20+	- 0.6	24	0	2	6.7	65	50	- 30	26	7	1	0	0	0.9	29	13.0	NW	22					64
NEW YORK LA GUARDIA	3	1019.0	1020.6	17.8	9.4	13.6	- 1.2	25.6	20	- 1.1	24	0	2	5.0	59	43	- 43	23	7	1	0	0	1.6	30	16.1	NW	22	15	6	10	4.7	
ROCHESTER	167	999.7	1020.2	16.1	5.0	10.5	- 0.5	28.3	13	- 5.6	23	0	7	5.0	70	43	- 23	14	11	0	T	T	2.1	24	14.3	SW	18	5	5	21	7.4	37
SYRACUSE	125	1004.7	1019.6	16.1	5.0	10.6	- 0.4	26.1	13	- 3.3	30	0	6	3.9	66	58	- 22	15	9	0	43	25	1.3	23	15.2	S	16	7	5	19	7.0	38
NORTH CAROLINA																																
ASHEVILLE	652	944.1	1020.6	20.0	6.7	13.4	0.2	28.3	13+	- 3.9	30	0	6	9.4	81	67	- 13	47	8	0	0	0	0.5	36	10.7	34	21	13	9	9	4.8	64
CAPE HATTERAS R	2	1018.6	1019.2	22.8	16.1	19.5	0.9	28.3	2	8.3	18	0	0	15.0	77	36	- 72	19	5	0	0	0	3.8	4	13.4	NNE	23+	9	7	15	6.4	53
CHARLOTTE	224	992.6	1020.1	21.1	10.0	15.8	- 1.2	28.3	14	0.0	24	0	1	10.6	74	34	- 41	26	8	0	0	0	1.8	3	9.4	NE	23	14	5	12	4.8	63
GREENSBORO	273	989.2	1020.9	21.1	9.4	15.2	0.0	27.8	14+	- 2.2	24	0	3	8.9	69	48	- 21	26	5	1	0	0	1.0	1	8.9	N	15	16	1	14	5.2	62
RALEIGH	132	1004.4	1020.2	21.7	7.8	14.8	- 1.1	27.2	14	- 3.3	24	0	4	9.4	76	53	- 16	51	3	1	0	0	1.7	3	10.3	2	15+	11	7	13	5.4	64
WILMINGTON	9	1018.0	1019.3	24.4	12.8	18.6	0.1	30.6	20	1.7	24	0	0	14.4	81	24	- 52	15	5	0	0	0	2.1	3	11.6	E	31	9	8	14	5.9	67

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
NORTH DAKOTA	M	Mb	Mb	C	C	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
[illegible]	[illegible]	956.[illegible]	1017.1	10.6	- 1.1	4.8	3.4	25.6	2	-1[illegible].0	19	0	17	1.7	66	8	- 14	[illegible]	[illegible]	[illegible]	[illegible]	25	1.8	28	16.[illegible]	NW	21	[illegible]	4	[illegible]	7.7	[illegible]
FARGO	[illegible]	984.1	1016.5	[illegible]	0.0	4.6	[illegible]	21.7	[illegible]	-1[illegible].0	[illegible]	[illegible]	18	1.7	84	38	1[illegible]	14	1[illegible]	[illegible]	21	51	1.2	27	16.5	W	9	5	4	[illegible]	7.[illegible]	41
WILLISTON	[illegible]	947.[illegible]	[illegible]16.9	9.4	- 1.1	4.1	3.4	22.8	[illegible]	- 8.9	27	0	21	- 1.1	73	[illegible]	[illegible]	[illegible]	13	[illegible]	18	T	2.4	31	16.1	NW	6	4	6	21	7.5	48
OHIO																																
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.6	1[illegible]	0.4	27.8	13	- 5.6	24	[illegible]	8	4.4	68	[illegible]	8	18	1	0	1[illegible]	[illegible]	1.[illegible]	[illegible]	12.1	[illegible]	22	1	4	17	6.4	[illegible]
CINCINNATI [illegible]	[illegible]			19.4	7.8	13.[illegible]	0.9	30.0	12	- 2.8	23	0	4			44	- 1[illegible]	15	[illegible]		[illegible]	[illegible]			7.2	SW	2[illegible]+					5[illegible]
[illegible]	[illegible]	[illegible]	101[illegible].1	16.[illegible]	6.1	11.1	0.8	27.8	13	- 5.6	24	0	6	5.[illegible]	69	48	13	18	[illegible]	[illegible]	1[illegible]	T	2.1	[illegible]	11.6	SW	[illegible]	[illegible]	[illegible]	19	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	16.9	5.6	12.[illegible]	0.[illegible]	29.4	13	- 5.0	23	0	9	6.7	72	34	15	24	8	[illegible]	0	0	0.9	[illegible]	13.[illegible]	W	2[illegible]+	[illegible]	8	11	6.1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	17.4	6.[illegible]	13.[illegible]	0.1	28.9	1	- 3.3	28+	0	7	6.1	66	[illegible]	- 32	7	7	[illegible]	[illegible]	[illegible]	1.3	[illegible]	11.2	[illegible]	[illegible]+	11	[illegible]	11	6.5	[illegible]
MANSFIELD	[illegible]			[illegible]	6.[illegible]	12.[illegible]	1.[illegible]	28.9	13	- 3.3	28+	[illegible]	5	5.[illegible]	64	4[illegible]	- 11	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	[illegible]	[illegible]	28	[illegible]	[illegible]	[illegible]	19	6.[illegible]	
[illegible]	[illegible]	994.6	1019.9	[illegible]	[illegible]	10.[illegible]	- 0.[illegible]	27.2	13	- 7.8	24	0	11	5.[illegible]	72	[illegible]	[illegible]	[illegible]	12	[illegible]	T	[illegible]	1.4	24	13.0	NW	[illegible]	[illegible]	14	1[illegible]	6.6	[illegible]
[illegible]	[illegible]	977.[illegible]	[illegible].3	16.1	[illegible]	10.[illegible]	0.6	28.3	13	- 6.7	24	0	[illegible]	[illegible]	71	71	[illegible]	45	[illegible]	[illegible]	1[illegible]	T	1.[illegible]	21	9.8	26	18+	8	[illegible]	26	6.6	
OKLAHOMA																																
[illegible]	[illegible]	97[illegible].9	1017.2	[illegible]	8.3	14.[illegible]	- 2.9	30.6	10	0.0	14	0	1	7.8	70	4	24	16	7	[illegible]	[illegible]	[illegible]	[illegible].7	12	13.[illegible]	NW	15	7	6	18	6.7	46
TULSA	[illegible]	99[illegible]	1017.[illegible]	21.[illegible]	9.4	15.[illegible]	- 1.8	3[illegible]	[illegible]+	[illegible].6	28	4	[illegible]	[illegible].8	64	[illegible]	65	100	[illegible]	[illegible]	[illegible]	[illegible]	1.1	17	15.[illegible]	[illegible]	10	6	7	19	6.8	42
OREGON																																
[illegible]	[illegible]	1017.[illegible]	1018.[illegible]	[illegible]	5.6	10.6	- 1.[illegible]	21.1	5	[illegible].6	11	0	[illegible]	6.1	78	[illegible]	54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.1	[illegible]	14.[illegible]	[illegible]	[illegible]	1[illegible]	[illegible]	17	[illegible]	
[illegible]	[illegible]	[illegible]4.4	1018.[illegible]	15.3	- 1.7	5.7	- 3.4	21.7	[illegible]+	- 7.8	1[illegible]	0	2[illegible]	- 1.7	66	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	25	1.[illegible]	[illegible]				1[illegible]	[illegible]	14	6.[illegible]	
[illegible]	[illegible]	[illegible]4.7	1018.4	15.6	5.0	10.3	1.4	24.4	6	- 1.7	14	0	[illegible]	6.7	84	1[illegible]	[illegible]	11	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1[illegible]	1[illegible]	[illegible]	[illegible]	18	[illegible]	
[illegible]	[illegible]	876.[illegible]	1019.[illegible]	[illegible]	[illegible]	4.9	- 3.[illegible]	21.7	21	- 6.1	13	0	14	- 2.2	65	[illegible]	- 2	8	1		165	76	[illegible]	[illegible]	8.[illegible]	[illegible]	[illegible]	7	[illegible]	17	[illegible]	
[illegible]	[illegible]	[illegible]	1018.8	[illegible]	[illegible]	9.8	- 1.9	23.9	6	- 1.7	14+	0	[illegible]	4.4	8[illegible]	62	1[illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.5	[illegible]	[illegible]+	8	[illegible]	14	[illegible]	
[illegible]	45[illegible]	965.1	1019.4	15.[illegible]	3.9	9.6	2.4	24.4	21	- 5.0	13	0	[illegible]	2.8	67	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].6	24	1[illegible]	[illegible]	[illegible]	8	[illegible]	13	[illegible]	
[illegible]	[illegible]	1017.3	1018.6	16.[illegible]	6.7	11.8	[illegible]	23.3	6	- [illegible].6	14	0	1	6.7	74	[illegible]	- 15	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44
SALEM	[illegible]	[illegible]	1018.[illegible]	16.[illegible]	3.9	9.9	- 2.3	23.3	6	- 4.4	14	0	6	6.1	82	1[illegible]	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].6	17	1[illegible]	27	27+	8	8	1[illegible]	6.[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]017.4	[illegible]	4.4	8.[illegible]	- 2.2	21.1	21	1.1	1[illegible]+	0	0			117	31	26	1		T	T			17.4	24	[illegible]	[illegible]	[illegible]	13	5.4	
[illegible]																																
[illegible]	[illegible]	[illegible]	[illegible]	30.0	23.9	27.2	[illegible]	30.6	31+	21.7	12	[illegible]	0	22.2	7[illegible]	[illegible]	- [illegible]1	8	1	[illegible]	0	0	[illegible].9	[illegible]	1[illegible].1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	31.1	25.0	27.9	0.6	32.2	25+	22.8	27	[illegible]	0	24.4	8[illegible]	[illegible]	- 8[illegible]	88	[illegible]	[illegible]	0	0	[illegible]	26	1[illegible].5	SW	[illegible]	[illegible]	[illegible]	21	[illegible]	[illegible]
[illegible]	[illegible]	[illegible].8	[illegible]9.5	31.1	25.6	28.4	[illegible].7	32.8	14	23.3	31	3	0	23.9	76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible].6	30.6	25.0	28.[illegible]	1.1	32.[illegible]	14	23.3	1[illegible]+	1	0	23.9	77	18[illegible]	- [illegible]5	61	[illegible]	[illegible]	0	0	1.4	6	[illegible]	[illegible]	[illegible]	[illegible]	11	1[illegible]	6.8	[illegible]
[illegible]	[illegible]	[illegible]	[illegible].6	[illegible]9.4	[illegible].4	26.9		31.1	12+	[illegible].6	[illegible]	[illegible]	0	23.[illegible]	84	[illegible]		[illegible]	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]	1[illegible]	19	8.1	
[illegible]	[illegible]	[illegible]	[illegible].6	31.[illegible]	21.7	26.[illegible]	[illegible]	33.3	27+	[illegible].6	31+	13	0	23.[illegible]	8[illegible]	[illegible]	- 2[illegible]	[illegible]	[illegible]	[illegible]	0	0	[illegible]	[illegible]7	5.8	SW	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	990.6	[illegible]	[illegible]	21.7	25.9	- [illegible]	31.7	11+	20.0	21	0	0	23.9	9[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	[illegible]	14	8.[illegible]	SW	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible].4	31.[illegible]	23.9	27.4	0.4	32.2	18+	23.3	31+	[illegible]	0	23.9	82	[illegible]	- 78	[illegible]	[illegible]	[illegible]	0	0	[illegible]	24	11.[illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	2[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	31.[illegible]	2[illegible].6	28.6	1.[illegible]	32.8	28+	22.2	[illegible]	1[illegible]	0	[illegible]	7[illegible]	51	[illegible]	[illegible]	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].3	27.[illegible]	[illegible]	32.2	24+	21.7	[illegible]	[illegible]	0	24.4	8[illegible]	[illegible]	43	[illegible]	[illegible]	[illegible]	0	0	[illegible]	24	1[illegible]	SW	11+	1	[illegible]	17	[illegible]	[illegible]
[illegible]																																
[illegible]	118	[illegible]6.4	[illegible].8	[illegible]	[illegible]	[illegible].8	1.3	25.6	[illegible]	- 5.6	24	0	8	5.[illegible]	71	4[illegible]	[illegible]	[illegible]1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2[illegible]	13.[illegible]	28	17	1[illegible]	[illegible]	[illegible]	[illegible]	
ERIE	22[illegible]	992.6	1019.8	[illegible]	5.6	1[illegible].0	1.4	27.8	13	- 3.3	29	0	[illegible]	[illegible].9	69	7[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].4	[illegible]	13.4	34	[illegible]	[illegible]	[illegible]	[illegible]	7.[illegible]	
[illegible]	[illegible]	[illegible].8	[illegible].8	18.[illegible]	5.6	12.1	- 1.1	27.8	[illegible]	- 5.[illegible]	24	0	[illegible]	5.6	68	41	- [illegible]	12	[illegible]	[illegible]	T	[illegible]	[illegible].3	[illegible]	13.4	NW	[illegible]	10	1[illegible]	8	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible].4	18.[illegible]	6.7	1[illegible].8	[illegible].4	27.8	3	- 3.9	24	0	3	6.1	66	29	- 4[illegible]	11	[illegible]	1	[illegible]	[illegible]	[illegible].9	[illegible]	13.9	W	21	11	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	36[illegible]	[illegible]	[illegible]	18.[illegible]	[illegible]	11.6	- 0.1	29.4	13	- 6.1	24	0	8	3.9	64	56	2	3[illegible]	1[illegible]	1	1[illegible]	25	1.2	25	13.9	[illegible]	[illegible]	[illegible]	11	[illegible]	6.[illegible]	[illegible]
[illegible]	28[illegible]	986.[illegible]	[illegible]	16.[illegible]	4.4	1[illegible].3	- [illegible]	25.6	13	- 6.1	24	0	8	3.[illegible]	67	[illegible]	- [illegible]	[illegible]7	5	[illegible]	T	[illegible]	[illegible]	[illegible]	11.1	W	[illegible]	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	16[illegible]	[illegible]1.7	[illegible].2	17.8	4.4	1[illegible].9	[illegible]	26.7	2[illegible]+	- 6.7	24	0	9	6.1	76	77	7	34	7	[illegible]	[illegible]	[illegible]	1.1	27	13.[illegible]	27	[illegible]	[illegible]	1[illegible]	11	[illegible]	
RHODE ISLAND																																
[illegible]	[illegible]			16.1	8.9	1[illegible].6	[illegible].3	22.[illegible]	3	- 1.1	24	0	2			66	11	34	[illegible]		[illegible]	[illegible]										
PROVIDENCE	[illegible]	1017.6	1019.8	17.8	5.6	11.8	0.1	26.1	20	- 6.1	24	0	8	5.[illegible]	67	4[illegible]	- 8	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	4.[illegible]	66
[illegible]																																
[illegible]	[illegible]	[illegible]	1018.7	[illegible].6	15.[illegible]	[illegible]	1.1	30.[illegible]	[illegible]	6.1	[illegible]+	0	[illegible]	14.4	74	38	- [illegible]	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N	[illegible]	11	[illegible]	[illegible]	[illegible].8	[illegible]
[illegible]	[illegible]			24.4	16.7	[illegible]	[illegible]	28.9	14+	[illegible]	[illegible]+	[illegible]				40	- [illegible]	[illegible]	[illegible]		[illegible]	[illegible]			14.4	NE	[illegible]					
[illegible]	[illegible]	101[illegible].1	[illegible]9.6	25.[illegible]	11.7	18.[illegible]	[illegible]	31.1	14	2.8	18	[illegible]	[illegible]	12.[illegible]	73	30	[illegible]1	19	4	1	[illegible]	[illegible]	[illegible].7	[illegible]	8.[illegible]	6	24+	14	[illegible]	1[illegible]	4.[illegible]	6[illegible]
[illegible]	[illegible]	985.6	[illegible]0.[illegible]	21.[illegible]	10.6	16.1	[illegible].8	28.9	14+	0.0	24	0	1	1[illegible].6	76	[illegible]0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].9	[illegible]	11.[illegible]	NW	[illegible]	1[illegible]	[illegible]	13	4.[illegible]	66
[illegible]																																
[illegible]	3[illegible]	969.[illegible]	[illegible]17.2	11.7	[illegible].0	5.9	3.1	25.[illegible]	[illegible]	- 9.4	28	0	1[illegible]	0.6	[illegible]	[illegible]	- [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	1[illegible]	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	39[illegible]	970.[illegible]	[illegible]17.5	11.7	[illegible].6	5.9	3.4	23.9	[illegible]	- 7.8	28	0	12	[illegible].6	71	[illegible]	[illegible]4	[illegible]	[illegible]	[illegible]	[illegible]	T	1.[illegible]	27	18.[illegible]	NW	[illegible]	[illegible]	[illegible]	19	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb.	C.	C.	C.	C	C.		C				C.	%
SOUTH DAKOTA															
RAPID CITY	964	905.[illegible]	1018.0	11.1	- 1.1	4.8	- [illegible]	27.8	2	-10.6	27	0	19	- [illegible]	64
SIOUX FALLS	432	965.5	1017.5	11.7	1.1	6.3	- 3.8	27.2	3	- 8.3	28	0	13	1.1	73
TENNESSEE															
BRISTOL	459	966.1	1020.7	20.0	6.7	13.2	- 1.3	28.3	13	- 2.2	30+	0	5	6.7	70
CHATTANOOGA	203	994.6	1019.3	20.0	7.2	13.6	- 3.1	27.2	13+	- 2.2	24	0	4	7.8	74
KNOXVILLE	299	984.8	1019.7	21.1	9.4	15.1	- 1.0	28.3	13	0.0	24	0	1	8.9	71
MEMPHIS	79	1008.5	1018.6	[illegible]	11.1	17.[illegible]	- 0.1	31.1	4	2.8	29+	0	0	10.6	68
NASHVILLE	18[illegible]	997.6	1019.3	[illegible]	9.4	15.9	- 0.5	31.1	12	0.0	18	0	1	9.4	69
OAK RIDGE	276			20.6	8.3	14.[illegible]	- 1.[illegible]	28.3	13+	0.0	24+	0	2		
TEXAS															
ABILENE	537	953.9	1015.4	21.7	11.7	16.6	- 2.4	32.8	2	2.2	13	2	0	10.[illegible]	69
AMARILLO	1098	891.3	1014.5	18.3	6.7	12.5	- 3.3	32.8	2	- 2.2	13	2	3	5.0	67
AUSTIN	182	993.2	1015.3	25.6	15.0	20.3	- 1.2	33.3	2+	7.2	15	5	0	13.9	70
BROWNSVILLE	6	1012.5	1013.[illegible]	29.4	[illegible].6	25.2	0.8	33.3	12	12.8	14	3	0	20.[illegible]	75
CORPUS CHRISTI	12	1012.5	1014.1	28.3	18.9	23.4	[illegible].2	33.3	12	10.6	14	6	0	18.3	76
DALLAS	147	999.[illegible]	1016.3	24.4	13.9	19.1	- 0.8	33.9	11+	5.0	14	5	0	10.6	61
DEL RIO	313	978.[illegible]	1014.1	25.[illegible]	15.6	20.3	- 1.6	33.3	1	7.8	31	3	0	15.0	73
EL PASO	1194	880.5	1010.6	26.7	13.3	19.8	1.8	33.3	2+	2.2	31	2	0	4.4	42
FORT WORTH	164	995.9	1016.5	23.9	12.8	18.5	- 1.4	33.9	11	5.6	31+	5	0	11.1	67
GALVESTON	2			25.6	20.6	23.3	0.[illegible]	29.4	12+	10.6	14	0	0		
HOUSTON	3[illegible]	1011.9	1015.4	27.[illegible]	15.6	21.7	[illegible].6	32.8	2	6.7	15+	3	0	16.1	75
LUBBOCK	992	905.5	1014.9	19.4	7.8	13.[illegible]	- 2.7	32.2	2	- 2.2	13	1	3	7.[illegible]	72
MIDLAND	869	916.0	1013.9	22.2	10.6	16.1	- 2.7	34.4	2+	1.1	13	4	0	8.3	68
PORT ARTHUR	5	1014.9	1015.6	27.8	16.7	22.2	0.9	32.8	12+	7.2	14	4	0	16.7	75
SAN ANGELO	580	948.[illegible]	1014.4	[illegible]	12.8	18.1	- 2.1	32.2	2	2.2	31	1	0	12.8	75
SAN ANTONIO	24[illegible]	987.5	1015.1	26.1	15.6	21.0	- 0.4	33.3	3	7.2	15	4	0	13.3	66
VICTORIA	32	1010.5	1014.7	28.[illegible]	17.2	22.6	0.1	32.8	3	8.9	14	4	0	17.2	76
WACO	153	998.3	1016.1	26.1	15.0	20.4	- 0.3	35.0	11+	7.2	14	6	0	12.8	65
WICHITA FALLS	[illegible]	979.7	1016.3	21.1	9.4	15.4	- 3.7	33.9	10+	1.7	14	3	[illegible]	10.0	75
UTAH															
MILFORD	1533	845.6		15.0	- 1.1	6.7	- 3.7	27.2	1	- 8.3	30+	0	20		
SALT LAKE CITY	1286	871.7	1016.4	15.0	2.2	8.7	- 2.2	25.6	1	- 2.2	14	0	7	- 0.6	59
WENDOVER	1291	871.7	1017.5	12.8	2.8	7.9	- 3.8	22.2	1	- 2.2	15+	0	6		
VERMONT															
BURLINGTON	101	1006.1	1019.0	12.8	2.2	7.7	- 1.0	22.8	11	- 6.7	31+	0	11	3.3	74
VIRGINIA															
LYNCHBURG	279			20.0	6.7	13.3	- 1.2	26.7	20+	- 6.1	24	0	6		
NORFOLK	7	1019.3	1020.3	20.6	12.8	16.8	0.1	26.7	20+	1.1	25	0	0	11.1	72
RICHMOND	50	1014.9	1021.0	21.1	8.3	14.7	- 0.1	28.3	3	- 2.8	24	0	4	10.0	77
ROANOKE	350	978.7	1020.9	20.6	6.7	13.7	- 0.9	28.9	20	- 5.0	30	0	5	6.1	65
WALLOPS ISLAND	3			19.4	11.1	15.2		27.2	3	- 1.1	24	0	1		
WASHINGTON															
OLYMPIA	59	1011.2	1018.6	15.6	3.3	9.4	- 1.4	25.0	6	- 5.6	14	0	7		
QUILLAYUTE	55	1010.2	1017.6	15.0	5.0	9.9	- 0.9	21.7	5	- 2.8	14	0	3	7.2	86
SEATTLE-TACOMA	122	1001.7	1018.2	15.6	7.2	11.3	0.0	22.8	6	1.7	18	0	0	5.0	69
SPOKANE	718	934.0	1018.8	12.2	0.6	6.5	- 3.0	21.7	22	- 6.7	14	0	13	- 0.6	65
STAMPEDE PASS	1206	880.8		6.7	1.1	4.1	- 1.7	17.2	21	- 2.8	13	0	13		
WALLA WALLA	289			15.6	5.6	10.4	- 2.4	23.3	22+	- 2.2	13	0	3		
YAKIMA	321	980.4	1019.3	16.1	1.1	8.5	- 1.8	21.7	22	- 5.6	14	0	11	- 0.6	57
WEST INDIES															
SAN JUAN P.R.	4	1010.2	1012.6	30.6	23.9	27.2	0.5	33.3	9	22.8	30+	3	0	21.7	75
SWAN ISLAND	9			30.0	25.0	27.7	0.1	31.7	5	22.2	29	0	0		
WEST VIRGINIA															
BECKLEY	763	931.9	1021.0	17.2	5.0	11.2	- 0.8	27.2	13+	- 5.6	24	0	9	4.4	67
CHARLESTON	286	986.1	1020.4	19.4	5.0	12.2	- 1.9	28.9	13	- 6.7	24	0	8	6.7	72

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
SOUTH DAKOTA																	
RAPID CITY	[illegible]	2	11	[illegible]	[illegible]	1[illegible]	76	[illegible].7	33	18.8	W	6	7	7	17	6.6	44
SIOUX FALLS	[illegible]	[illegible]	15	[illegible]	[illegible]	T	T	1.3	27	14.3	28	9	6	[illegible]	[illegible]	[illegible]	
TENNESSEE																	
BRISTOL	39	- 15	18	7	[illegible]	0	0	0.5	3	8.9	32	22	15	7	9	4.6	
CHATTANOOGA	44	- 33	[illegible]	8	0	0	0	0.3	5	10.7	NE	[illegible]	9	[illegible]	14	5.9	[illegible]
KNOXVILLE	[illegible]	- 27	12	9	0	0	0	1.2	4	8.5	NE	23+	12	8	11	5.3	67
MEMPHIS	[illegible]1	- 38	16	7	1	[illegible]	0	1.2	10	10.4	[illegible]	10	12	8	11	5.1	68
NASHVILLE	51	- 8	13	10	0	0	0	0.7	13	9.4	[illegible]	11+	8	15	8	5.6	62
OAK RIDGE	45	- 21	13	9		0	0			1[illegible].[illegible]Y			11	7	13	5.6	
TEXAS																	
ABILENE	[illegible]	- [illegible]	[illegible]1	8	[illegible]	0	0	1.4	13	16.1	SE	4	8	[illegible]	16	6.7	48
AMARILLO	65	[illegible]	[illegible]	11	1	[illegible]	[illegible]	1.5	16	15.[illegible]	SW	9	7	11	13	6.1	4[illegible]
AUSTIN	57	- 5	[illegible]6	6	2		[illegible]	1.2	6	11.6	NW	12	8	13	1[illegible]	5.6	50
BROWNSVILLE	33	- 7	53	8	2	0	[illegible]	1.4	9	12.5	[illegible]	12+	4	20	7	5.6	55
CORPUS CHRISTI	72	2	[illegible]8	4	2	[illegible]	0	2.8	8	15.[illegible]	SE	1[illegible]	6	1[illegible]	13	6.2	[illegible]
DALLAS	186	118	11[illegible]	7	2	[illegible]	[illegible]	1.2	1[illegible]	13.[illegible]	NW	1[illegible]	8	1[illegible]	11	5.6	52
DEL RIO	[illegible]88	237	193	5	5	0	[illegible]	2.1	10	13.0	24	12	[illegible]	[illegible]	21	7.4	
EL PASO	15	- 7	7	5	2	0	0	0.8	24	16.1	SW	19	[illegible]	[illegible]	4	2.9	
FORT WORTH	1[illegible]	32	90	7	4	0	0	0.7	9	11.6	19	1	[illegible]	[illegible]	14	5.9	
GALVESTON	[illegible]8	- 24	31	6		[illegible]	[illegible]			13.[illegible]	NE	14					61
HOUSTON	84	- 11	50	6	4	0	[illegible]	1.5	9	10.3	15	1[illegible]	9	11	11	5.6	61
LUBBOCK	197	146	87	9	6	0	0	1.3	13	10.3	[illegible]	27+	1[illegible]	8	13	5.9	
MIDLAND	64	22	18	9	[illegible]	0	[illegible]	[illegible]	11	13.4	[illegible]	[illegible]7	11	1[illegible]	[illegible]	5.[illegible]	
PORT ARTHUR	44	- 29	[illegible]	7	2	[illegible]	0	2.5	8	14.8	SE	30	10	14	7	5.1	70
SAN ANGELO	167	121	10[illegible]	8	2	[illegible]	[illegible]	1.8	11	1[illegible].7	17	3	7	5	19	6.7	
SAN ANTONIO	149	85	75	8	4	0	0	1.7	6	12.1	N	27	8	5	15	6.0	57
VICTORIA	91	2	39	5	4	0	[illegible]	[illegible]	8	17.4Y	[illegible]	1[illegible]	8	4	15	6.1	
WACO	14[illegible]	76	43	6	4	0	0	0.7	5	12.1	34	12+	11	1[illegible]	10	5.1	
WICHITA FALLS	8[illegible]	7	18	1[illegible]	4	[illegible]	0	1.1	9	13.4	31	21	9	6	16	6.4	
UTAH																	
MILFORD	23	3	14	7		107	T						11	5	15	5.7	
SALT LAKE CITY	50	21	23	10	3	T	0	0.5	17	14.3	NW	28	11	9	11	5.5	64
WENDOVER	22	10	7	7		[illegible]0	25										
VERMONT																	
BURLINGTON	41	- 34	14	9	0	130	127	1.3	22	14.3	SW	14	6	7	18	6.8	56
VIRGINIA																	
LYNCHBURG	22	- 45	19	4		0	0			8.9	NE	15	17	5	9	3.8	68
NORFOLK	61	7	56	8	1	0	0	2.3	2	13.4	NE	5	7	10	14	6.1	49
RICHMOND	48	- 28	39	4	0	0	0	0.8	2	8.9	NW	21	12	9	10	5.2	52
ROANOKE	56	- 25	43	6	0	0	0	0.8	32	12.5	30	17	17	5	9	4.3	
WALLOPS ISLAND	47		34	8		0	0			17.4Y	NW	21					
WASHINGTON																	
OLYMPIA	68	- 66	23	10		0	0			10.3	4	12+	3	13	15	7.1	
QUILLAYUTE	174	- 93	35	17	2	0	0	0.7	11	11.6	5	1	9	6	16	6.3	46
SEATTLE-TACOMA	30	- 72	15	12	0	0	0	1.1	14	13.0	SW	1	8	8	15	6.4	45
SPOKANE	11	- 28	4	5	0	0	0	1.3	16	11.6	SW	8	5	10	16	6.8	42
STAMPEDE PASS	95	-129	24	13		221	T						9	3	19	6.9	
WALLA WALLA	36	- 3	10	7		0	0			8.0	W	9	8	9	14	6.1	55
YAKIMA	6	- 9	5	3	0	0	0	1.4	29	11.2	28	1	13	6	12	5.1	
WEST INDIES																	
SAN JUAN P.R.	178	29	34	18	10	0	0	1.7	11	12.5	[illegible]	16	5	18	8	6.0	74
SWAN ISLAND	346	100	159	18		0	0						3	12	16	7.1	
WEST VIRGINIA																	
BECKLEY	30	- 39	13	7	1	0	0	1.1	18	12.5	14	31	13	9	9	4.7	
CHARLESTON	39	- 27	18	5	1	0	0	0.5	22	9.4	25	20	13	9	9	5.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile 1.6 kilometers: Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	M.	Mb	Mb	C	C	C.	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
[illegible]																																
[illegible]	[illegible]	[illegible]		[illegible]	1.7	[illegible]	- 1.1	28.3	13	-1[illegible].6	24	0	12			4[illegible]	- 36	14	8		T	T						[illegible]	1[illegible]	11	[illegible]	
[illegible]	[illegible]	[illegible]	1[illegible].1	19.4	6.7	12.9	1.1	29.4	13	- 2.8	18	0	7	6.1	69	47	[illegible]	[illegible]1	[illegible]	1	[illegible]	0	[illegible].6	18	13.[illegible]	[illegible]7	[illegible]	1[illegible]	8	1[illegible]	[illegible].7	
[illegible]	[illegible]87			[illegible]	7.2	13.[illegible]	- [illegible]	30.6	13	- 2.8	[illegible]4	[illegible]	[illegible]			32	- [illegible]	16	6		[illegible]	[illegible]			11.2	[illegible]	1[illegible]					6[illegible]
[illegible]																																
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.[illegible]	- [illegible]	27.8	[illegible]	- 8.9	[illegible]	0	12	2.2	71	88	[illegible]	[illegible]8	1[illegible]	[illegible]	T	T	1.2	24	15.[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	7.7	38
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.8	- 1.6	28.9	4	- 8.3	[illegible]	0	7	[illegible].9	75	95	39		13	[illegible]	[illegible]		1.1	[illegible]								
[illegible]	[illegible]	[illegible]	[illegible]	1[illegible].9	[illegible]	8.[illegible]	- 1.9	29.4	1	- [illegible].4	[illegible]	0	16	3.9	77	67	11	18	14	[illegible]	[illegible]	0	[illegible]	[illegible]	16.5	[illegible]W	[illegible]	9	4	18	6.8	45
[illegible]	[illegible]	[illegible]	[illegible]	13.[illegible]	4.4	8.6	- 1.4	27.8	[illegible]	- 3.9	[illegible]	0	11	4.4	75	114	[illegible]	41	14	[illegible]	T	T	1.6	[illegible]	14.8	[illegible]W	9	4	7	[illegible]	7.3	4[illegible]
[illegible]																																
[illegible]	[illegible]	8[illegible]	1[illegible].8	[illegible].4	- 2.8	3.3	- 5.8	22.2	8+	-12.8	14+	[illegible]	24	- 2.8	72	[illegible]6	1[illegible]	[illegible]	[illegible]	0	31[illegible]	1[illegible].7	1.5	[illegible]4	13.[illegible]	24	8	[illegible]	[illegible]	21	7.[illegible]	
[illegible]	1867	811.4	1015.[illegible]	[illegible].8	- 2.2	[illegible].8	- 5.8	23.[illegible]	[illegible]	-13.9	12	0	21	- 4.4	6[illegible]	[illegible]2	31	[illegible]5	14	[illegible]	541	15[illegible]	[illegible].6	3[illegible]	[illegible]1.[illegible]	NW	[illegible]	9	8	14	6.1	4[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- [illegible]	22.[illegible]	8	-12.2	1[illegible]		26	[illegible].3	6[illegible]	48	[illegible]7	17	[illegible]	[illegible]	82[illegible]	[illegible]	[illegible].6	26	18.8	W	9	6	8	17	6.[illegible]	51
[illegible]	[illegible]	[illegible]	[illegible]	[illegible].4	- 1.7	[illegible].7	- [illegible].1	21.[illegible]	[illegible]+	-11.7	14+		2[illegible]	- 2.2	69	[illegible]7	[illegible]	[illegible]	14	[illegible]	124	[illegible]	[illegible]	31	13.[illegible]	NW	1[illegible]+	7	4	20	7.4	4[illegible]

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1 minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1 C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

OCTOBER 1969

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
BIRMINGHAM	11[illegible]	114	99
HUNTSVILLE	142	151	139
MOBILE	20	20	[illegible]
MONTGOMERY	55	55	68
ALASKA			
ANCHORAGE	732	1708	1908
ANNETTE	432	1034	1344
BARROW	1516	4523	4178
BARTER ISLAND	1350	4156	3979
BETHEL	92[illegible]	2265	2367
BETTLES	[illegible]	2578	
BIG DELTA	918	2202	
COLD BAY	683	1830	2196
FAIRBANKS	955	2064	[illegible]
GULKANA	998	2430	
HOMER	[illegible]	[illegible]	
ILIAMNA	745	1903	
JUNEAU	724	2036	1847
KING SALMON	[illegible]	[illegible]	2056
KOTZEBUE	1051	2636	[illegible]
MC GRATH	980	2321	2363
NOME	971	2579	2764
ST. PAUL ISLAND	798	2317	2618
SHEMYA	[illegible]	2168	[illegible]
SUMMIT	979	2713	
TALKEETNA	864	2096	2098
UNALAKLEET	946	2405	
YAKUTAT	724	2128	1875
ARIZONA			
FLAGSTAFF	753	1011	873
PHOENIX	12	12	22
TUCSON	55	55	25
WINSLOW	404	406	251
YUMA	3	3	0
ARKANSAS			
FORT SMITH	182	182	139
LITTLE ROCK	175	175	136
CALIFORNIA			
BAKERSFIELD	45	45	37
BISHOP	288	[illegible]	290
BLUE CANYON	497	573	551
EUREKA U	296	1108	1114
FRESNO	166	166	78
LONG BEACH	23	23	52
LOS ANGELES	28	31	133
LOS ANGELES U	22	22	37
MT SHASTA R	555	707	588
OAKLAND	134	328	275
RED BLUFF	129	129	53
SACRAMENTO	129	130	93
SANDBERG R	376	419	232
SAN DIEGO	14	14	58
SAN FRANCISCO	113	323	362
SAN FRANCISCO U	107	631	586
SANTA MARIA	147	362	434
STOCKTON	149	149	77
COLORADO			
ALAMOSA	812	1141	1082
COLORADO SPRINGS	[illegible]	833	622
DENVER	801	859	560
GRAND JUNCTION	545	565	343
PUEBLO	468	472	380
CONNECTICUT			
BRIDGEPORT	[illegible]	418	373
HARTFORD	409	540	477
DELAWARE			
WILMINGTON	288	329	321
DIST.OF COLUMBIA			
WASH NATL AP	226	244	250
FLORIDA			
APALACHICOLA U	[illegible]	2	16
DAYTONA BEACH	0	0	0
FORT MYERS	0	0	0
JACKSONVILLE	0	0	12
KEY WEST	0	0	0
LAKELAND U	0	0	0
MIAMI	0	0	0
ORLANDO	0	[illegible]	[illegible]
PENSACOLA	8	8	19
TALLAHASSEE	2	2	28
TAMPA	0	0	0
WEST PALM BEACH	0	[illegible]	0
GEORGIA			
ATHENS	112	125	127
ATLANTA	125	138	145
AUGUSTA	79	82	78
COLUMBUS	49	49	87
MACON	45	[illegible]	71
ROME	181	191	185
SAVANNAH	38	38	47
IDAHO			
BOISE	585	692	547
LEWISTON	525	621	526
POCATELLO	685	831	665
ILLINOIS			
CAIRO U	209	211	200
CHICAGO O HARE	423	502	510
CHICAGO MIDWAY	390	448	407
MOLINE	445	525	443
PEORIA	443	520	419
ROCKFORD	486	606	529
SPRINGFIELD	370	429	363
INDIANA			
EVANSVILLE	299	334	286
FORT WAYNE	383	477	492
INDIANAPOLIS	358	443	406
SOUTH BEND	421	531	489
IOWA			
BURLINGTON	451	526	415
DES MOINES	478	523	471
DUBUQUE	555	702	649
SIOUX CITY	57[illegible]	628	486
WATERLOO	595	758	597
KANSAS			
CONCORDIA	450	462	333
DODGE CITY	415	423	284
GOODLAND	608	633	468
TOPEKA	408	425	327
WICHITA	361	363	262
KENTUCKY			
COVINGTON	309	375	366
LEXINGTON	274	318	293
LOUISVILLE	282	324	302
LOUISIANA			
BATON ROUGE	35	35	31
LAKE CHARLES	24	24	19
NEW ORLEANS	19	19	19
SHREVEPORT	86	86	47
MAINE			
CARIBOU	732	1291	1211
PORTLAND	494	710	768
MARYLAND			
BALTIMORE	251	277	312
MASSACHUSETTS			
BLUE HILL OBS R	406	588	511
BOSTON	326	438	385
NANTUCKET	356	493	459
WORCESTER	468	665	637
MICHIGAN			
ALPENA	633	988	1026
DETROIT	401	486	447
DETROIT M WAYNE CO	418	511	527
FLINT	485	655	593
GRAND RAPIDS	524	674	605
HOUGHTON LAKE	601	917	940
LANSING	462	596	597
MARQUETTE U	628	951	907
MUSKEGON	471	620	560
SAULT STE MARIE	683	1122	1060
MINNESOTA			
DULUTH	746	1123	1142
INTERNATIONAL FALLS	843	1260	1247
MINNEAPOLIS	580	716	747
ROCHESTER	614	813	719
ST CLOUD	673	879	849
MISSISSIPPI			
JACKSON	95	95	59
MERIDIAN	95	96	81
MISSOURI			
COLUMBIA	369	394	305
KANSAS CITY	330	333	259
ST JOSEPH	382	387	351
ST LOUIS	313	340	311
SPRINGFIELD	342	362	268
MONTANA			
BILLINGS	766	903	694
GLASGOW	807	1003	956
GREAT FALLS	828	1035	882
HAVRE	808	1008	982
HELENA	826	1094	985
KALISPELL	774	1275	1124
MILES CITY	759	828	688
MISSOULA	763	1140	1062
NEBRASKA			
GRAND ISLAND	586	611	495
LINCOLN U	469	481	382
NORFOLK	612	659	517
NORTH PLATTE	716	762	569
OMAHA	478	503	422
SCOTTSBLUFF	737	767	597
VALENTINE	696	750	679
NEVADA			
ELY	757	917	897
LAS VEGAS	112	112	78
RENO	605	701	824
WINNEMUCCA	685	795	76[illegible]
NEW HAMPSHIRE			
CONCORD	[illegible]	831	738
MT WASHINGTON OBS	1058	2775	2806
NEW JERSEY			
ATLANTIC CITY	356	484	290
ATLANTIC CITY U	222	247	259
NEWARK	284	333	315
TRENTON U	286	342	321
NEW MEXICO			
ALBUQUERQUE	348	349	241
CLAYTON	[illegible]	558	382
ROSWELL	257	257	220
NEW YORK			
ALBANY	491	663	597
BINGHAMTON	525	790	759
BUFFALO	433	609	637
J.F. KENNEDY	232	269	284
NEW YORK U	240	268	263
NEW YORK LA GUARDIA	272	321	250
ROCHESTER	437	591	581
SYRACUSE	425	601	581
NORTH CAROLINA			
ASHEVILLE	28[illegible]	347	369
CAPE HATTERAS R	51	52	78
CHARLOTTE	180	202	130
GREENSBORO	211	241	225
RALEIGH	222	267	185
WILMINGTON	93	84	74
NORTH DAKOTA			
BISMARCK	748	9[illegible]6	861
FARGO	757	1016	858
WILLISTON	786	987	936
OHIO			
AKRON	401	541	486
CINCINNATI OBS	289	350	302
CLEVELAND	406	535	481
COLUMBUS	359	468	437
DAYTON	314	386	394
MANSFIELD	347	436	542
TOLEDO	446	582	539
YOUNGSTOWN	440	637	557
OKLAHOMA			
OKLAHOMA CITY	274	274	179
TULSA	241	241	176
OREGON			
ASTORIA	423	1030	861
BURNS U	697	946	774
EUGENE	440	635	563
MEACHAM	745	1301	1076
MEDFORD	471	548	450
PENDLETON	480	570	461
PORTLAND	357	481	502
SALEM	459	711	517
SEXTON SUMMIT R	557	1031	776
PENNSYLVANIA			
ALLENTOWN	420	553	443
ERIE	462	671	518
HARRISBURG	352	441	361
PHILADELPHIA	316	370	351
PITTSBURGH	383	518	489
PITTSBURGH U	322	406	410
SCRANTON	440	595	585
WILLIAMSPORT	412	525	495
RHODE ISLAND			
BLOCK ISLAND	319	401	401
PROVIDENCE	365	490	484
SOUTH CAROLINA			
CHARLESTON	50	51	59
CHARLESTON U	47	47	34
COLUMBIA	86	88	84
GNVLE-SPARTANBURG	165	184	139
SOUTH DAKOTA			
ABERDEEN	688	825	766
HURON	684	808	694
RAPID CITY	750	812	680
SIOUX FALLS	668	789	674
TENNESSEE			
BRISTOL	293	342	287
CHATTANOOGA	263	283	161
KNOXVILLE	200	211	201
MEMPHIS	151	151	148
NASHVILLE	201	211	188
OAK RIDGE R	227	249	231
TEXAS			
ABILENE	192	192	99
AMARILLO	374	375	223
AUSTIN	69	69	31
BROWNSVILLE	0	0	0
CORPUS CHRISTI	10	10	0
DALLAS	116	116	62
DEL RIO	62	62	31
EL PASO	62	62	84
FORT WORTH	116	116	65
GALVESTON U	9	9	0
HOUSTON	29	29	25
LUBBOCK	312	315	192
MIDLAND	216	216	87
PORT ARTHUR	22	22	22
SAN ANGELO	122	122	68
SAN ANTONIO	52	52	31
VICTORIA	14	14	6
WACO	75	75	43
WICHITA FALLS	235	236	99
UTAH			
MILFORD	637	669	542
SALT LAKE CITY	530	548	500
WENDOVER	572	590	420
VERMONT			
BURLINGTON	589	915	8[illegible]
VIRGINIA			
LYNCHBURG	294	352	274
NORFOLK	131	139	136
RICHMOND	221	266	250
ROANOKE	274	327	280
WALLOPS ISLAND	215	238	
WASHINGTON			
OLYMPIA	494	909	759
QUILLAYUTE	462	1177	990
SEATTLE TACOMA	381	623	671
SPOKANE	655	931	695
STAMPEDE PASS R	791	1925	1658
WALLA WALLA U	436	495	397
YAKIMA	542	748	606
WEST VIRGINIA			
BECKLEY	400	570	513
CHARLESTON	352	447	317
ELKINS	462	630	569
HUNTINGTON	320	392	320
PARKERSBURG U	294	365	324
WISCONSIN			
GREEN BAY	619	891	736
LA CROSSE	540	681	621
MADISON	579	803	713
MILWAUKEE	539	721	735
WYOMING			
CASPER	834	911	738
CHEYENNE	859	978	803
LANDER	833	905	784
SHERIDAN	811	988	814

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
COLD BAY			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
KING SALMON			
KOTZEBUE			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
TUCSON			
[illegible]			
YUMA			
[illegible]			
[illegible]			
[illegible]			
CALIFORNIA			
[illegible]			
[illegible]			
BLUE CANYON			
[illegible]			
[illegible]			
[illegible]			
LOS ANGELES		536	
[illegible]			
[illegible]		314	
[illegible]		56	
RED BLUFF		2073	
[illegible]			
SANDBERG R		872	
[illegible]			
SAN FRANCISCO			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]		721	
GRAND JUNCTION		1329	
[illegible]			
CONNECTICUT			
BRIDGEPORT		725	
[illegible]			
[illegible]			
[illegible]			
DIST. OF COLUMBIA			
WASH NAT'L AP			
FLORIDA			
APALACHICOLA U			
[illegible]	383		
FORT MYERS			
JACKSONVILLE		2793	
[illegible]	481	4113	
[illegible]			
MIAMI	478		
ORLANDO			
[illegible]	211	2477	
TALLAHASSEE			
TAMPA	377		
WEST PALM BEACH	438	3307	
[illegible]			
ATHENS		1756	
ATLANTA	51		
[illegible]		1852	
[illegible]			
MACON	139		
[illegible]			
[illegible]			

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
[illegible]			
[illegible]	300	2837	
HONOLULU			
KAHULUI			
[illegible]	381		
[illegible]			
[illegible]			
[illegible]			
POCATELLO		435	
ILLINOIS			
CAIRO U		1823	
[illegible]			
[illegible]	35	1001	
[illegible]	41	931	
[illegible]	30		
ROCKFORD		671	
SPRINGFIELD	37	1162	
[illegible]			
EVANSVILLE			
[illegible]			
INDIANAPOLIS	18	975	
SOUTH BEND		757	
[illegible]			
BURLINGTON		913	
[illegible]		989	
DUBUQUE	22		
[illegible]	8		
WATERLOO	12	575	
KANSAS			
CONCORDIA	31	1183	
[illegible]	37		
[illegible]		975	
[illegible]	32	1233	
[illegible]	45	1558	
KENTUCKY			
COVINGTON	31		
LEXINGTON	57		
LOUISVILLE	49	1307	
LOUISIANA			
[illegible]	202		
LAKE CHARLES	209	2531	
[illegible]	213	2491	
SHREVEPORT	177	2641	
MAINE			
[illegible]			
[illegible]		447	
[illegible]			
BALTIMORE			
[illegible]			
[illegible]		563	
BOSTON		746	
NANTUCKET		360	
WORCESTER			
[illegible]			
[illegible]			
[illegible]		757	
[illegible]		741	
FLINT			
GRAND RAPIDS			
HOUGHTON LAKE			
LANSING		663	
[illegible]		412	
[illegible]		565	
[illegible]		164	
MINNESOTA			
[illegible]			
INTERNATIONAL FALLS		237	
[illegible]			
ROCHESTER			
MISSISSIPPI			
JACKSON		2264	
MERIDIAN			
[illegible]			
[illegible]		1368	
KANSAS CITY		1534	
ST. JOSEPH		1556	
ST LOUIS			
[illegible]			
MONTANA			
BILLINGS			
GLASGOW			
GREAT FALLS			
HAVRE			
[illegible]			
[illegible]			
[illegible]		822	
MISSOULA			

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
NEBRASKA			
[illegible]			
LINCOLN U			
NORFOLK			
NORTH PLATTE			
OMAHA			
SCOTTSBLUFF			
VALENTINE			
NEVADA			
[illegible]			
LAS VEGAS			
[illegible]			
WINNEMUCCA			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
ATLANTIC CITY			
ATLANTIC CITY U			
[illegible]			
TRENTON U			
[illegible]			
[illegible]			
CLAYTON			
[illegible]			
NEW YORK			
ALBANY		556	
[illegible]		384	
BUFFALO		568	
[illegible]		1117	
NEW YORK U		1234	
[illegible]			
ROCHESTER			
SYRACUSE		624	
[illegible]			
ASHEVILLE			
[illegible]			
[illegible]		1565	
GREENSBORO			
[illegible]		1264	
WILMINGTON		1791	
NORTH DAKOTA			
BISMARCK		571	
FARGO			
WILLISTON			
[illegible]			
AKRON		632	
[illegible]		1165	
CLEVELAND		725	
COLUMBUS			
DAYTON			
MANSFIELD			
TOLEDO		656	
YOUNGSTOWN			
OKLAHOMA			
[illegible]			
[illegible]			
[illegible]			
ASTORIA			
[illegible]			
[illegible]			
MEACHAM		122	
[illegible]			
PENDLETON		719	
PORTLAND			
SALEM		183	
SEXTON SUMMIT R			
[illegible]			
JOHNSTON		4414	
[illegible]	541		
[illegible]			
[illegible]	544		
PAGO PAGO	487	4651	
PONAPE R		4667	
[illegible]		4304	
[illegible]	518	4956	
WAKE	578	4971	
YAP R		4845	
PENNSYLVANIA			
ALLENTOWN		791	
ERIE			
[illegible]	11	1027	
PHILADELPHIA	15	1128	
[illegible]	14	707	
[illegible]		954	
[illegible]		627	
[illegible]			
RHODE ISLAND			
BLOCK ISLAND			
[illegible]		761	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
[illegible]			
[illegible]			
[illegible]			
COLUMBIA	164		
[illegible]			
SOUTH DAKOTA			
ABERDEEN			
HURON			
[illegible]			
SIOUX FALLS		681	
[illegible]			
[illegible]			
CHATTANOOGA			
[illegible]		1346	
[illegible]			
NASHVILLE			
OAK RIDGE R			
TEXAS			
ABILENE			
AMARILLO		1713	
AUSTIN		2846	
BROWNSVILLE	390	3828	
[illegible]	300	3231	
DALLAS			
[illegible]		3189	
EL PASO	155	2624	
FORT WORTH		2579	
[illegible]		2982	
HOUSTON		2811	
LUBBOCK		1823	
[illegible]		2177	
[illegible]	247	2810	
[illegible]	113	2589	
SAN ANTONIO		2914	
VICTORIA			
[illegible]		3177	
[illegible]			
UTAH			
[illegible]			
[illegible]			
WENDOVER		1294	
[illegible]			
BURLINGTON			
[illegible]			
[illegible]			
NORFOLK		1587	
RICHMOND		1350	
ROANOKE		1091	
WALLOPS ISLAND		1178	
[illegible]			
[illegible]			
QUILLAYUTE			
SEATTLE TACOMA			
[illegible]			
STAMPEDE PASS R			
WALLA WALLA U			
[illegible]			
WEST INDIES			
SAN JUAN P.R.		4476	
[illegible]			
WEST VIRGINIA			
[illegible]			
CHARLESTON			
ELKINS			
HUNTINGTON			
[illegible]			
[illegible]			
GREEN BAY		403	
LA CROSSE			
MADISON			
MILWAUKEE			
[illegible]			
CASPER			
[illegible]			
LANDER			
SHERIDAN		355	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

OCTOBER 1969

STATE	TORNADOES: NUMBER	TORNADOES: DAYS	TORNADOES: DEATHS	TORNADOES: INJURIES	TORNADOES: †DAMAGE	HAILSTORMS: DEATHS	HAILSTORMS: INJURIES	HAILSTORMS: †DAMAGE PROP-ERTY	HAILSTORMS: †DAMAGE CROPS	WINDSTORMS: DEATHS	WINDSTORMS: INJURIES	WINDSTORMS: †DAMAGE PROP-ERTY	WINDSTORMS: †DAMAGE CROPS	LIGHTNING: DEATHS	LIGHTNING: INJURIES	LIGHTNING: †DAMAGE PROP-ERTY	LIGHTNING: †DAMAGE CROPS	‡ HEAVY SNOWSTORMS AND BLIZZARDS: DEATHS	‡ HEAVY SNOWSTORMS AND BLIZZARDS: INJURIES	‡ HEAVY SNOWSTORMS AND BLIZZARDS: †DAMAGE PROP-ERTY	‡ HEAVY SNOWSTORMS AND BLIZZARDS: †DAMAGE CROPS	# ICE STORMS: DEATHS	# ICE STORMS: INJURIES	# ICE STORMS: †DAMAGE PROP-ERTY	# ICE STORMS: †DAMAGE CROPS	ø ALL OTHER: DEATHS	ø ALL OTHER: INJURIES	ø ALL OTHER: †DAMAGE PROP-ERTY	ø ALL OTHER: †DAMAGE CROPS
Alabama *																													
Alaska										0	8	5	0																
Arizona *																													
Arkansas	1	1	0	1	3					0	0	4	0																
California	1	1	0	0	0					0	0	5	0																
Colorado																		0	2	5	6								
Connecticut *																													
Delaware *																													
Florida	3	3	0	0	0					0	0	4	0	1	0	0	0									0	0	6	0
Georgia *																													
Hawaii *																													
Idaho										0	1	4	0					0	0	?	?					0	1	0	5
Illinois	2	1	0	4	5					0	0	°5	C																
Indiana										0	3	5	0																
Iowa *																													
Kansas	1	1	0	0	0									1	0	4	0									0	0	4	3
Kentucky										0	0	4	0	0	0	3	0												
Louisiana	1	1	0	0	4																					0	0	4	?
Maine										0	0	4	0					0	0	4	0								
Maryland *																													
Massachusetts										0	0	4	0	0	0	2	0									0	0	4	0
Michigan *																													
Minnesota						0	0	0	3	0	0	4	0	1	0	4	0												
Mississippi *																													
Missouri	2	1	0	0	5	0	0	0	5	0	1	4	0													0	0	5	0
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire																		0	0	4	0								
New Jersey *																													
New Mexico *																													
New York *																													
North Carolina	3	1	0	0	5					0	0	4	0													0	0	5	5
North Dakota *																													
Ohio *																													
Oklahoma	1	1	0	0	4	0	0	?	6	0	0	5	5	0	0	4	0									0	0	?	?
Oregon *																													
Pacific Area																										0	0	°4	C
Pennsylvania																2													
Puerto Rico	1	1	0	0	2																					1	0	0	0
Rhode Island *																													
South Carolina	2	2	0	0	3																								
South Dakota *																													
Tennessee *																													
Texas	8	3	0	5	6	0	0	?	?	0	1	5	0	0	0	5	0									4	0	8	5
Utah *																													
Vermont																		0	0	4	0								
U. S. Virgin Is. *																													
Virginia *																													
Washington *																													
West Virginia *																													
Wisconsin										2	3	5	0	0	0	4	0												
Wyoming *																													

C Crop damage
° Includes crop damage

* No occurrence of storms or unusual weather phenomena.

‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

OCTOBER 1969

Elmer R. Nelson, Office of Hydrology

Major flooding occurred in the lower Marais des Cygnes Basin in Kansas during October. Crests ranged from 4 to 8 ft. above flood stage. Agricultural losses were estimated at $1.25 million. Record flooding occurred on the lower Salt River and on the Cuivre River in Missouri. Extensive damage resulted to crops.

ATLANTIC SLOPE DRAINAGE

Heavy rain (2 to 4 inches) on the 1st and 2d caused minor flooding on the lower Cape Fear and the middle portion of the Neuse River in North Carolina on the 4-6th. The crests on the Cape Fear River averaged slightly over 2 feet above flood stage and on the Neuse, slightly above flood stage.

Flooding continued along the Lumber River at Lumberton, N. C., from Sept. 25 to Oct. 16. The crest on the 10th was 2.3 ft. above flood stage. Damage was minor and mainly to residential property.

Minor flooding occurred on the Satilla River near Atkinson, Ga., on the 3d-7th. No flood damage was reported.

EAST GULF OF MEXICO DRAINAGE

Light to moderate flooding occurred on the Hillsborough and Alafia Rivers between the 3d and 5th. The crests on the 4th were less than 1 foot above flood stage. Light flooding occurred on the Withlacoochee River at Croom, Fla., on the 6-17th. The crest on the 9th was less than 0.5 foot above flood stage. The flooding was due to heavy rains accompanying Hurricane Jenny. In the vicinity of Sebring, Fla., the District Soil Conservationist estimated 500 acres of citrus groves were flooded as well as many homes, trailers, and roads. The estimate of damage is approximately $1 million.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Heavy rains on the 10-13th caused considerable flooding on streams in northeast Missouri and west-central Illinois. Rainfall totals ranged from over 5 inches to more than 10 inches. One of the hardest hit areas was the Cuivre River Basin in east-central Missouri. A survey of the area from Old Monroe, Mo., to Troy, Mo., revealed that the flooding was probably the highest of record, exceeding the previous record flood of 1941. High water topped the levees which protected much of the area, flooding and severely damaging homes behind the levees. There was also considerable crop damage since corn and other crops were still in the fields. Widespread serious flooding occurred along the lower Salt River where a record crest of 30.62 ft. was reached at New London, Mo., on the 14th. Flood stage at this point is 19 ft. The previous highest crest of record was 29.92 ft. on Aug. 2, 1958. Extensive damage resulted to crops along the Salt River.

The heaviest flooding in Illinois occurred on the Illinois River at Meredosia, Ill., where flood stage was exceeded by 4.8 ft. The river was out of its banks from the 16th to the 25th, a period of 10 days. Other streams affected by the heavy rains were the Sangamon, Lamoine, and Kaskaskia, which exceeded flood stage by up to 4 ft.

The main stem of the Mississippi River exceeded flood stage in the lower reach at and below Winfield, Mo., a distance of 205 miles. The average overflow was 2 to 4 ft.

Missouri Basin.--Considerable flooding occurred in streams in northwestern and central Missouri near the middle of the month. This was due to heavy rains on the 9th, 10th, 12th, and 13th. The rains averaged more than 1 inch on the 9-10th with some stations reporting more than 3 inches. The rain was the heaviest in west-central Missouri on the 12-13th with an unofficial amount of 7 inches at Pleasant Hill, Mo., which closed highways east and west of the city. A busy intersection in Kansas City was inundated to a depth of 1 foot. U. S. Highway 71, south of Kansas City, was under water for a short time.

The Moreau River near Jefferson City, Mo., crested 8.5 ft. above flood stage on the 14th. The Marmaton River at Nevada, Mo., crested at a stage of 26.2 ft. on the 13th, 4.2 ft. above flood stage. Only minor flooding occurred downstream at Fort Scott, Kans.

Major flooding occurred in the lower Marais des Cygnes Basin below Ottawa, Kans., during midmonth. Crests ranged from 4 to 8 ft. above flood stage from Osawatomie downstream and also on Pottawatomie Creek. Minor flooding occurred on the upper Marais des Cygnes River at Quenemo, Kans. The flooding was due to 4- to 6-inch rains on the 10-12th. Additional rainfall of an inch or more on the 18th delayed the recession of the lower Marais des Cygnes and produced moderate rises upstream. Agricultural losses were heavy in the lower Marais des Cygnes Valley with preliminary estimates in excess of $1.25 million, mainly to late-planted corn, soybeans, and sorghums still in the fields and to some new-sown wheat. The same area had been flooded in June, and many fields had not been replanted; so, the acreage of crop loss was not as great as it would have been.

Some flooding occurred on the lower Missouri River from Boonville, Mo., to its mouth between the 13th and 19th. Crests on the 14th ranged from 3.4 ft. above flood stage at Boonville, Mo., to 8 ft. above flood stage at Hermann, Mo. The crest at St. Charles, Mo., on the 15th was 6.2 ft. above flood stage.

Ohio Basin.--Moderate to heavy rain on the 11th to the 12th caused minor flooding on the Skillet Fork and Little Wabash Rivers in Illinois on the 12-14th. Storm totals in the lower Wabash River Basin exceeded 5 inches. The streams rose rapidly to above bankfull stage, causing minor flooding of adjacent farmland. No damage resulted from this flooding.

Arkansas Basin.--Heavy rain (5 to 6 inches) on the 11-13th caused flooding of streams in northeastern Oklahoma and southeastern Kansas. The total storm rainfall at Webbers Falls, Okla., was 13.3 inches and at Checotah, Okla., 12.27 inches. All streams had crested higher previously during 1969 except Bird Creek at Sperry, Okla., which reached its highest stage since March 1968. The crest on the 13th was 5.1 ft. above flood stage. A bridge on North Lewis Avenue and part of 96th Street northeast of Sperry were under water during the night of the 13th. State highway east of Skiatook was closed most of the 13th. Damages from the flooding was minor.

The excessively heavy rain on the 11-12th caused some creeks to overflow in the vicinity of Calvin, Okla. Minor flooding occurred on Deep Fork from Welty to near Beggs, Okla., and on Coal Creek west of McAlester on the 12th. Residents reported that Coal Creek was the highest in several years. Some homes in Henryetta, Okla., was flooded due to surface drainage. U. S. Highway east of Henryetta was briefly under water.

Red Basin.--Minor flooding occurred in the headwaters

of the Red Basin during October. Brief flooding occurred on the Blue River at Blue, Okla., on the 14th. Clear Boggy Creek at Caney, Okla., was out of its banks on the 13-16th. The Sulphur River at Hagansport, Tex., crested nearly 6 ft. above flood stage on Oct. 31 and receded within its banks on Nov. 1. Rainfall during the month ranged from 5 to near 12 inches in southeastern Oklahoma and 2 to near 7 inches in northeastern Texas and southwestern Arkansas. Most of the rain fell during the middle and last of the month.

WEST GULF OF MEXICO DRAINAGE

Heavy rain during the afternoon and night of the 4th over the upper Colorado River Basin in Texas caused rapid rises on tributary streams. The Llano River at Llano, Tex., crested at 26 ft. which was high enough to release tons of debris and mud downstream into Lake Lyndon B. Johnson. The lake level rose 3 ft. in a short time, necessitating the opening of the flood gates on the dam. The outflow caused the level of Lake Marble Falls, just below the dam, to rise 6 ft. in a short time. The widespread heavy rains took the life of a young resident as he attempted to drive across a flooded low water crossing. The high and rapid rises on the usual constant level lakes caused much damage to boat docks, boats, pumps, and pump houses and other personal and public property.

Heavy rains over the upper Nueces on the night of the 4th and moderate rains over most of the lower watershed on the 5th caused flooding in the Nueces Basin at and below Crystal City, Tex. Moderate flash flooding occurred on the upper Frio from Garner State Park southward. All roads out of Uvalde were closed on the morning of the 5th except U. S. Highways 90 and 83. Two persons were drowned in a car in the flood on the Dry Frio. Moderate flooding occurred on the Nueces at Cotulla, Tex., and minor flooding above and below.

Heavy rains on the morning of the 12th caused flash flooding on the Nueces and Frio Rivers north of Uvalde, Tex., through the 12th. Considerable flooding continued on the Nueces north of U. S. Highway 90 through the 13th and moved downstream to Crystal City on the 14th. Bankfull stages continued downstream below Crystal City. Low water crossings were closed on the West Nueces with minor flooding continuing through the 13th. Moderate flooding occurred on the Frio near Derby, Tex., on the 14th and 15th. Minor flooding occurred below Derby through the 20th.

Heavy rains on the 27th caused moderate flooding on Turkey Creek from the 28th to Nov. 2. A moderate rise moved down the Nueces below Turkey Creek, with bankfull stages at Cotulla through the end of the month. Minor flooding occurred near Tilden through the first week of November. Flash flooding closed numerous roads on the 27th in the vicinity of Uvalde, Tex., to near Blewett.

Lake Corpus Christi filled to the capacity level of 94 feet on the 19th and remained at that level or slightly higher through the end of the month. Below Wesley Seale Dam bankfull stage with occasional minor flooding occurred from the 20th into November.

FLOOD STAGE DATA

(All dates in October unless otherwise specified) OCTOBER 1969

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Neuse: Smithfield, N. C.	13	4	6	13.1	4
Cape Fear: Wm. O. Huske L&D, N. C.	42	4	5	44.2	1
Lock No.2, Elizabethtown, N. C.	20	4	5	22.1	5
Lumber: Lumberton, N. C.	8	Sep. 25	16	#10.3	10
Satilla: Atkinson (nr), Ga.	13	3	7	13.4	1
EAST GULF OF MEXICO DRAINAGE					
Withlacoochee: Croom, Fla.	8	6	17	8.4	9
Hillsborough: Zephyrhills (State Park), Fla.	10	3	4	10.9	4
Alafia: Lithia, Fla.	13	4	5	13.8	4
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Salt: New London, Mo.	19	11	16	30.6	14
Sangamon: Riverton, Ill.	18	13	22	21.8	15
Petersburg, Ill.	497	17	20	499.0	19
Oak Ford, Ill.	471	19	20	471.0	19
LaMoine: Ripley, Ill.	22	13	20	23.7	17
Illinois: Beardstown, Ill.	14	14	24	15.6	16-18
Meredosia, Ill.	10	16	25	14.8	17-20
Kaskaskia: Vandalia, Ill.	18	14	20	20.1	16
Big Muddy: Murphysboro, Ill.	16	16	20	17.9	17-18
Mississippi: Winfield, Mo.	25	14	16	26.4	14
Grafton, Ill.	18	14	18	20.9	15
Alton, Ill.	21	14	18	25.4	16
St. Louis, Mo.	30	14	18	32.3	16
Chester, Ill.	27	15	20	30.8	17
Cape Girardeau, Mo.	32	16	20	34.5	18
Thebes, Ill.	33	17	18	33.7	18
Missouri Basin					
Blue: Kansas City (Bannister), Mo.	21	12	13	#25.6	12
Little Blue: Lake City (nr), Mo.	18	12	15	26.0	13
Crooked: Richmond (nr), Mo.	20	13	13	22.05	12
Wakenda: Carrollton, Mo.	20	13	13	23.4	13-14
Grand: Sumner, Mo.	26	13	14	27.6	14
Brunswick, Mo.	12	12	14	#13.55	14
Lamine: Clifton City, Mo.	19	12	15	31.5	13
Blackwater: Valley City, Mo.	20	11 19	14 19	24.4 29.2 21.75	11 13 19
Blue Lick, Mo.	25	12	19	31.85	15-16
Moniteau Creek: Fayette, Mo.	16	D	D	20.8	13
Moreau: Jefferson City (nr), Mo.	20	11	14	28.5	14
Pottawatomie Creek: Garnett (nr), Kans.	26	12	13	31.95	12
Lane, Kans.	23	12	15	30.6	13
Marmaton: Nevada, Mo.	22	11	14	26.2	13
Fort Scott, Kans.	38	13	13	38.3	13
Little Osage: Horton, Mo.	23	11	20	27.5	15
Big Creek: Blairstown, Mo.	20	11	16	23.7	14
South Grand: Urich, Mo.	22	13	16	26.5	14
Brownington, Mo.	19	11	23	31.3	16

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Marais de Cygnes: Quenemo, Kans.	28	13	13	29.6	13
Osawatomie, Kans.	28	13	16	36.3	14
LaCygne, Kans.	25	13	18	31.25	17
Trading Post, Kans.	24	13	19	28.0 28.3	14 16
Kansas-Missouri State Line	25	D	D	30.2	14,16
Osage: Schell City, Mo.	25	13	26	33.3	17
Osceola, Mo.	22	19	23	23.0	20
Missouri: Boonville, Mo.	21	13	16	24.4	14
Jefferson City, Mo.	23	12	15	26.8	14
Hermann, Mo.	21	13	18	28.7	14
St. Charles, Mo.	25	13	19	31.2	15
Ohio Basin					
Skillet Fork: Wayne City, Ill.	15	12	14	17.1	11
Little Wabash: Wilcox, Ill.	16	12	13	#17.3	13
Arkansas Basin					
Little Caney: Copan, Okla.	21	13	16	22.4	14
Caney: Ramona, Okla.	27	13	13	27.7	13
Bird Creek: Avant, Okla.	16	12	13	17.8	12
Sperry, Okla.	21	12	14	26.1	13
Owasso, Okla.	24.5	13	15	#27.5	14
Virdigris: Altoona (nr), Kans.	23	13	14	#23.6	13
Neosho: Iola (nr), Kans.	20	12	14	#26.5	13
Chanute (nr), Kans.	24	12	15	#31.1	14
Oswego (nr), Kans.	17	13	17	20.6	16
Commerce, Okla.	15	13	18	17.9	14
Red Basin					
Blue: Blue, Okla.	21	14	14	21.2	14
Clear Boggy Creek: Caney, Okla.	19	13	16	23.5	14
Sulphur: Hagansport, Tex.	38	31	Nov. 1	43.7	31
WEST GULF OF MEXICO DRAINAGE					
Turkey Creek: Crystal City, Tex.	8	7 28	9 Nov. 2	11.1 10.9	7 30
Sabinal: Sabinal, Tex.	14	5	5	20.25	5
Frio: Derby (nr), Tex.	6	6 14 28	9 15 29	9.5 9.1 6.8	7 14 28
Tilden, Tex.	12	9 18	13 20	19.6 18.8	11 18
Calliham, Tex.	12	6 11 19	7 14 20	15.4 18.8 15.3	7 12 18
Nueces: Crystal City, Tex.	4	6 14	6 14	7.5 6.5	6 14
Asherton 6NE, Tex.	20	7	8	25.7	7
Cotulla, Tex.	15	8	10	15.6	8
Tilden 11S, Tex.	14	14 24 31	21 27 Nov. 12	17.3 15.8 17.4	17 25 Nov. 1
Mathis 4SW, Tex.	15	20	22	20.8	21
Calallen, Tex.	7	22	24	7.5	23

* Provisional
\# Highest stage observed
__ Exceeded previous highest stage of record
D Data not available

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	86	4.8	2.8	26	.6
1000	31	166			28	1.1
950	31	591	7.3	1.7	27	4.0
900	31	1,034	5.8	-1.5	28	6.0
850	31	1,502	4.9	-4.5	28	7.9
800	31	1,996	3.5	-7.9	27	9.6
750	31	2,515	1.2	-10.1	27	10.4
700	31	3,071	-1.5	-13.8	27	11.5
650	31	3,655	-4.6	-17.9	27	13.8
600	31	4,285	-7.7	-22.0	27	15.4
550	31	4,954	-11.5	-25.4	27	17.2
500	31	5,682	-16.3	-29.5	27	18.7
450	31	6,464	-21.3	-33.6	27	20.5
400	31	7,327	-27.3	-38.3	27	23.5
350	31	8,275	-34.3	-45.0	27	26.4
300	31	9,336	-41.9	-50.0	27	28.5
250	31	10,548	-49.8		27	33.3
200	31	11,985	-55.8		27	33.8
175	31	12,831	-57.9		27	29.9
150	31	13,798	-59.8		27	28.8
125	31	14,932	-61.6		27	25.7
100	31	16,312	-62.2		27	20.6
80	30	17,697	-60.9		28	15.9
70	30	18,528	-60.1		28	14.3
60	29	19,496	-59.3		28	12.0
50	28	20,644	-58.4		28	11.3
40	27	22,058	-57.0		28	10.6
30	27	23,892	-53.8		27	10.6
25	27	25,067	-52.3		27	11.5
20	26	26,520	-49.8		27	16.9
15	26	28,413	-47.4		26	19.2
10	23	31,127	-43.2		26	23.4
7	7	33,600	-40.6			
5						

ALBUQUERQUE, N. MEX. — 837 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,619	7.2	.1	36	1.4
1000	31	128				
950	31	557				
900	31	1,017				
850	31	1,492				
800	31	1,994	8.7	-2.3	27	1.5
750	31	2,527	6.0	-3.8	24	5.2
700	31	3,088	2.5	-7.2	25	8.4
650	31	3,683	-1.4	-12.1	25	10.3
600	31	4,318	-4.6	-18.3	25	12.4
550	31	4,994	-8.6	-23.3	25	14.2
500	31	5,732	-13.4	-27.6	25	17.4
450	31	6,519	-18.6	-32.8	26	18.3
400	31	7,396	-24.6	-38.3	26	20.0
350	31	8,353	-31.9	-44.7	26	23.0
300	31	9,424	-39.8	-51.5	26	24.9
250	31	10,646	-48.5		26	24.5
200	31	12,091	-55.0		26	25.9
175	31	12,938	-57.9		26	26.4
150	31	13,903	-60.6		26	22.9
125	28	15,025	-64.0		26	19.4
100	27	16,385	-65.5		26	15.7
80	27	17,747	-63.2		26	10.0
70	27	18,572	-60.8		26	8.0
60	26	19,533	-59.8		26	6.2
50	26	20,674	-58.4		26	4.2
40	26	22,082	-56.6		25	4.0
30	25	23,914	-54.2		27	6.0
25	23	25,093	-52.3		26	8.0
20	22	26,546	-50.0		26	9.4
15	19	28,443	-46.8		26	12.1
10	9	31,223	-41.9			

AMARILLO, TEXAS — 891 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,095	7.7	3.4	15	.5
1000	31	133				
950	31	563				
900	31	1,021				
850	31	1,487	8.4	3.0	22	3.7
800	31	1,990	8.8	1.6	24	6.0
750	31	2,524	7.5	-2.5	24	8.3
700	31	3,089	4.3	-5.5	24	10.7
650	31	3,685	.3	-9.8	24	11.8
600	31	4,326	-3.4	-14.5	24	13.4
550	31	5,001	-7.7	-19.8	24	15.7
500	31	5,744	-12.5	-25.2	24	15.9
450	31	6,532	-17.9	-30.9	25	18.2
400	31	7,411	-24.6	-36.9	25	21.1
350	31	8,370	-31.7	-43.7	25	22.9
300	31	9,442	-39.5	-49.8	25	27.4
250	31	10,667	-48.1		25	30.7
200	31	12,111	-55.6		25	32.2
175	31	12,956	-58.3		25	32.0
150	31	13,919	-61.6		25	29.4
125	31	15,040	-64.5		25	25.2
100	31	16,395	-66.1		25	19.7
80	30	17,751	-64.4		25	12.5
70	29	18,573	-61.7		25	9.3
60	29	19,531	-60.1		25	6.7
50	28	20,672	-59.1		25	4.4
40	27	22,073	-56.9		26	4.7
30	27	23,905	-54.5		26	5.9
25	26	25,073	-52.6		26	7.2
20	24	26,525	-50.2		26	9.8
15	21	28,415	-46.7		25	13.1
10	13	31,118	-41.8			

* ANCHORAGE, ALASKA — 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	45	3.9	-.9	12	1.2
1000	31	54			09	1.6
950	31	475	5.6	-3.2	11	3.7
900	31	914	4.2	-5.0	12	5.6
850	31	1,377	1.1	-6.8	13	7.9
800	31	1,862	-1.9	-8.7	14	9.1
750	31	2,375	-5.0	-11.2	15	9.4
700	31	2,912	-8.0	-15.6	15	10.3
650	31	3,482	-11.3	-18.9	16	11.1
600	31	4,094	-15.2	-24.2	16	11.6
550	31	4,742	-19.6	-28.3	16	11.0
500	31	5,447	-24.7	-32.8	16	11.6
450	31	6,202	-30.2	-38.6	17	12.8
400	31	7,033	-36.2	-43.2	17	13.5
350	31	7,946	-42.9		17	13.1
300	31	8,970	-49.7		17	15.1
250	31	10,148	-54.5		18	15.3
200	30	11,570	-54.4		19	11.6
175	30	12,428	-53.3		20	10.2
150	30	13,420	-53.3		21	9.6
125	30	14,594	-53.2		21	8.8
100	30	16,031	-53.2		22	7.8
80	29	17,465	-53.4		24	7.7
70	28	18,326	-53.6		25	8.1
60	28	19,317	-53.5		26	8.3
50	26	20,480	-54.7		27	8.8
40	25	21,899	-55.3		29	9.9
30	23	23,721	-56.4		29	11.5
25	22	24,884	-56.6		30	14.4
20	20	26,308	-56.8		31	18.1
15	16	28,087	-58.2		31	19.1
10	9	30,584	-58.4			

* ANNETTE, ALASKA — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	37	8.5	4.9	13	1.5
1000	31	127	8.9	3.9	12	2.4
950	31	551	7.5	1.2	15	5.4
900	31	996	5.4	-2.0	16	5.7
850	31	1,461	2.8	-4.8	16	6.5
800	31	1,950	.3	-7.8	17	6.4
750	31	2,461	-2.5	-11.9	18	6.6
700	31	3,010	-5.2	-15.7	18	7.5
650	31	3,583	-8.6	-19.1	18	7.1
600	31	4,205	-12.6	-22.6	19	6.6
550	31	4,859	-17.1	-26.2	20	6.9
500	31	5,574	-21.8	-31.5	20	7.5
450	31	6,335	-27.2	-36.7	21	7.3
400	31	7,182	-33.3	-40.9	21	7.4
350	31	8,107	-40.1	-45.5	21	8.0
300	31	9,145	-46.2		21	7.1
250	31	10,341	-52.0		24	7.1
200	31	11,770	-56.5		23	7.5
175	30	12,627	-56.0		24	8.2
150	30	13,609	-55.6		24	8.2
125	30	14,769	-56.5		26	7.6
100	29	16,181	-56.4		26	6.3
80	29	17,598	-56.1		27	5.5
70	29	18,447	-56.0		28	5.7
60	29	19,426	-56.5		28	6.1
50	29	20,582	-56.6		30	5.4
40	29	21,996	-56.9		31	5.8
30	28	23,820	-57.3		32	6.7
25	27	24,964	-57.4		32	8.7
20	25	26,407	-56.7		32	8.0
15	24	28,223	-56.6		32	10.0
10	21	30,819	-56.2		32	12.9
7	16	33,036	-55.1		31	19.2
5	10	35,273	-51.6			

ATHENS, GEORGIA — 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	12.6	9.4	04	2.3
1000	31	167				
950	31	601	14.2	9.1	07	5.6
900	31	1,056	13.0	6.4	09	4.0
850	31	1,536	11.3	2.7	15	2.1
800	31	2,041	9.4	-1.5	23	2.7
750	31	2,576	7.4	-5.2	25	3.4
700	31	3,141	5.4	-9.5	26	4.6
650	31	3,742	2.4	-12.7	26	5.9
600	31	4,386	-.8	-17.4	26	6.8
550	31	5,071	-4.7	-22.2	26	8.5
500	31	5,820	-9.5	-25.9	26	10.0
450	31	6,621	-14.8	-30.8	26	12.7
400	31	7,507	-21.4	-35.5	27	15.1
350	31	8,477	-28.6	-42.0	27	18.3
300	31	9,562	-36.7	-48.0	27	22.1
250	31	10,803	-45.1		27	27.1
200	31	12,260	-54.8		27	30.7
175	31	13,104	-59.9		26	31.8
150	31	14,054	-65.3		26	29.6
125	31	15,152	-69.4		27	23.5
100	31	16,479	-70.3		27	15.8
80	31	17,813	-67.3		27	8.7
70	31	18,622	-64.9		27	5.6
60	31	19,568	-62.5		27	3.0
50	31	20,698	-60.1		30	2.3
40	31	22,101	-56.8		31	2.4
30	31	23,943	-52.3		27	3.0
25	30	25,125	-50.1		26	4.0
20	29	26,590	-47.4		25	5.3
15	27	28,503	-44.9		26	8.4
10	17	31,255	-40.5		27	17.1
7	7	33,663	-36.7			
5						
4						

BARROW, ALASKA — 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	■	-9.1	-10.4	08	1.8
1000	30	104			09	2.0
950	30	506	-7.3	-10.0	09	1.8
900	30	926	-6.8	-10.7	12	1.2
850	30	1,372	-7.1	-13.0	21	1.6
800	30	1,844	-8.7	-15.3	23	2.4
750	30	2,343	-11.0	-17.2	23	4.5
700	30	2,870	-13.3	-19.8	22	5.8
650	30	3,429	-16.3	-23.3	22	8.0
600	30	4,030	-19.6	-26.8	23	10.5
550	30	4,664	-23.7	-30.9	23	11.8
500	30	5,361	-28.2	-34.8	22	12.6
450	30	6,103	-33.5	-38.4	22	14.7
400	30	6,925	-39.3	-42.4	22	17.7
350	30	7,828	-45.6		23	19.3
300	30	8,840	-52.1		23	21.1
250	30	10,008	-56.4		23	20.7
200	30	11,425	-55.7		23	17.6
175	30	12,278	-54.5		23	15.4
150	30	13,267	-53.9		23	15.1
125	30	14,439	-53.5		23	14.2
100	30	15,873	-54.2		24	13.3
80	27	17,304	-54.6		25	13.4
70	27	18,157	-55.4		25	12.6
60	26	19,134	-56.3		26	14.1
50	26	20,289	-57.2		26	15.1
40	23	21,696	-58.5		27	15.0
30	16	23,534	-59.0		27	15.4
25	15	24,667	-59.5		28	17.9
20	13	26,091	-59.8		28	16.6

BARTER IS., ALASKA — 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	-5.6	-7.7	12	2.0
1000	31	100			11	2.5
950	31	504	-4.0	-8.2	11	2.1
900	31	933	-2.3	-9.5	16	1.0
850	31	1,387	-2.9	-10.3	21	2.2
800	31	1,866	-4.8	-13.0	23	3.7
750	31	2,365	-7.4	-15.4	23	4.5
700	31	2,907	-10.0	-18.0	24	6.2
650	31	3,467	-13.0	-21.0	24	7.9
600	31	4,082	-16.7	-24.4	24	9.7
550	31	4,724	-20.8	-28.5	24	10.7
500	31	5,429	-25.3	-33.5	24	12.2
450	31	6,180	-30.1	-37.7	24	14.2
400	31	7,014	-36.5	-41.0	24	16.6
350	31	7,926	-43.3	-44.0	24	19.0
300	31	8,946	-50.8		24	20.6
250	31	10,115	-56.8		24	19.7
200	31	11,521	-58.0		24	18.2
175	31	12,366	-56.4		25	17.1
150	31	13,349	-55.0		25	15.8
125	31	14,514	-54.9		25	13.3
100	31	15,941	-54.7		26	12.7
80	30	17,367	-55.4		26	13.3
70	30	18,217	-55.8		27	13.1
60	30	19,197	-56.5		27	12.1
50	30	20,351	-57.7		27	14.2
40	30	21,755	-58.8		28	15.8
30	27	23,594	-59.2		29	16.5
25	25	24,718	-60.1		29	18.6
20	18	26,106	-60.4		29	20.5
15	12	27,932	-60.7			

BETHEL, ALASKA — 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	25	39	.5	-.5	05	3.0
1000	25	51			10	1.9
950	25	466	1.3	-3.1	09	4.5
900	25	899	.3	-6.1	11	4.4
850	25	1,356	-1.3	-10.0	14	4.4
800	25	1,837	-3.5	-12.3	15	4.7
750	25	2,343	-6.2	-14.7	15	5.3
700	25	2,882	-9.2	-17.2	15	4.8
650	25	3,448	-12.6	-21.2	15	5.8
600	25	4,059	-16.3	-25.3	15	6.5
550	25	4,700	-20.6	-30.2	16	7.2
500	25	5,407	-25.4	-34.7	16	8.3
450	25	6,156	-31.0	-40.0	16	9.4
400	25	6,988	-37.4	-44.3	16	9.8
350	25	7,897	-44.0		17	10.2
300	25	8,916	-50.1		18	10.0
250	25	10,096	-53.5		18	9.5
200	24	11,535	-54.8		20	6.0
175	24	12,390	-53.7		20	7.0
150	24	13,384	-52.5		20	7.8
125	24	14,561	-52.6		21	7.4
100	24	16,005	-52.1		21	7.0
80	23	17,446	-52.4		22	6.7
70	23	18,309	-52.6		24	6.8
60	23	19,304	-52.8		25	7.[illegible]
50	23	20,480	-53.2		26	8.2
40	22	21,919	-53.5		27	9.3
30	22	23,768	-54.2		28	11.0
25	18	24,932	-54.9		29	12.7
20	15	26,369	-54.7		28	12.8
15	13	28,240	-54.0		28	16.6
10	6	30,839	-54.3			

* BISMARCK, N. DAK. — 956 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	503	1.5	-2.2	28	1.9
1000	31	141				
950	31	557			29	2.7
900	31	992	1.7	-3.5	30	5.8
850	31	1,452	.4	-6.8	30	6.9
800	31	1,937	-1.6	-9.8	30	6.6
750	31	2,446	-3.4	-12.2	29	8.0
700	31	2,994	-5.6	-14.7	29	7.8
650	31	3,565	-8.9	-17.2	29	8.9
600	31	4,188	-12.5	-20.5	28	10.6
550	31	4,844	-16.5	-25.4	28	11.3
500	31	5,558	-21.2	-30.3	27	12.0
450	31	6,326	-26.5	-35.4	27	13.2
400	31	7,170	-32.6	-40.4	27	13.2
350	31	8,097	-39.4	-44.7	27	14.5
300	31	9,137	-45.9		26	16.4
250	31	10,333	-51.8		26	19.4
200	31	11,766	-55.2		26	21.5
175	31	12,619	-55.1		26	20.6
150	31	13,603	-55.6		27	20.0
125	31	14,762	-56.7		27	17.2
100	31	16,176	-56.8		27	14.9
80	31	17,587	-57.5		27	12.8
70	31	18,430	-57.6		28	11.8
60	30	19,407	-58.2		28	11.5
50	30	20,554	-58.8		28	10.8
40	30	21,956	-58.4		28	11.4
30	30	23,767	-57.4		28	12.2
25	30	24,920	-57.0		28	12.8
20	30	26,336	-55.7		27	15.3
15	30	28,178	-53.2		27	18.9
10	26	30,805	-49.3		26	26.3
7	22	33,148	-45.0		26	34.1
5	12	35,425	-39.9		26	36.2
4	■	37,034	-38.5			

BOISE, IDAHO — 917 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	871	3.7	-1.1	13	1.2
1000	31	159				
950	31	580				
900	31	1,023	6.8	-.6	28	.2
850	31	1,492	5.6	-3.5	32	1.7
800	31	1,986	2.7	-5.5	31	2.0
750	31	2,504	-.5	-8.2	30	3.1
700	31	3,054	-3.8	-12.2	29	4.3
650	31	3,634	-7.0	-16.6	30	5.0
600	31	4,257	-10.7	-21.8	30	6.4
550	31	4,914	-15.0	-26.2	29	7.2
500	31	5,635	-19.8	-30.5	30	8.5
450	31	6,400	-25.4	-36.8	30	10.2
400	31	7,253	-31.9	-42.0	30	11.6
350	31	8,184	-38.4	-46.0	30	13.7
300	31	9,229	-44.9		30	16.3
250	31	10,432	-50.5		31	18.9
200	31	11,870	-55.3		30	19.6
175	31	12,720	-56.2		30	18.3
150	31	13,698	-57.1		29	17.6
125	31	14,847	-58.4		29	15.9
100	31	16,247	-59.0		29	12.6
80	31	17,647	-58.8		28	9.2
70	31	18,484	-59.1		28	8.1
60	31	19,451	-59.0		28	7.3
50	30	20,591	-58.9		28	6.6
40	30	21,993	-58.3		28	6.2
30	30	23,810	-57.2		28	7.0
25	30	24,965	-56.4		28	9.1
20	30	26,386	-54.9		28	10.6
15	24	28,224	-52.6		27	14.0
10	10	30,836	-48.0			
7						
5						

* BROWNSVILLE, TEXAS — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	7	21.7	19.1	01	.9
1000	31	109	22.6	20.0	04	1.5
950	31	561	20.5	18.6	12	4.9
900	31	1,024	18.3	13.6	13	5.3
850	31	1,513	16.5	8.2	15	4.4
800	31	2,028	14.0	5.0	15	4.0
750	31	2,575	11.6	-.5	16	2.1
700	31	3,146	8.7	-5.1	24	1.0
650	31	3,758	5.0	-8.9	29	2.1
600	31	4,405	1.1	-14.4	27	3.6
550	31	5,095	-3.1	-18.3	26	3.6
500	31	5,849	-7.5	-23.7	25	5.7
450	31	6,660	-12.6	-28.9	25	6.9
400	31	7,552	-18.6	-34.1	24	9.2
350	31	8,533	-25.8	-39.4	24	12.1
300	31	9,632	-34.1	-46.1	24	14.3
250	31	10,883	-43.5		24	17.8
200	31	12,349	-54.5		25	20.6
175	31	13,192	-60.5		24	20.1
150	31	14,138	-66.9		24	18.6
125	30	15,225	-73.1		24	14.9
100	29	16,519	-75.9		24	10.7
80	29	17,816	-71.9		24	2.2
70	29	18,612	-67.3		10	2.4
60	29	19,549	-63.6		10	3.8
50	29	20,674	-60.9		10	4.2
40	28	22,071	-57.3		08	4.8
30	28	23,907	-53.0		08	4.5
25	27	25,084	-50.9		07	5.6
20	27	26,548	-47.5		08	6.6
15	25	28,457	-43.8		09	4.8
10	19	31,199	-38.9		10	6.3
7	14	33,663	-35.0		14	3.6
5	5	36,035	-32.9			

BUFFALO, N. Y. — 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	218	7.4	3.9	24	1.5
1000	31	162				
950	31	589	7.7	2.1	24	6.5
900	31	1,031	6.4	-1.5	25	7.6
850	31	1,498	4.4	-4.5	26	8.2
800	31	1,990	2.6	-7.5	26	8.0
750	31	2,511	.4	-9.8	26	10.6
700	31	3,061	-2.2	-12.8	27	12.5
650	31	3,647	-4.8	-16.4	26	13.8
600	31	4,273	-8.1	-20.4	27	15.6
550	31	4,939	-12.0	-24.3	26	18.5
500	31	5,666	-16.9	-28.1	26	20.2
450	31	6,449	-21.8	-33.1	27	21.1
400	31	7,308	-27.9	-39.2	27	22.4
350	31	8,253	-34.6	-44.0	27	23.8
300	31	9,312	-42.1	-47.3	26	24.9
250	31	10,524	-49.6		27	29.6
200	30	11,953	-55.8		27	32.3
175	28	12,807	-57.6		27	31.3
150	28	13,776	-59.6		27	28.6
125	28	14,910	-61.5		27	26.6
100	26	16,287	-61.4		27	22.5
80	26	17,674	-60.4		28	16.7
70	25	18,497	-59.8		28	13.9
60	25	19,462	-59.0		28	11.1
50	25	20,606	-58.7		28	9.9
40	25	22,011	-57.6		29	9.1
30	23	23,853	-54.9		29	8.2
25	20	25,004	-53.2		28	9.7
20	15	26,438	-49.9			
15	■	28,347	-45.9			

CAPE HATTERAS, N. C. — 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	18.1	15.2	04	4.1
1000	31	157	18.2	13.8	04	5.2
950	31	593	15.5	11.7	03	4.6
900	31	1,052	13.0	8.7	03	3.1
850	31	1,532	11.1	4.1	35	2.4
800	31	2,036	9.2	-1.0	31	3.0
750	31	2,571	7.5	-5.3	29	4.0
700	31	3,136	5.1	-9.2	28	5.2
650	31	3,737	2.1	-11.5	27	6.4
600	31	4,381	-1.1	-16.2	28	7.8
550	31	5,063	-5.1	-21.6	28	9.2
500	31	5,813	-9.5	-26.5	28	11.2
450	31	6,615	-14.9	-31.0	28	12.9
400	31	7,502	-21.3	-36.5	28	14.9
350	31	8,473	-28.3	-41.7	27	16.2
300	31	9,560	-36.4	-48.1	27	19.4
250	31	10,800	-45.4		27	23.6
200	30	12,265	-53.9		28	27.8
175	30	13,113	-58.7		28	29.3
150	30	14,070	-63.7		28	27.7
125	30	15,178	-67.1		28	21.7
100	30	16,519	-68.1		28	17.8
80	30	17,864	-66.0		28	11.3
70	30	18,679	-63.4		28	8.4
60	30	19,631	-61.2		29	6.0
50	29	20,765	-59.0		28	4.8
40	28	22,181	-55.5		29	3.8
30	27	24,032	-52.0		27	4.6
25	26	25,222	-49.4		27	4.9
20	22	26,691	-46.4		26	5.5
15	21	28,619	-43.8		26	8.1
10	18	31,352	-41.5		27	13.7
7	15	33,794	-38.5			

* CARIBOU, MAINE — 994 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	191	2.8	.7	27	2.5
1000	31	141				
950	31	560	2.7	-2.0	28	5.7
900	31	994	1.3	-4.4	29	7.1
850	31	1,453	.2	-6.9	29	9.9
800	31	1,939	-1.0	-9.8	29	12.3
750	31	2,451	-3.2	-11.9	29	13.6
700	31	2,997	-5.7	-14.9	28	15.3
650	31	3,575	-8.5	-18.1	28	17.8
600	31	4,193	-11.8	-21.4	28	19.9
550	31	4,856	-15.1	-25.1	28	22.6
500	31	5,571	-19.4	-30.2	28	23.6
450	31	6,345	-24.5	-34.6	28	25.8
400	31	7,197	-30.4	-39.5	27	27.9
350	31	8,134	-36.8	-44.9	27	31.3
300	31	9,184	-43.9	-50.1	27	33.6
250	31	10,390	-50.4		27	34.5
200	31	11,829	-55.0		27	33.1
175	31	12,680	-56.1		27	32.8
150	31	13,659	-56.6		27	29.1
125	31	14,811	-57.7		27	26.6
100	31	16,218	-57.5		27	20.5
80	31	17,629	-57.5		27	17.1
70	31	18,473	-56.9		27	15.7
60	31	19,449	-56.7		27	14.7
50	31	20,607	-56.2		27	13.5
40	30	22,030	-55.9		27	11.9
30	29	23,873	-54.1		26	14.6
25	29	25,047	-52.4		27	15.7
20	27	26,503	-50.3		26	18.5
15	22	28,393	-47.9		26	23.8
10	15	31,115	-43.5		26	27.3
7	■	33,401	-43.0			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

OCTOBER 1969

CHARLESTON, S. C. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	13	16.1	13.1	01	2.6
1000	31	155	17.0	14.7	04	4.5
950	31	593	16.7	13.5	07	5.3
900	31	1,055	14.9	10.2	06	2.0
850	31	1,537	12.7	5.5	03	.1
800	31	2,045	10.6	2.1	26	.9
750	31	2,578	8.5	-2.3	26	2.1
700	31	3,149	5.7	-7.3	26	3.5
650	31	3,747	3.3	-11.1	26	4.3
600	31	4,398	-.1	-15.4	26	5.7
550	31	5,081	-3.9	-20.8	27	7.5
500	31	5,837	-8.3	-26.3	27	9.1
450	31	6,640	-13.9	-30.4	27	10.4
400	31	7,532	-20.2	-35.3	27	13.3
350	31	8,507	-27.3	-41.1	27	15.3
300	31	9,599	-35.3	-48.6	27	18.4
250	31	10,845	-44.3		28	22.5
200	31	12,308	-54.3		27	26.7
175	31	13,153	-59.9		27	26.3
150	30	14,107	-65.3		28	24.4
125	30	15,205	-69.3		28	19.9
100	30	16,531	-70.8		28	13.1
80	30	17,862	-67.5		29	6.3
70	30	18,670	-65.4		28	4.5
60	29	19,618	-62.5		30	2.0
50	28	20,746	-59.9		30	2.8
40	28	22,149	-57.0		32	2.3
30	25	23,996	-51.8		30	1.2
25	23	25,187	-48.9		24	2.1
20	23	26,657	-47.1		23	3.2
15	22	28,583	-43.1		24	5.0
10	22	31,336	-38.5		28	9.0
7	13	33,785	-35.9		26	16.8
5						

CHIHUAHUA, MEXICO 856 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,428	12.8	7.5	24	1.3
1000	31	92				
950	31	527				
900	31	995				
850	31	1,484	13.7	7.4	27	.7
800	31	1,998	14.5	4.3	24	2.4
750	31	2,534	11.7	.9	23	4.5
700	31	3,116	8.5	-4.2	23	6.8
650	31	3,717	4.4	-8.4	22	7.6
600	31	4,371	-.2	-13.7	23	7.5
550	31	5,050	-4.4	-20.9	24	8.6
500	31	5,807	-8.9	-26.6	25	9.8
450	31	6,605	-14.3	-30.7	26	11.7
400	31	7,499	-20.8	-35.7	25	13.3
350	31	8,470	-28.4	-41.8	26	14.2
300	31	9,556	-36.7	-48.2	25	16.9
250	31	10,795	-45.5		25	20.6
200	31	12,252	-54.7		25	23.3
175	31	13,097	-59.4		25	23.9
150	30	14,049	-64.5		25	23.5
125	30	15,152	-68.5		25	19.8
100	28	16,478	-71.3		25	15.1
80	25	17,798	-67.6		25	9.4
70	25	18,606	-65.3		25	5.2
60	25	19,551	-62.6		23	1.9
50	23	20,684	-59.7		22	1.2
40	22	22,089	-56.9		21	1.4
30	20	23,933	-53.3		19	1.1
25	20	25,113	-51.2		18	.9
20	18	26,572	-48.3		17	.1
15	7	28,501	-45.7			

* COLD BAY, ALASKA 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	30	5.8	3.2	32	1.2
1000	31	1			16	3.5
950	31	418	3.4	.3	02	2.1
900	31	856	.6	-1.2	04	2.0
850	31	1,314	-1.7	-4.5	07	2.4
800	31	1,795	-3.6	-9.3	09	2.2
750	31	2,300	-6.0	-13.5	09	2.0
700	31	2,840	-9.3	-18.1	08	2.0
650	31	3,405	-12.9	-22.8	09	2.6
600	31	4,017	-16.3	-27.2	12	1.7
550	31	4,657	-20.5	-29.5	14	1.9
500	31	5,365	-25.2	-33.4	15	1.5
450	31	6,115	-30.5	-38.2	19	1.3
400	31	6,950	-36.3	-41.4	21	3.4
350	31	7,864	-42.4	-45.8	21	3.9
300	31	8,891	-48.5		20	5.4
250	31	10,080	-51.3		21	6.2
200	31	11,529	-51.6		23	6.1
175	31	12,396	-51.3		22	6.6
150	31	13,399	-50.3		22	6.7
125	31	14,589	-50.3		22	5.8
100	30	16,048	-50.0		23	5.5
80	30	17,505	-50.3		24	5.4
70	30	18,375	-50.5		24	5.3
60	30	19,379	-51.1		24	4.9
50	29	20,561	-51.2		25	5.1
40	29	22,011	-51.2		26	4.2
30	28	23,877	-52.1		29	5.6
25	28	25,056	-52.4		31	5.8
20	28	26,498	-52.3		31	6.6
15	26	28,363	-52.1		31	8.1
10	20	31,014	-50.6		31	9.6
7	18	33,346	-50.0		30	13.9
5	11	35,533	-49.7			

COLUMBIA, MO. 99[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	238	9.2	5.9	15	1.0
1000	31	152				
950	31	580	10.5	3.2	21	3.6
900	31	1,029	9.0	.3	24	5.1
850	31	1,502	7.8	-1.8	25	6.9
800	31	2,001	5.9	-4.4	25	8.4
750	31	2,524	3.5	-7.0	26	10.0
700	31	3,086	.9	-10.7	25	10.8
650	31	3,674	-2.1	-14.9	26	12.2
600	31	4,313	-5.3	-19.5	25	14.7
550	31	4,985	-8.9	-22.7	25	16.0
500	31	5,724	-13.6	-27.9	25	18.5
450	31	6,509	-19.0	-32.4	25	19.7
400	31	7,385	-25.3	-37.0	26	21.5
350	31	8,341	-32.3	-43.8	26	24.5
300	31	9,409	-40.6	-48.9	26	26.6
250	31	10,628	-49.2		26	29.5
200	31	12,065	-56.3		26	34.1
175	31	12,907	-59.0		26	34.7
150	31	13,869	-61.4		26	31.6
125	31	14,993	-63.8		26	26.4
100	31	16,356	-65.1		26	19.3
80	30	17,728	-63.1		26	14.1
70	30	18,552	-61.5		26	11.3
60	30	19,512	-59.5		26	9.6
50	28	20,653	-59.2		26	7.2
40	26	22,043	-57.9		27	8.2
30	26	23,870	-54.9		27	9.7
25	24	25,042	-53.3		27	13.0
20	22	26,470	-50.5		27	16.3
15	19	28,356	-46.8		26	19.9
10	6	31,013	-41.7			

DAYTON, OHIO 985 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	297	7.9	5.1	18	1.0
1000	30	169				
950	30	594	9.9	4.0	22	5.1
900	30	1,043	8.1	.3	25	6.9
850	30	1,514	6.4	-5.9	26	7.6
800	30	2,010	4.9	-8.8	26	8.9
750	30	2,532	2.8	-11.6	26	10.3
700	30	3,091	.0	-12.9	26	11.8
650	30	3,680	-2.7	-16.1	25	13.4
600	30	4,314	-5.7	-20.3	25	15.3
550	30	4,987	-9.3	-24.7	26	17.7
500	30	5,723	-13.6	-28.9	26	19.3
450	30	6,509	-19.1	-34.0	26	21.6
400	30	7,384	-25.2	-39.7	26	24.2
350	30	8,339	-32.3	-44.7	26	25.9
300	30	9,409	-40.4	-47.3	26	29.0
250	30	10,628	-49.0		26	32.3
200	30	12,067	-56.0		26	37.5
175	30	12,912	-58.3		26	35.9
150	30	13,876	-61.3		26	33.4
125	30	14,999	-64.2		26	28.4
100	30	16,361	-65.2		26	21.7
80	28	17,735	-62.4		26	15.5
70	28	18,562	-61.2		27	12.6
60	28	19,521	-60.3		27	10.7
50	28	20,661	-59.3		28	9.3
40	27	22,062	-57.1		27	10.2
30	26	23,894	-53.3		27	9.3
25	24	25,077	-51.0		26	12.7
20	23	26,537	-48.4		26	15.3
15	22	28,452	-44.8		25	17.8
10	13	31,184	-42.1			

DEL RIO, TEXAS 978 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	314	17.6	14.9	10	1.8
1000	31	121				
950	31	562	17.1	13.2	13	5.3
900	31	1,022	15.6	11.1	16	7.7
850	31	1,507	14.3	8.9	17	8.5
800	31	2,018	12.7	5.0	18	7.4
750	31	2,556	11.2	-.2	20	5.4
700	31	3,133	7.6	-4.0	24	5.4
650	31	3,735	3.6	-9.7	25	6.3
600	31	4,385	-.5	-15.4	25	8.8
550	30	5,071	-4.4	-22.1	25	9.1
500	30	5,820	-8.7	-27.0	25	10.8
450	29	6,623	-14.3	-32.0	25	12.5
400	29	7,514	-20.9	-37.6	25	14.3
350	29	8,486	-28.1	-43.2	25	16.6
300	29	9,574	-36.3	-48.7	24	20.5
250	29	10,813	-45.3		25	24.9
200	29	12,271	-54.9		24	27.2
175	29	13,114	-59.8		24	27.1
150	29	14,065	-65.2		24	25.5
125	29	15,161	-70.3		25	21.2
100	28	16,481	-72.3		25	13.6
80	28	17,804	-68.9		25	6.7
70	28	18,609	-65.6		24	2.0
60	28	19,553	-62.6		15	1.4
50	28	20,685	-59.8		12	1.4
40	28	22,089	-56.7		10	1.1
30	28	23,928	-53.3		07	.3
25	28	25,106	-51.5		05	1.8
20	25	26,563	-48.3		05	.6
15	24	28,473	-44.1		26	2.4
10	21	31,226	-38.9		25	6.9
7	16	33,673	-35.7		24	11.8

DENVER, COLO. 837 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,611	.2	-2.1	21	1.3
1000	31	163				
950	31	562				
900	31	1,025				
850	31	1,489				
800	31	1,978	2.1	-5.4	26	1.8
750	31	2,496	.6	-8.3	31	2.2
700	31	3,051	-1.9	-11.7	29	3.0
650	31	3,631	-5.2	-15.6	28	5.9
600	31	4,262	-8.9	-19.8	27	8.0
550	31	4,926	-12.5	-24.3	27	10.0
500	31	5,654	-17.1	-29.7	26	12.9
450	31	6,428	-22.5	-34.7	25	14.8
400	31	7,291	-28.8	-40.2	25	17.3
350	31	8,234	-35.6	-47.1	25	19.1
300	31	9,289	-43.3		25	21.7
250	31	10,495	-50.4		25	23.9
200	31	11,930	-55.8		25	26.6
175	31	12,777	-57.3		25	26.6
150	31	13,749	-58.6		26	24.8
125	31	14,888	-60.4		26	21.9
100	30	16,276	-61.2		27	14.8
80	30	17,659	-61.3		26	11.4
70	30	18,489	-60.4		27	9.9
60	30	19,452	-59.6		26	8.4
50	30	20,592	-59.1		27	7.5
40	30	21,994	-57.8		27	6.6
30	30	23,810	-57.0		27	9.3
25	30	24,970	-54.8		27	10.9
20	29	26,396	-53.0		27	12.9
15	28	28,272	-49.3		26	17.4
10	22	30,961	-44.6		26	26.2
7	5	33,218	-44.0			

DODGE CITY, KANS. 925 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	791	7.6	5.0	14	1.1
1000	31	140				
950	31	568				
900	31	1,015	7.5	2.2	16	2.0
850	31	1,486	7.2	.1	21	4.1
800	31	1,985	6.6	-1.3	23	5.0
750	31	2,514	4.7	-4.1	24	6.3
700	31	3,074	1.8	-7.2	25	9.3
650	31	3,666	-1.3	-11.2	25	12.4
600	31	4,304	-5.1	-16.3	24	14.4
550	31	4,979	-9.4	-20.8	24	15.5
500	31	5,713	-14.3	-26.1	24	16.6
450	31	6,498	-19.7	-31.3	25	19.6
400	31	7,370	-25.9	-37.5	25	21.3
350	31	8,324	-32.9	-43.5	25	25.1
300	31	9,391	-41.0	-50.2	25	29.7
250	31	10,608	-49.4		25	33.1
200	30	12,043	-56.5		25	34.5
175	30	12,886	-58.5		25	32.8
150	30	13,850	-60.6		25	29.6
125	30	14,977	-63.5		25	24.5
100	30	16,343	-64.0		25	19.7
80	29	17,710	-62.9		26	13.6
70	28	18,533	-61.6		26	10.4
60	28	19,492	-60.3		26	7.8
50	28	20,631	-59.1		26	6.8
40	25	22,026	-58.4		27	7.8
30	23	23,839	-55.3		27	11.0
25	23	25,006	-53.6		26	11.9
20	19	26,472	-50.4		26	14.9
15	18	28,363	-47.2		26	17.9
10	14	31,070	-43.1		27	20.3

EL PASO, TEXAS 881 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,193	14.0	4.7	31	1.3
1000	31	100				
950	31	540				
900	31	1,003				
850	31	1,490	14.4	3.6	27	1.5
800	31	2,000	11.9	1.9	25	4.1
750	31	2,538	9.0	-.9	25	7.1
700	31	3,107	5.5	-5.9	24	9.6
650	31	3,708	1.9	-12.2	24	12.0
600	31	4,351	-2.1	-18.0	24	12.6
550	31	5,029	-6.1	-24.0	25	12.9
500	31	5,778	-10.9	-29.5	25	14.5
450	31	6,574	-16.4	-34.5	26	15.8
400	31	7,456	-22.8	-39.8	26	17.8
350	31	8,421	-29.9	-45.9	26	20.6
300	31	9,500	-38.8	-51.7	26	21.8
250	31	10,726	-47.8		26	23.5
200	31	12,172	-55.4		25	27.3
175	31	13,016	-59.3		25	27.3
150	31	13,972	-63.5		25	25.2
125	31	15,081	-66.9		26	21.6
100	31	16,420	-69.0		26	16.5
80	31	17,762	-66.2		26	10.3
70	31	18,576	-63.8		26	6.5
60	31	19,528	-61.1		25	3.4
50	31	20,665	-59.6		24	1.9
40	31	22,068	-57.2		29	1.0
30	30	23,897	-54.0		27	2.7
25	28	25,069	-52.3		28	3.5
20	28	26,521	-49.7		28	5.1
15	16	28,440	-46.2		27	7.3
10	8	31,162	-42.1			

ELY, NEV. 808 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,908	-.4	-5.5	23	1.7
1000	31	169				
950	31	591				
900	31	1,033				
850	31	1,501				
800	31	1,990	1.9	-3.7	24	1.2
750	31	2,510	1.6	-6.1	34	2.8
700	31	3,066	-1.5	-10.2	33	3.4
650	31	3,647	-4.6	-14.5	31	4.8
600	31	4,279	-8.3	-18.8	31	6.4
550	31	4,941	-12.6	-23.4	31	8.2
500	31	5,670	-17.3	-28.6	30	10.3
450	31	6,444	-22.9	-32.8	29	11.8
400	31	7,305	-29.0	-38.4	29	13.1
350	31	8,248	-35.6	-43.6	29	14.2
300	31	9,304	-42.6		30	17.2
250	31	10,517	-49.6		30	17.7
200	31	11,957	-55.2		30	19.3
175	31	12,808	-56.1		29	19.2
150	31	13,783	-58.5		29	18.3
125	30	14,923	-60.4		28	17.1
100	29	16,313	-61.3		28	12.4
80	29	17,698	-61.1		28	9.0
70	29	18,529	-60.2		27	7.4
60	29	19,491	-59.4		27	6.5
50	29	20,635	-58.7		27	5.9
40	28	22,036	-57.6		27	7.1
30	27	23,864	-55.9		27	8.6
25	26	25,026	-54.8		27	8.9
20	23	26,462	-53.3		26	11.8
15	21	28,327	-50.2		27	16.5
10	17	31,001	-46.8		26	23.9
7	8	33,271	-44.5			

EMPALME, MEXICO 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	12	19.8	13.2	35	1.4
1000	31	101	22.2	13.6	35	1.9
950	31	546	22.5	9.0	36	1.2
900	31	1,017	19.9	5.7	21	1.0
850	31	1,507	17.0	1.3	20	3.4
800	31	2,020	14.4	-3.4	21	5.2
750	31	2,561	11.6	-8.0	22	5.9
700	31	3,136	8.4	-10.9	23	6.4
650	31	3,739	4.7	-13.6	24	7.1
600	31	4,391	.4	-17.8	25	7.9
550	31	5,077	-3.6	-22.9	25	9.1
500	31	5,830	-8.7	-27.5	26	10.0
450	31	6,636	-14.3	-32.2	26	12.0
400	31	7,521	-21.0	-38.4	26	13.3
350	31	8,492	-28.4	-44.1	27	13.5
300	31	9,576	-37.2	-51.0	27	14.9
250	31	10,811	-45.9		26	18.9
200	31	12,266	-54.8		26	21.6
175	31	13,109	-60.1		26	21.4
150	31	14,060	-64.8		26	19.6
125	30	15,163	-69.3		26	17.1
100	30	16,486	-71.4		26	12.4
80	28	17,810	-68.9		27	6.4
70	28	18,613	-65.6		27	4.2
60	28	19,558	-62.4		26	1.2
50	28	20,688	-60.0		09	.3
40	27	22,091	-57.2		07	2.9
30	25	23,915	-53.4		10	1.0
25	25	25,092	-51.7		06	1.8
20	23	26,553	-48.4		06	1.6
15	23	28,461	-45.0		26	.9
10	11	31,189	-41.0			

* FAIRBANKS, ALASKA 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	135	-1.7	-6.4	02	2.0
1000	31	70				
950	31	490	3.1	-5.9	10	4.1
900	31	921	2.2	-7.5	13	4.6
850	31	1,382	1.3	-8.7	16	4.3
800	31	1,869	-.6	-10.9	18	5.1
750	31	2,384	-3.8	-13.1	20	6.0
700	31	2,924	-7.3	-16.2	20	6.8
650	31	3,500	-10.6	-19.1	21	7.7
600	31	4,110	-14.6	-24.4	20	7.5
550	31	4,762	-19.0	-28.3	20	8.2
500	31	5,467	-24.1	-32.7	19	9.1
450	31	6,221	-29.6	-37.5	20	11.1
400	31	7,059	-35.8	-42.5	19	12.4
350	31	7,973	-42.8	-44.9	19	13.3
300	31	8,996	-50.4		19	15.8
250	31	10,168	-55.9		20	16.5
200	31	11,580	-57.4		20	14.8
175	30	12,424	-55.3		21	12.2
150	30	13,411	-54.2		22	12.2
125	30	14,578	-54.5		22	11.4
100	30	16,010	-53.5		24	10.0
80	30	17,443	-53.9		25	9.5
70	30	18,301	-54.1		25	10.4
60	30	19,288	-54.5		26	10.6
50	30	20,454	-55.5		27	10.9
40	29	21,866	-55.9		27	13.3
30	29	23,691	-57.4		28	15.4
25	29	24,843	-57.6		29	17.5
20	25	26,241	-58.3		29	19.3
15	22	28,041	-58.8		29	23.6
10	16	30,523	-59.1		30	29.5

FLINT, MICH. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	236	6.7	3.9	23	1.4
1000	31	156				
950	31	578	6.7	1.3	25	4.9
900	31	1,022	5.3	-1.5	26	7.4
850	31	1,488	3.6	-5.4	26	8.4
800	31	1,979	2.1	-8.1	26	9.5
750	31	2,496	.2	-10.2	25	10.8
700	31	3,050	-2.6	-12.8	26	11.3
650	31	3,631	-5.4	-16.7	26	13.8
600	31	4,260	-8.6	-20.3	26	15.4
550	31	4,923	-12.2	-25.2	26	17.0
500	31	5,654	-16.4	-29.9	26	18.9
450	31	6,431	-21.6	-33.6	26	21.5
400	31	7,298	-27.4	-38.3	26	23.5
350	31	8,246	-34.2	-42.7	26	25.1
300	31	9,308	-41.8	-48.0	26	28.2
250	31	10,522	-49.8		26	33.1
200	31	11,958	-56.2		27	34.9
175	31	12,804	-57.1		27	34.3
150	31	13,775	-59.3		26	31.7
125	31	14,913	-61.1		27	27.1
100	31	16,296	-61.7		27	23.1
80	31	17,682	-59.8		27	19.3
70	31	18,517	-59.5		27	15.7
60	31	19,483	-58.9		27	13.5
50	31	20,629	-58.3		27	12.4
40	30	22,027	-57.7		27	12.8
30	30	23,852	-55.2		27	12.7
25	30	25,022	-53.2		27	14.8
20	30	26,466	-51.0		27	16.6
15	28	28,356	-47.6		26	20.9
10	25	31,053	-44.2		26	24.0

FORT WORTH, TEXAS 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	180	14.8	10.9	07	.5
1000	31	137			01	3.1
950	31	574	14.4	7.7	15	3.6
900	31	1,029	14.0	4.4	18	5.1
850	31	1,511	12.9	2.2	20	5.9
800	31	2,019	11.0	.8	23	6.0
750	31	2,558	8.3	-.3	24	6.3
700	31	3,124	5.5	-4.4	24	7.0
650	31	3,726	1.9	-8.8	25	8.8
600	31	4,368	-1.7	-14.2	25	10.3
550	31	5,056	-5.8	-19.2	25	11.8
500	31	5,797	-10.2	-24.9	25	13.0
450	31	6,600	-15.6	-30.2	25	14.5
400	31	7,480	-21.8	-35.0	25	16.3
350	31	8,448	-29.2	-41.2	25	19.8
300	31	9,530	-37.3	-47.1	25	22.5
250	31	10,766	-46.0		25	27.9
200	30	12,225	-55.4		25	31.2
175	30	13,068	-59.7		25	30.9
150	30	14,021	-64.2		25	27.4
125	29	15,127	-68.2		25	23.0
100	29	16,459	-70.0		25	17.6
80	29	17,797	-66.5		25	10.3
70	29	18,610	-63.9		25	5.9
60	27	19,554	-61.9		24	3.1
50	27	20,686	-59.9		25	2.1
40	24	22,082	-57.5		27	2.1
30	24	23,916	-53.4		28	2.9
25	23	25,090	-51.5		27	3.2
20	23	26,546	-48.9		25	5.7
15	22	28,449	-45.6		26	7.4
10	12	31,222	-40.6		27	12.1

GLASGOW, MONT. 935 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	696	.9	-3.0	33	2.1
1000	31	148				
950	31	566				
900	31	1,001	2.2	-4.4	30	4.1
850	31	1,462	.6	-7.2	31	6.4
800	31	1,947	-1.2	-9.4	31	7.4
750	31	2,461	-3.8	-11.8	31	7.7
700	31	3,003	-6.5	-15.0	30	7.7
650	31	3,577	-9.3	-17.6	30	7.8
600	31	4,195	-12.9	-21.4	31	8.7
550	31	4,852	-16.9	-25.8	30	9.4
500	31	5,562	-21.5	-31.0	30	9.2
450	31	6,326	-27.1	-36.4	30	9.8
400	31	7,169	-33.4	-42.4	30	10.4
350	31	8,093	-40.2	-48.0	30	12.6
300	31	9,129	-47.5		30	12.9
250	31	10,319	-52.1		29	13.8
200	31	11,753	-54.8		29	13.0
175	31	12,607	-54.7		29	13.6
150	31	13,593	-55.0		28	13.2
125	31	14,756	-55.5		28	12.7
100	31	16,176	-56.1		28	11.2
80	31	17,591	-56.9		29	11.1
70	31	18,436	-57.1		29	10.4
60	31	19,410	-57.7		29	9.3
50	31	20,558	-58.2		29	9.0
40	31	21,962	-58.5		29	8.8
30	30	23,776	-58.1		29	9.6
25	30	24,925	-57.7		29	9.5
20	28	26,347	-56.5		29	13.0
15	23	28,175	-54.2		28	16.9
10	9	30,909	-49.2			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

OCTOBER 1969

GRAND JUNCTION, COLO. 852 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,472	4.2	-1.8	11	2.0
1000	31	143				
950	31	565				
900	31	1,018				
850	31	1,487			13	3.2
800	31	1,983	4.6	-2.7	16	2.0
750	31	2,504	1.7	-5.6	22	2.6
700	31	3,059	-1.8	-8.5	24	4.6
650	31	3,645	-5.1	-12.3	25	6.2
600	31	4,271	-8.6	-17.4	26	7.3
550	31	4,934	-12.8	-22.8	26	9.3
500	31	5,661	-17.6	-28.2	26	10.3
450	31	6,435	-23.1	-33.9	27	12.6
400	31	7,295	-29.1	-40.1	27	14.4
350	31	8,236	-35.8	-45.9	26	17.9
300	31	9,292	-42.8	-50.8	26	20.4
250	31	10,502	-49.8		26	23.7
200	31	11,943	-54.7		26	24.1
175	31	12,794	-55.8		26	22.7
150	30	13,772	-57.6		26	21.6
125	29	14,920	-60.0		26	19.1
100	28	16,307	-61.5		26	14.2
80	27	17,690	-60.9		26	9.5
70	27	18,521	-60.0		26	7.8
60	27	19,485	-59.6		26	6.5
50	25	20,633	-58.6		26	6.1
40	25	22,042	-57.1		27	5.7
30	23	23,879	-56.0		27	6.5
25	21	25,058	-54.7		28	8.4
20	19	26,481	-52.8		27	9.8
15	14	28,359	-50.1		27	14.4
10	5	31,039	-47.2			
7						
5						

* GREAT FALLS, MONT. 889 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,118	.9	-2.8	25	2.8
1000	31	161				
950	31	580				
900	31	1,022				
850	31	1,480	2.3	-5.7	27	6.6
800	31	1,968	-.4	-7.8	30	6.3
750	31	2,484	-3.6	-11.0	30	6.5
700	31	3,024	-6.4	-14.0	31	7.3
650	31	3,600	-9.4	-17.6	31	8.4
600	31	4,216	-12.9	-21.6	31	8.2
550	31	4,873	-17.0	-26.0	31	8.9
500	31	5,584	-21.3	-30.7	31	9.5
450	31	6,352	-26.4	-35.9	31	10.2
400	31	7,194	-32.7	-40.7	30	10.5
350	31	8,120	-39.8	-44.5	31	10.7
300	31	9,157	-47.0		30	12.5
250	31	10,349	-52.3		31	14.9
200	31	11,781	-55.7		30	14.3
175	29	12,637	-56.2		30	14.5
150	29	13,617	-55.8		30	14.1
125	29	14,778	-56.3		29	13.2
100	29	16,194	-56.6		29	10.6
80	29	17,606	-57.3		29	9.8
70	29	18,450	-57.5		29	8.9
60	28	19,426	-57.4		29	7.7
50	28	20,575	-57.9		29	7.2
40	27	21,977	-58.0		29	7.1
30	27	23,791	-57.7		29	7.9
25	27	24,941	-57.4		29	9.1
20	23	26,350	-56.8		29	10.0
15	21	28,206	-54.6		29	13.3
10	16	30,782	-52.4		28	18.2
7	12	33,142	-47.0			
5						

GREEN BAY, WIS. 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	210	4.4	1.3	25	1.3
1000	30	139				
950	30	557	4.5	.8	27	4.5
900	30	998	3.1	-.5	26	6.1
850	30	1,460	1.6	-3.5	26	7.6
800	29	1,946	-.2	-8.0	26	9.3
750	29	2,460	-1.9	-11.8	26	10.5
700	29	3,009	-4.3	-14.4	26	11.4
650	29	3,585	-7.3	-17.3	26	13.1
600	29	4,210	-10.8	-20.2	26	16.1
550	29	4,871	-14.6	-24.5	27	17.3
500	29	5,592	-18.7	-29.7	26	20.7
450	29	6,361	-23.9	-34.2	27	22.3
400	29	7,220	-29.9	-39.7	26	24.6
350	29	8,158	-36.5	-44.9	26	26.1
300	29	9,211	-43.5	-47.7	26	29.7
250	29	10,417	-51.2		26	32.6
200	29	11,845	-56.9		26	34.4
175	29	12,690	-57.3		26	33.0
150	29	13,664	-57.8		26	29.3
125	29	14,808	-59.5		27	24.6
100	29	16,202	-59.7		27	22.7
80	29	17,597	-59.6		27	18.4
70	29	18,434	-58.4		27	15.5
60	29	19,405	-58.3		27	14.2
50	29	20,552	-58.3		27	14.9
40	29	21,957	-58.1		28	14.0
30	27	23,777	-56.2		28	15.2
25	25	24,940	-53.4		27	15.6
20	24	26,391	-51.8		26	17.8
15	23	28,263	-48.9		26	22.4
10	14	31,009	-45.2		26	32.2
7	6	33,508	-42.5			
5						

GREENSBORO, N. C. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	273	10.9	7.8	01	1.2
1000	31	180				
950	31	608	12.6	6.0	03	2.5
900	31	1,063	10.6	3.5	35	1.3
850	31	1,538	9.4	-.4	28	2.4
800	31	2,041	8.4	-4.8	27	4.3
750	31	2,569	6.6	-8.2	27	5.8
700	31	3,137	4.3	-11.5	27	7.3
650	31	3,737	1.8	-14.9	27	9.0
600	31	4,379	-1.6	-18.7	27	10.0
550	31	5,060	-5.7	-23.2	27	11.4
500	31	5,807	-10.4	-26.9	27	12.6
450	31	6,603	-15.9	-32.8	27	14.6
400	31	7,488	-22.2	-37.5	27	16.7
350	31	8,456	-29.1	-42.3	27	19.0
300	31	9,539	-37.5	-49.2	27	21.4
250	31	10,774	-46.0		27	26.7
200	31	12,230	-54.8		27	31.4
175	31	13,075	-59.5		27	31.9
150	31	14,030	-63.8		27	28.9
125	31	15,138	-67.2		27	21.4
100	31	16,480	-67.7		27	17.4
80	31	17,828	-65.4		28	10.5
70	31	18,644	-63.5		28	7.9
60	31	19,595	-61.6		28	6.4
50	31	20,729	-59.5		28	5.9
40	31	22,134	-56.5		29	4.9
30	31	23,978	-52.1		28	5.1
25	31	25,164	-49.7		26	5.4
20	31	26,631	-47.3		26	8.3
15	29	28,542	-44.6		26	11.5
10	26	31,287	-40.9		27	16.9
7	12	33,721	-37.2			
5						

* GUAM, MARIANA IS. 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	111	24.5	23.7	15	.8
1000	31	90				
950	31	545	24.2	21.9	15	1.8
900	31	1,015	21.7	18.1	14	1.6
850	31	1,510	19.0	14.9	13	1.7
800	31	2,030	16.1	10.9	12	2.2
750	31	2,582	13.3	7.2	12	2.7
700	31	3,155	10.1	3.4	11	2.9
650	31	3,774	6.7	-1.4	10	3.6
600	31	4,422	2.9	-4.9	10	3.8
550	31	5,121	-1.3	-9.4	09	4.4
500	31	5,875	-5.8	-14.3	10	4.4
450	30	6,693	-10.5	-21.4	09	4.4
400	30	7,591	-15.9	-26.7	09	3.5
350	30	8,583	-22.7	-34.7	09	3.4
300	30	9,695	-30.8	-43.1	10	3.9
250	30	10,959	-41.2		11	4.1
200	29	12,435	-53.6		09	4.2
175	29	13,278	-60.8		09	5.8
150	28	14,218	-68.3		09	6.3
125	27	15,289	-75.9		08	8.2
100	24	16,563	-79.3		10	10.3
80	23	17,843	-75.5		10	7.5
70	22	18,630	-71.0		10	6.7
60	21	19,551	-66.5		11	5.3
50	21	20,666	-62.7		10	5.0
40	20	22,058	-58.2		08	6.2
30	19	23,885	-54.3		09	7.9
25	19	25,060	-52.3		09	9.6
20	19	26,517	-48.4		09	12.1
15	18	28,434	-45.0		08	13.7
10	17	31,170	-40.7		09	19.2
7	11	33,601	-37.0		09	23.5
5	6	35,973	-32.8			

HILO, HAWAII 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	21.3	17.7	23	2.5
1000	31	133	22.4	19.1	24	1.8
950	31	581	19.4	16.9	10	1.2
900	31	1,043	16.2	14.0	08	3.2
850	31	1,528	13.3	11.2	08	3.2
800	31	2,038	11.2	4.3	08	2.9
750	31	2,581	9.5	-5.4	09	3.5
700	31	3,148	8.4	-10.8	08	3.2
650	31	3,756	5.5	-14.5	07	3.3
600	31	4,407	1.9	-18.6	05	2.3
550	31	5,099	-2.1	-22.5	03	2.4
500	31	5,854	-6.7	-25.1	01	2.6
450	31	6,665	-11.8	-30.3	35	2.6
400	31	7,561	-18.4	-35.6	34	3.5
350	31	8,543	-26.1	-41.3	31	4.3
300	31	9,640	-34.4	-47.9	29	7.5
250	31	10,889	-44.1		28	11.3
200	31	12,350	-55.2		28	12.9
175	31	13,191	-61.0		27	12.4
150	31	14,136	-66.8		27	11.3
125	31	15,224	-72.0		27	9.1
100	31	16,526	-75.1		27	5.4
80	31	17,828	-71.6		29	1.1
70	31	18,622	-68.1		07	2.1
60	31	19,558	-64.0		09	5.0
50	31	20,682	-61.1		10	6.8
40	31	22,078	-58.2		09	7.8
30	30	23,903	-54.5		09	9.0
25	30	25,077	-52.0		09	9.8
20	29	26,532	-48.7		09	9.9
15	28	28,440	-45.0		09	10.6
10	27	31,175	-39.8		10	10.3
7	11	33,598	-37.2			
5						
4						

HUNTINGTON W. VA. 991 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	8.2	6.3	16	.4
1000	31	173				
950	31	603	11.1	5.4	22	2.7
900	31	1,051	9.3	2.6	25	4.4
850	31	1,524	7.5	-1.3	26	5.2
800	31	2,022	5.9	-5.4	27	6.5
750	31	2,551	4.1	-9.8	27	8.0
700	31	3,109	2.2	-11.7	27	8.9
650	31	3,705	-.5	-15.6	27	11.0
600	31	4,342	-3.8	-20.1	27	13.2
550	31	5,024	-7.4	-25.2	27	15.0
500	31	5,762	-12.1	-29.7	27	17.4
450	31	6,555	-17.8	-33.9	27	18.6
400	31	7,431	-24.0	-37.9	26	20.9
350	31	8,392	-31.0	-43.4	26	23.7
300	31	9,467	-39.0	-48.4	26	25.8
250	31	10,694	-47.9		27	30.5
200	31	12,140	-55.5		26	34.7
175	31	12,985	-58.7		26	35.0
150	31	13,946	-62.2		27	32.6
125	31	15,065	-64.7		27	25.7
100	31	16,423	-66.0		27	20.3
80	31	17,785	-63.1		27	14.2
70	31	18,608	-62.0		27	11.5
60	29	19,572	-60.5		28	8.5
50	28	20,717	-58.8		27	6.6
40	27	22,125	-57.2		28	6.8
30	26	23,956	-53.7		28	6.9
25	23	25,129	-51.7		27	8.1
20	20	26,594	-48.7		26	11.2
15	18	28,505	-46.1		26	13.1
10	16	31,232	-42.6		27	17.8
7						
5						
4						

* INTERNATIONAL FALLS, MINN. 971 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	360	1.2	-.8	24	.5
1000	31	122				
950	31	534	1.0	-2.0	23	1.6
900	31	971	-.1	-3.4	27	4.4
850	31	1,427	-1.2	-6.3	27	5.1
800	31	1,910	-3.1	-8.7	27	7.1
750	31	2,415	-4.9	-11.7	27	8.8
700	31	2,960	-7.3	-14.7	27	9.9
650	31	3,529	-10.0	-18.1	27	10.9
600	31	4,148	-13.4	-21.0	27	12.1
550	31	4,800	-17.2	-24.9	27	13.6
500	31	5,515	-21.9	-29.5	27	14.9
450	31	6,274	-27.1	-35.2	27	17.6
400	31	7,123	-32.9	-40.8	27	19.1
350	31	8,049	-39.7	-45.1	27	21.3
300	31	9,087	-47.0		27	23.6
250	31	10,279	-51.9		26	26.0
200	31	11,713	-55.3		26	25.9
175	31	12,565	-55.2		26	24.7
150	31	13,548	-55.7		26	23.6
125	31	14,708	-56.4		27	21.4
100	31	16,122	-56.9		27	17.5
80	31	17,533	-57.5		27	15.4
70	31	18,375	-57.6		28	14.5
60	31	19,346	-58.1		28	12.4
50	31	20,493	-58.7		28	12.6
40	31	21,893	-58.7		28	12.4
30	31	23,703	-57.9		28	13.6
25	31	24,854	-57.2		28	14.9
20	31	26,269	-55.8		27	17.5
15	30	28,113	-53.6		27	22.9
10	29	30,761	-49.4		27	29.0
7	25	33,125	-45.6		26	38.0
5	16	35,368	-42.3		27	36.5
4	7	36,901	-40.7			

JACKSON, MISS. 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	100	14.2	12.5	09	1.3
1000	31	147	15.0	12.4	08	2.4
950	31	587	15.8	9.6	13	4.3
900	31	1,042	14.6	6.0	15	2.8
850	31	1,525	13.3	2.1	18	1.4
800	31	2,033	11.2	.0	26	1.6
750	31	2,570	8.8	-4.5	26	2.5
700	31	3,138	5.8	-7.1	25	4.1
650	31	3,738	2.8	-10.7	25	5.0
600	31	4,386	-.4	-14.8	26	6.3
550	31	5,072	-4.3	-21.0	26	8.2
500	31	5,822	-8.7	-25.5	26	10.4
450	31	6,624	-14.3	-30.6	26	11.8
400	31	7,514	-20.8	-37.1	26	14.5
350	31	8,487	-27.9	-41.7	26	17.3
300	31	9,576	-35.9	-48.0	26	20.5
250	31	10,820	-44.8		26	24.4
200	31	12,278	-54.9		25	26.8
175	31	13,121	-59.9		25	28.0
150	31	14,072	-65.2		25	26.4
125	31	15,168	-70.1		25	22.4
100	31	16,487	-71.5		25	15.7
80	31	17,816	-67.8		26	7.4
70	31	18,624	-65.4		25	4.2
60	31	19,568	-62.9		24	2.5
50	31	20,697	-60.6		23	1.5
40	29	22,092	-57.3		29	2.1
30	28	23,927	-53.0		31	1.6
25	28	25,108	-51.0		26	2.5
20	28	26,569	-48.0		25	4.2
15	28	28,483	-44.4		26	5.0
10	16	31,203	-40.5		26	12.0
7	5	33,559	-37.9			
5						
4						

JOHNSTON IS., PACIFIC AREA 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	26.2	22.3	08	5.9
1000	31	117	24.8	20.9	08	6.8
950	31	570	21.2	19.0	09	8.3
900	31	1,034	18.5	14.4	09	7.9
850	31	1,523	15.5	11.4	09	7.7
800	31	2,036	12.9	7.1	08	6.6
750	31	2,579	11.5	-1.9	08	5.4
700	31	3,153	9.4	-7.3	09	4.4
650	31	3,763	6.7	-12.7	08	5.1
600	31	4,416	2.7	-15.8	08	5.6
550	31	5,109	-1.4	-19.9	07	4.8
500	31	5,868	-5.9	-22.9	08	4.7
450	31	6,680	-11.5	-27.3	08	4.7
400	31	7,577	-18.1	-32.7	08	3.4
350	31	8,561	-25.2	-39.4	04	2.0
300	31	9,662	-33.6	-46.3	28	2.2
250	31	10,915	-43.3		26	7.9
200	31	12,381	-54.5		26	14.0
175	31	13,224	-60.9		26	14.8
150	31	14,168	-67.4		27	12.3
125	31	15,251	-73.1		27	7.6
100	31	16,545	-77.0		29	3.3
80	28	17,836	-73.4		05	2.6
70	28	18,623	-69.7		09	3.2
60	28	19,553	-65.1		09	4.6
50	28	20,673	-61.6		09	5.9
40	27	22,068	-58.2		09	8.3
30	27	23,893	-54.4		09	9.2
25	25	25,065	-51.9		09	10.6
20	21	26,516	-49.1		09	11.5
15	20	28,421	-45.0		09	12.3
10	16	31,153	-40.5		09	14.7
7	10	33,608	-37.0			
5						
4						

KEY WEST, FLA. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	3	25.9	22.7	08	2.4
1000	27	105	25.2	22.0	08	4.0
950	27	553	22.3	19.4	09	5.9
900	27	1,026	19.5	15.6	10	5.3
850	27	1,517	17.3	11.0	11	4.2
800	27	2,034	14.7	7.0	12	3.4
750	27	2,575	12.2	1.0	13	2.7
700	27	3,155	9.4	-3.6	14	2.5
650	27	3,760	6.1	-7.1	14	1.9
600	27	4,418	2.4	-11.1	15	1.5
550	27	5,109	-1.4	-15.1	14	.6
500	27	5,871	-5.8	-21.0	34	.6
450	27	6,683	-10.8	-24.2	34	1.2
400	27	7,586	-17.0	-29.9	32	2.1
350	27	8,574	-24.2	-35.2	30	3.2
300	27	9,679	-32.8	-44.0	29	4.3
250	27	10,935	-43.1		28	7.4
200	27	12,399	-54.9		27	9.4
175	27	13,241	-61.1		28	10.1
150	27	14,183	-67.7		29	9.7
125	27	15,264	-73.3		29	5.7
100	27	16,558	-75.5		33	2.0
80	27	17,864	-70.6		08	3.5
70	26	18,658	-67.1		08	4.3
60	26	19,594	-63.8		08	4.9
50	26	20,724	-59.9		09	4.6
40	26	22,128	-56.8		08	5.2
30	26	23,971	-52.3		08	6.7
25	25	25,159	-49.7		09	6.8
20	25	26,610	-46.2		09	7.1
15	23	28,554	-42.9		08	7.9
10	18	31,332	-37.4		09	10.7
7	9	33,754	-36.3			
5						

KING SALMON, ALASKA 999 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	2.2	-1.0	07	2.6
1000	31	4			09	3.7
950	31	420	4.6	-.8	10	5.4
900	31	862	2.9	-3.4	12	5.8
850	31	1,323	.5	-6.1	13	5.1
800	31	1,807	-2.4	-8.0	13	5.6
750	31	2,311	-5.6	-11.5	14	6.8
700	31	2,855	-8.5	-15.2	14	6.5
650	31	3,423	-12.1	-19.4	14	6.3
600	31	4,034	-16.1	-24.3	15	6.2
550	31	4,679	-20.4	-28.0	15	6.8
500	31	5,384	-25.0	-32.8	15	7.2
450	30	6,133	-30.4	-38.3	16	7.1
400	30	6,971	-36.6	-42.4	15	8.4
350	30	7,883	-43.4	-47.4	15	8.6
300	30	8,906	-49.3		17	8.5
250	30	10,091	-52.3		19	9.7
200	30	11,533	-52.3		20	8.5
175	30	12,398	-51.4		20	8.2
150	30	13,400	-51.4		20	8.2
125	30	14,584	-51.3		21	8.0
100	30	16,035	-51.1		22	7.6
80	30	17,485	-50.9		22	7.0
70	29	18,350	-51.5		23	6.9
60	29	19,348	-52.2		25	7.1
50	28	20,528	-52.3		26	7.9
40	27	21,969	-52.6		28	8.0
30	25	23,823	-53.6		29	10.5
25	23	24,978	-54.4		30	12.2
20	17	26,430	-54.1		30	12.9
15	10	28,352	-52.2		29	11.4
10						
7						
5						

+ KOROR, CAROLINE IS. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	28.4	24.7	30	1.3
1000	31	94	27.6	23.5	29	1.6
950	31	544	24.0	19.5	27	2.5
900	31	1,019	21.3	15.5	26	2.6
850	31	1,513	18.8	12.3	26	1.6
800	31	2,032	16.0	8.6	28	.3
750	31	2,575	13.2	4.0	18	.6
700	31	3,156	10.0	.1	14	1.4
650	31	3,766	6.6	-4.0	13	2.1
600	31	4,422	2.9	-8.7	12	2.8
550	31	5,117	-1.1	-13.3	11	4.4
500	31	5,876	-5.3	-19.0	11	5.0
450	31	6,694	-10.0	-24.9	10	4.7
400	31	7,596	-15.7	-30.4	10	5.8
350	31	8,590	-22.2	-37.1	09	6.0
300	30	9,702	-30.7	-44.9	08	5.9
250	30	10,970	-40.9		08	8.6
200	30	12,447	-53.3		08	9.9
175	30	13,293	-60.4		08	10.6
150	30	14,236	-67.9		08	11.9
125	30	15,312	-75.1		08	11.0
100	30	16,594	-77.3		09	5.4
80	30	17,887	-72.1		08	2.4
70	30	18,681	-67.8		01	2.0
60	29	19,613	-65.0		33	.8
50	29	20,733	-61.0		29	.2
40	28	22,132	-57.4		05	.8
30	28	23,962	-54.1		13	2.5
25	28	25,140	-50.5		13	3.1
20	26	26,599	-47.7		10	4.7
15	24	28,510	-45.3		10	9.0
10	23	31,233	-39.8		09	19.3
7	16	33,701	-34.8			
5						

KOTZEBUE, ALASKA 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	18	5	-2.7	-5.5	07	3.2
1000	18	95	-3.3	-9.5	09	3.5
950	18	506	-2.7	-9.7	12	3.2
900	18	931	-3.3	-11.8	15	2.3
850	18	1,383	-4.9	-13.9	19	2.1
800	18	1,858	-7.1	-15.9	19	4.2
750	18	2,359	-9.4	-17.2	19	5.4
700	18	2,891	-12.1	-19.8	20	6.7
650	18	3,453	-15.2	-22.8	21	8.9
600	18	4,056	-18.9	-25.8	21	9.9
550	18	4,697	-22.8	-28.4	22	10.0
500	18	5,393	-26.9	-32.9	22	11.2
450	18	6,144	-31.8	-37.8	21	10.6
400	18	6,971	-37.6	-40.0	20	14.4
350	18	7,879	-44.2		20	16.5
300	16	8,914	-50.5		20	17.8
250	15	10,097	-56.7		20	17.2
200	15	11,505	-57.5		20	15.1
175	15	12,352	-55.5		20	14.1
150	15	13,337	-54.3		21	12.8
125	15	14,508	-53.6		21	11.2
100	15	15,944	-53.1		22	10.7
80	15	17,383	-53.0		23	11.3
70	15	18,242	-53.8		24	11.9
60	15	19,230	-54.4		25	12.0
50	15	20,396	-54.8		25	12.1
40	15	21,821	-55.6		26	15.9
30	13	23,644	-56.4		28	16.8
25	12	24,802	-56.9		28	19.5
20	10	26,222	-56.5			
15	5	28,126	-55.9			
10						
7						
5						

KWAJALEIN, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	27.8	23.8	07	2.8
1000	31	93	27.2	23.6	08	3.2
950	31	546	24.0	21.8	08	4.3
900	31	1,019	21.0	17.7	09	4.2
850	31	1,513	18.3	14.7	09	4.2
800	31	2,032	15.7	10.9	09	4.5
750	31	2,578	13.1	7.3	08	4.7
700	31	3,156	10.1	2.3	08	4.7
650	31	3,770	6.8	-.9	09	4.6
600	31	4,424	2.9	-6.1	09	4.8
550	31	5,124	-1.1	-12.1	09	4.9
500	31	5,879	-5.2	-17.9	09	4.9
450	31	6,699	-10.0	-22.8	09	5.2
400	31	7,598	-15.6	-28.2	08	4.9
350	31	8,592	-22.5	-35.4	07	4.6
300	31	9,705	-31.1	-43.5	07	2.5
250	31	10,970	-41.6	-52.2	01	1.2
200	31	12,442	-54.0	-63.2	29	1.4
175	31	13,286	-60.8		25	2.3
150	31	14,227	-68.4		24	2.2
125	31	15,301	-75.4		23	.4
100	26	16,578	-78.7		09	5.4
80	23	17,864	-72.9		31	1.0
70	23	18,654	-69.7		29	2.2
60	22	19,578	-66.2		29	2.1
50	22	20,694	-62.1		34	.7
40	22	22,088	-58.4		10	1.1
30	22	23,917	-54.1		08	2.0
25	22	25,089	-52.7		07	5.3
20	22	26,542	-49.1		08	6.9
15	21	28,446	-45.1		09	11.6
10	18	31,198	-41.5		09	18.8
7	13	33,631	-37.8		09	26.9
5	5	35,997	-33.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1969

LAKE CHARLES, LA. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	5	16.9	14.5	06	2.2
1000	31	131	18.5	14.7	08	4.3
950	31	568	18.1	13.3	11	5.0
900	31	1,035	17.0	8.6	13	3.4
850	31	1,521	14.6	5.4	14	2.1
800	31	2,032	12.1	2.0	18	1.3
750	31	2,571	9.8	-1.8	24	1.6
700	31	3,142	7.0	-5.5	26	2.7
650	31	3,747	3.7	-11.4	27	3.8
600	31	4,393	-.2	-14.7	28	5.6
550	31	5,082	-4.0	-20.2	27	7.2
500	31	5,832	-8.4	-26.3	26	8.4
450	31	6,639	-13.8	-30.7	25	10.1
400	31	7,527	-20.2	-36.0	26	12.3
350	31	8,503	-27.2	-41.7	26	15.8
300	31	9,596	-35.3	-49.1	25	19.0
250	31	10,841	-44.5		25	21.2
200	31	12,300	-55.0		25	24.4
175	31	13,143	-60.0		25	24.4
150	31	14,093	-65.6		25	22.2
125	30	15,184	-70.7		25	19.7
100	29	16,498	-72.2		25	13.8
80	29	17,821	-68.6		25	6.0
70	29	18,627	-65.4		22	2.2
60	29	19,571	-62.9		15	2.1
50	29	20,701	-60.2		14	1.1
40	28	22,106	-57.0		11	1.3
30	28	23,945	-52.9		09	.5
25	28	25,128	-50.3		07	.9
20	28	26,595	-47.4		16	.8
15	25	28,510	-44.0		19	1.7
10	23	31,263	-38.6		27	5.5
7	11	33,709	-37.2			
5						

LANDER, WYO. — 829 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	1,696	-.1	-4.1	23	.6
1000	31	164				
950	31	581				
900	31	1,024				
850	31	1,492				
800	31	1,980	1.2	-6.0	28	.3
750	31	2,495	-1.0	-8.7	30	1.8
700	31	3,046	-4.2	-12.5	30	3.5
650	31	3,625	-7.6	-15.8	30	5.8
600	31	4,246	-11.3	-19.5	30	6.6
550	31	4,902	-15.2	-24.7	29	8.7
500	31	5,624	-19.7	-29.9	28	10.3
450	31	6,393	-25.3	-35.3	28	11.3
400	31	7,244	-31.5	-40.8	28	13.5
350	31	8,175	-38.4	-46.0	27	14.4
300	31	9,219	-45.4		27	15.1
250	31	10,419	-50.9		27	17.0
200	31	11,855	-55.7		28	17.3
175	31	12,703	-56.3		27	18.0
150	31	13,682	-56.4		27	17.0
125	31	14,834	-58.2		27	15.5
100	31	16,235	-59.3		27	13.3
80	31	17,633	-59.4		27	10.8
70	31	18,467	-59.5		27	9.0
60	29	19,430	-59.0		28	8.0
50	28	20,576	-58.9		27	7.8
40	28	21,978	-58.3		28	7.9
30	28	23,787	-57.8		27	9.2
25	28	24,940	-56.5		28	10.5
20	26	26,364	-54.9		27	11.2
15	24	28,211	-52.6		27	12.3
10	18	30,893	-47.7		27	14.9
7	9	33,267	-47.6			
5						

* LIHUE KAUAI, HAWAII — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	36	23.4	20.0	03	2.6
1000	31	141	23.1	19.7	04	3.8
950	31	585	20.0	17.8	06	5.3
900	31	1,053	16.8	14.9	07	5.2
850	31	1,539	14.1	10.6	08	5.2
800	31	2,050	12.4	2.5	08	5.3
750	31	2,588	11.0	-6.5	08	4.3
700	31	3,163	8.9	-10.7	08	3.1
650	31	3,770	6.0	-14.2	07	2.8
600	31	4,424	2.1	-18.0	06	2.2
550	31	5,114	-2.0	-22.0	03	2.2
500	31	5,872	-6.7	-26.5	35	3.0
450	31	6,680	-11.9	-31.7	33	3.5
400	31	7,579	-18.4	-36.9	32	4.3
350	31	8,561	-26.0	-42.8	31	5.6
300	31	9,656	-34.9	-49.2	31	6.6
250	31	10,902	-44.5		30	9.4
200	31	12,361	-55.2		29	9.8
175	31	13,202	-60.8		28	10.5
150	31	14,147	-66.5		28	10.8
125	30	15,234	-71.5		28	9.1
100	29	16,539	-74.3		28	5.8
80	29	17,844	-71.9		25	.7
70	29	18,639	-68.0		12	1.4
60	29	19,575	-63.6		09	3.6
50	29	20,702	-61.0		09	5.6
40	29	22,097	-58.1		10	5.8
30	29	23,924	-54.6		10	8.0
25	29	25,097	-52.3		09	8.3
20	29	26,549	-49.5		09	9.2
15	28	28,449	-46.1		09	9.3
10	26	31,183	-40.8		10	7.9
7	21	33,628	-37.6		09	6.4
5	9	35,992	-32.9			

LITTLE ROCK, ARK. — 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	79	12.4	9.5	01	.7
1000	31	152	12.8	8.6	05	1.0
950	31	583	13.6	7.1	15	2.1
900	31	1,041	12.8	3.3	20	2.6
850	31	1,521	11.7	-.2	22	4.2
800	31	2,027	9.7	-1.5	25	4.5
750	31	2,557	7.0	-5.0	25	5.5
700	31	3,125	3.9	-7.2	26	7.3
650	31	3,720	.9	-11.4	25	9.0
600	31	4,365	-2.5	-14.2	25	9.6
550	31	5,043	-6.2	-20.[illegible]	25	11.0
500	31	5,791	-10.7	-25.5	25	13.4
450	31	6,584	-16.2	-30.6	26	15.1
400	31	7,471	-22.4	-36.5	26	18.1
350	31	8,438	-29.5	-41.6	26	21.1
300	31	9,519	-37.7	-47.1	26	25.5
250	31	10,753	-46.3		25	30.3
200	31	12,206	-55.6		25	34.3
175	31	13,049	-59.5		26	32.5
150	31	14,004	-63.8		25	28.8
125	31	15,110	-67.8		25	24.5
100	31	16,447	-68.5		26	19.1
80	31	17,792	-65.7		26	11.6
70	31	18,607	-63.7		26	8.5
60	30	19,553	-61.9		25	6.3
50	30	20,687	-59.4		26	4.5
40	30	22,091	-57.2		27	3.3
30	28	23,930	-53.8		28	3.7
25	26	25,102	-51.8		28	5.1
20	24	26,554	-49.0		26	9.0
15	17	28,454	-45.3			
10	5	31,094	-41.6			
7						
5						

MCGRATH, ALASKA — 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	12	103	-.3	-4.4	05	.7
1000	12	44				
950	12	453	.9	-3.5	13	2.0
900	12	890	1.0	-4.6	14	3.0
850	12	1,349	-.1	-7.4	14	3.6
800	12	1,833	-2.1	-9.[illegible]	14	3.9
750	12	2,343	-5.2	-11.6	15	4.4
700	12	2,882	-8.9	-15.5	17	5.7
650	12	3,448	-12.4	-19.1	16	7.0
600	12	4,060	-16.3	-22.8	17	7.8
550	12	4,699	-20.7	-27.2	17	8.3
500	12	5,408	-25.4	-32.3	18	9.7
450	12	6,155	-30.8	-37.9	18	10.5
400	12	6,991	-36.8	-43.5	18	9.9
350	12	7,902	-43.5		18	9.8
300	12	8,923	-50.3		19	9.5
250	12	10,100	-54.9		20	9.5
200	12	11,523	-56.3		20	11.2
175	12	12,373	-55.0		20	10.4
150	12	13,363	-53.5		22	9.4
125	12	14,538	-52.8		22	9.3
100	12	15,981	-51.8		23	8.8
80	12	17,427	-52.0		25	8.3
70	12	18,290	-52.7		25	8.0
60	12	19,285	-52.6		26	9.2
50	12	20,464	-52.7		27	9.3
40	12	21,900	-53.6		28	11.9
30	12	23,748	-54.6		29	15.1
25	12	24,913	-55.0		30	17.0
20	12	26,338	-55.3		31	19.7
15	10	28,201	-55.2			
10						
7						
5						

+ MAJURO, MARSHALL IS. — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	3	29.5	25.0	07	1.7
1000	31	93	28.1	22.4	07	1.6
950	31	543	23.9	18.4	08	2.1
900	31	1,019	21.0	14.8	09	2.2
850	31	1,513	18.3	11.2	09	3.0
800	31	2,031	15.7	7.6	09	3.7
750	31	2,574	13.1	3.6	09	3.5
700	31	3,156	10.2	-.4	09	3.8
650	31	3,767	6.9	-4.2	08	5.1
600	31	4,424	3.1	-8.9	08	4.5
550	31	5,120	-.9	-13.6	09	5.3
500	31	5,880	-4.9	-18.3	09	5.5
450	31	6,699	-9.5	-23.5	10	5.4
400	31	7,605	-14.8	-28.8	09	4.2
350	31	8,602	-21.6	-35.7	08	2.8
300	31	9,719	-29.8	-43.5	07	2.1
250	31	10,992	-40.0	-51.7	04	1.4
200	31	12,476	-52.2		26	.6
175	31	13,327	-59.0		26	1.5
150	31	14,277	-66.1		22	1.4
125	31	15,363	-73.3		10	.5
100	29	16,652	-76.5		07	2.7
80	29	17,949	-72.1		34	1.6
70	29	18,744	-67.8		28	2.6
60	29	19,679	-64.5		26	3.2
50	29	20,803	-60.6		25	3.7
40	29	22,204	-57.0		27	1.8
30	28	24,043	-52.4		08	.9
25	26	25,234	-49.8		12	1.8
20	26	26,701	-47.2		10	3.1
15	26	28,622	-43.7		09	7.1
10	18	31,400	-37.9		09	18.1
7	10	33,913	-33.2			
5						

* MEDFORD, OREG. — 972 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	401	4.7	3.6	19	.5
1000	31	164				
950	31	588	7.4	4.2	27	.6
900	31	1,031	8.0	1.5	16	1.4
850	31	1,502	6.0	-1.9	18	1.8
800	31	1,996	3.5	-6.1	25	1.6
750	31	2,514	1.0	-10.5	29	3.0
700	31	3,070	-1.7	-15.9	30	4.9
650	31	3,654	-4.8	-20.3	30	7.3
600	31	4,282	-8.1	-23.6	30	9.1
550	31	4,948	-11.8	-26.7	30	11.6
500	31	5,677	-16.4	-31.3	30	13.6
450	31	6,456	-21.6	-35.1	30	15.8
400	31	7,319	-28.2	-40.8	30	17.8
350	31	8,263	-34.8	-46.2	30	21.4
300	31	9,322	-41.8	-52.2	30	24.7
250	31	10,536	-49.6		30	26.3
200	31	11,971	-56.8		30	26.5
175	31	12,813	-58.6		30	24.8
150	31	13,779	-59.5		29	23.6
125	31	14,916	-60.9		30	18.9
100	31	16,301	-61.3		29	14.9
80	31	17,688	-60.6		29	9.7
70	31	18,521	-60.0		29	7.5
60	31	19,484	-59.4		29	6.4
50	31	20,628	-58.5		29	4.8
40	30	22,036	-58.0		28	5.1
30	30	23,856	-56.4		28	5.9
25	28	25,027	-55.5		28	7.9
20	26	26,448	-54.1		28	9.9
15	24	28,305	-52.5		27	13.3
10	19	30,958	-48.6		27	15.6
7	13	33,363	-46.0		26	15.9
5	9	35,622	-42.5			

MERIDA, MEXICO — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	11	22.1	21.8	08	1.6
1000	31	101	23.6	22.6	08	1.9
950	31	550	22.8	20.1	09	2.3
900	31	1,023	20.3	16.5	08	1.8
850	31	1,516	17.5	13.4	09	1.3
800	31	2,033	15.0	9.4	16	.4
750	31	2,581	12.9	1.9	15	.2
700	31	3,156	10.3	-2.4	17	.2
650	31	3,770	6.9	-6.8	03	.5
600	31	4,424	3.6	-12.2	01	1.1
550	31	5,123	-.4	-16.0	02	2.3
500	31	5,884	-4.7	-21.5	03	2.5
450	31	6,701	-10.0	-26.8	03	1.9
400	31	7,606	-16.0	-32.0	05	1.0
350	31	8,598	-23.0	-38.2	09	.1
300	31	9,708	-31.6	-44.7	22	2.3
250	31	10,972	-41.5		21	4.1
200	31	12,448	-53.1		21	3.9
175	30	13,297	-59.6		22	2.3
150	29	14,243	-66.1		21	2.7
125	28	15,328	-72.8		20	1.7
100	28	16,617	-77.1		10	2.7
80	27	17,910	-71.3		09	4.4
70	27	18,710	-66.6		09	5.0
60	27	19,649	-63.1		08	5.1
50	26	20,778	-59.3		08	6.7
40	23	22,193	-56.0		08	7.0
30	22	24,039	-51.4		09	7.2
25	21	25,235	-48.5		08	8.2
20	20	26,707	-46.7		09	9.6
15	17	28,634	-42.1		09	11.6
10	10	31,410	-37.1			
7						
5						

MIAMI, FLA. — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	4	24.6	21.4	08	2.4
1000	31	112	24.5	21.4	08	3.7
950	31	565	21.7	19.1	10	5.9
900	31	1,030	19.0	14.8	10	6.0
850	31	1,521	16.6	11.0	11	4.8
800	31	2,036	14.2	6.5	12	3.4
750	31	2,582	11.8	2.2	15	2.4
700	31	3,156	8.9	-3.0	15	2.7
650	31	3,767	5.5	-6.2	16	2.6
600	31	4,417	2.0	-8.5	16	2.0
550	31	5,108	-1.7	-14.0	19	.9
500	31	5,868	-6.1	-18.0	25	.5
450	31	6,685	-11.3	-23.0	31	1.2
400	31	7,580	-17.1	-28.6	30	3.2
350	31	8,568	-23.8	-34.6	29	4.3
300	31	9,676	-32.0	-43.2	29	6.6
250	31	10,936	-42.1	-51.8	29	9.6
200	31	12,408	-53.6		29	12.7
175	31	13,254	-59.7		29	13.3
150	31	14,203	-66.2		29	11.9
125	31	15,291	-72.3		30	9.0
100	31	16,588	-75.8		30	4.1
80	31	17,891	-71.2		06	2.1
70	31	18,687	-67.8		07	3.3
60	31	19,624	-63.8		09	4.4
50	30	20,749	-59.6		09	3.8
40	29	22,159	-56.4		09	3.5
30	25	23,997	-52.8		07	4.9
25	24	25,180	-49.9		09	6.0
20	24	26,653	-46.4		09	5.2
15	22	28,583	-42.1		10	4.4
10	18	31,343	-36.6		08	5.4
7	11	33,820	-34.3			
5						

MIDLAND, TEXAS — 916 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	874	12.3	9.2	11	1.8
1000	31	126				
950	31	564				
900	31	1,017	12.7	8.6	13	3.4
850	31	1,499	13.6	7.1	18	7.3
800	31	2,010	12.6	3.3	21	7.6
750	31	2,550	10.1	-.2	23	7.3
700	31	3,121	6.4	-3.5	24	8.3
650	31	3,721	2.2	-7.9	24	9.8
600	31	4,368	-1.7	-13.9	25	10.7
550	31	5,048	-5.8	-20.3	25	12.9
500	31	5,797	-10.3	-27.0	25	13.3
450	31	6,595	-15.5	-32.7	25	15.7
400	31	7,480	-22.2	-37.9	25	17.7
350	31	8,448	-29.5	-43.7	25	19.6
300	31	9,528	-38.1	-48.6	25	22.4
250	31	10,758	-47.0		25	26.6
200	31	12,207	-55.4		25	31.9
175	31	13,051	-59.4		25	31.6
150	31	14,006	-63.6		25	28.5
125	31	15,114	-67.5		25	22.4
100	31	16,448	-69.7		25	15.8
80	31	17,785	-66.3		25	10.7
70	31	18,598	-64.0		25	5.4
60	31	19,548	-61.7		23	3.4
50	31	20,683	-59.5		23	1.5
40	29	22,089	-56.8		25	1.5
30	29	23,925	-53.8		25	1.9
25	28	25,101	-52.1		28	1.3
20	23	26,555	-49.1		25	2.6
15	18	28,457	-45.9		26	5.7
10	12	31,215	-42.1			
7						
5						

MONTERREY, MEXICO — 968 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	423	19.0	17.0	03	1.4
1000	31	137				
950	31	583	19.0	17.2	07	1.9
900	31	1,044	17.3	14.4	12	3.3
850	31	1,532	15.9	10.9	13	4.3
800	31	2,047	14.4	6.3	15	3.9
750	31	2,595	12.5	1.2	16	3.1
700	31	3,167	9.3	-3.7	21	2.0
650	31	3,781	4.9	-5.9	26	3.4
600	31	4,425	.5	-10.8	25	4.6
550	31	5,114	-3.6	-18.3	25	4.6
500	31	5,865	-8.2	-22.8	24	6.1
450	31	6,672	-13.3	-29.2	24	8.2
400	31	7,562	-19.2	-34.4	24	10.0
350	31	8,542	-26.3	-40.6	24	12.1
300	31	9,638	-34.7	-47.1	24	14.2
250	31	10,885	-44.2		24	18.7
200	31	12,347	-55.0		24	19.2
175	30	13,185	-60.9		24	19.6
150	30	14,130	-66.7		24	18.4
125	30	15,217	-72.3		23	13.8
100	30	16,518	-75.0		24	9.4
80	28	17,822	-70.7		24	3.2
70	27	18,625	-66.3		19	.8
60	27	19,568	-63.1		11	2.1
50	27	20,695	-60.9		11	2.6
40	26	22,092	-57.0		08	4.8
30	26	23,928	-53.4		08	4.3
25	24	25,107	-50.9		07	5.2
20	24	26,574	-47.0		09	5.2
15	24	28,498	-43.5		09	5.1
10	16	31,294	-35.7			
7						

MONTGOMERY, ALA. — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	57	14.4	12.2	05	1.4
1000	31	154	14.5	11.8	06	3.1
950	31	593	15.4	10.7	09	4.9
900	31	1,050	15.2	8.8	12	3.1
850	31	1,533	13.4	5.4	16	2.5
800	31	2,042	11.1	1.3	18	2.2
750	31	2,578	8.9	-2.9	23	1.7
700	31	3,148	6.4	-6.9	25	2.9
650	31	3,753	3.1	-10.4	26	4.0
600	31	4,399	.2	-15.6	25	5.0
550	31	5,088	-3.7	-21.3	26	6.6
500	31	5,838	-8.2	-26.7	26	7.9
450	31	6,645	-13.7	-30.5	26	10.2
400	31	7,534	-20.0	-35.3	26	12.0
350	31	8,510	-27.2	-41.8	27	14.9
300	31	9,602	-35.4	-48.8	26	19.0
250	31	10,848	-44.4		26	21.0
200	31	12,309	-54.6		26	23.2
175	31	13,153	-60.2		26	24.4
150	31	14,102	-65.6		26	22.8
125	31	15,197	-70.1		26	18.9
100	31	16,518	-71.2		26	13.4
80	31	17,846	-67.7		27	6.6
70	30	18,657	-65.5		26	3.4
60	30	19,599	-63.0		25	1.5
50	28	20,726	-59.9		28	1.7
40	28	22,130	-56.4		29	1.3
30	28	23,971	-52.4		30	1.7
25	28	25,156	-49.9		26	2.3
20	27	26,621	-47.0		25	3.3
15	26	28,542	-43.4		25	5.3
10	20	31,281	-38.0		24	10.0
7	[illegible]	33,789	-34.0			

* NANTUCKET, MASS. — 1019 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	14	10.3	5.9	33	2.0
1000	31	174	11.4	5.8	31	2.2
950	31	601	9.4	2.6	31	4.4
900	31	1,049	7.6	-1.0	29	4.8
850	31	1,520	6.6	-6.5	28	6.2
800	31	2,016	4.9	-8.6	28	8.6
750	31	2,542	2.9	-12.1	28	9.7
700	31	3,097	.1	-15.7	28	10.6
650	31	3,684	-2.9	-19.0	28	11.7
600	31	4,319	-6.2	-22.5	28	12.7
550	31	4,990	-9.9	-26.7	27	15.2
500	31	5,724	-14.5	-30.2	27	17.5
450	31	6,511	-19.7	-34.4	27	19.7
400	31	7,379	-25.9	-38.5	27	22.1
350	31	8,333	-32.9	-45.2	27	24.0
300	31	9,400	-40.8	-49.1	27	26.1
250	31	10,620	-48.7		27	29.4
200	31	12,063	-56.2		28	30.0
175	30	12,907	-58.3		28	30.9
150	29	13,864	-60.3		27	27.4
125	29	14,994	-62.6		28	24.1
100	28	16,371	-63.4		28	19.6
80	28	17,746	-61.9		28	14.6
70	28	18,575	-60.6		27	13.2
60	27	19,541	-59.8		28	11.3
50	27	20,684	-58.4		28	10.5
40	26	22,093	-55.8		28	9.8
30	24	23,935	-53.2		27	10.7
25	24	25,117	-50.6		27	11.6
20	23	26,578	-48.6		26	14.3
15	21	28,474	-45.2		25	19.0
10	15	31,212	-42.6		26	22.5
7	10	33,647	-38.7			

* NOME, ALASKA — 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	5	.5	-4.2	09	2.8
1000	31	45			07	3.0
950	31	458	.3	-5.2	09	3.1
900	31	890	-1.4	-7.9	12	2.5
850	31	1,344	-3.3	-10.6	13	2.6
800	31	1,823	-5.4	-13.3	15	3.0
750	31	2,325	-8.1	-15.6	17	3.8
700	31	2,861	-11.2	-18.9	18	4.0
650	31	3,424	-14.4	-22.8	18	5.0
600	31	4,031	-18.0	-25.4	19	5.5
550	31	4,671	-21.9	-29.7	19	6.8
500	31	5,372	-26.5	-34.3	19	7.6
450	31	6,121	-31.7	-39.4	19	8.6
400	31	6,949	-37.9	-43.0	19	9.4
350	31	7,857	-44.4		19	10.4
300	31	8,875	-50.7		20	10.7
250	31	10,050	-54.6		19	11.5
200	30	11,481	-54.6		20	11.3
175	30	12,338	-53.3		21	11.7
150	30	13,334	-52.0		21	10.4
125	30	14,515	-51.8		21	9.9
100	29	15,950	-51.1		22	10.1
80	29	17,409	-51.4		23	10.2
70	29	18,274	-51.9		23	10.2
60	29	19,272	-52.1		24	10.6
50	29	20,451	-52.4		25	11.0
40	29	21,892	-52.5		26	12.4
30	29	23,747	-53.2		27	14.6
25	29	24,921	-53.8		27	15.9
20	27	26,361	-54.2		28	17.1
15	27	28,201	-55.0		28	20.8
10	17	30,772	-54.7		28	25.5
7	8	33,059	-54.1			

NORTH PLATTE, NEBR. — 918 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M/S
SURFACE	31	847	1.8	.4	36	1.0
1000	31	150				
950	31	570				
900	31	1,007	4.0	-.1	28	1.4
850	31	1,473	4.2	-2.2	28	3.2
800	31	1,965	3.0	-4.2	28	4.5
750	31	2,486	.7	-5.5	28	6.1
700	31	3,038	-1.9	-8.2	27	6.5
650	31	3,624	-4.7	-13.9	27	8.7
600	31	4,251	-8.3	-18.0	27	10.0
550	31	4,920	-11.8	-22.3	26	12.4
500	31	5,646	-16.5	-27.5	27	15.6
450	31	6,426	-22.0	-33.8	26	17.5
400	31	7,287	-28.1	-38.5	26	20.3
350	31	8,232	-35.4	-44.5	25	21.4
300	31	9,288	-43.1		25	22.7
250	31	10,495	-50.8		25	25.3
200	31	11,929	-55.9		25	28.3
175	31	12,776	-57.1		25	28.4
150	31	13,750	-58.3		25	25.1
125	30	14,888	-60.0		26	21.4
100	30	16,280	-60.4		26	16.9
80	30	17,669	-60.1		26	13.0
70	30	18,503	-59.3		26	10.9
60	30	19,469	-59.1		27	8.9
50	30	20,613	-58.5		27	8.8
40	28	22,028	-57.7		26	9.1
30	28	23,846	-56.4		27	10.0
25	28	25,005	-55.0		27	12.0
20	21	26,455	-52.8		27	12.8
15	17	28,309	-49.9		26	16.9
10	11	30,994	-46.9			
7	6	33,334	-43.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1969

OAKLAND, CALIF. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	6	12.5	8.5	03	.7
1000	31	131	13.2	7.4	02	.8
950	31	563	13.1	3.6	36	2.3
900	31	1,018	12.0	-.4	01	3.5
850	31	1,495	10.7	-5.2	35	3.0
800	31	1,999	8.2	-8.9	33	3.8
750	31	2,530	5.9	-12.7	33	5.9
700	31	3,092	3.2	-15.1	32	7.0
650	31	3,684	-.2	-18.1	31	8.3
600	31	4,327	-3.7	-21.5	31	10.8
550	31	5,000	-8.0	-24.5	31	12.3
500	31	5,744	-13.2	-28.4	31	13.4
450	31	6,536	-18.5	-32.4	31	16.4
400	31	7,410	-24.7	-38.1	30	18.3
350	31	8,367	-32.3	-44.6	30	19.9
300	31	9,437	-40.6	-49.6	30	20.4
250	30	10,657	-49.5		30	22.6
200	30	12,090	-57.6		30	24.4
175	30	12,929	-59.8		30	23.8
150	30	13,889	-61.5		30	22.9
125	30	15,014	-63.4		29	19.2
100	30	16,381	-64.9		29	14.9
80	30	17,746	-63.2		29	10.3
70	30	18,569	-61.9		29	8.3
60	30	19,526	-60.7		29	6.5
50	30	20,665	-59.0		28	5.0
40	30	22,070	-57.6		28	5.0
30	28	23,896	-55.6		28	6.8
25	25	25,051	-54.1		27	9.2
20	23	26,481	-52.4		27	10.8
15	20	28,325	-49.4		27	16.1
10						
7						
5						

OMAHA, NEBR. 969 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	403	5.8	2.8	23	.5
1000	31	145				
950	31	565	6.9	2.3	27	1.3
900	31	1,011	6.5	.1	26	4.4
850	31	1,480	5.3	-2.6	26	5.8
800	31	1,974	3.5	-5.5	26	7.1
750	31	2,489	1.0	-8.6	26	8.4
700	31	3,049	-1.0	-12.2	26	10.5
650	31	3,632	-4.1	-15.2	26	12.3
600	31	4,265	-7.5	-19.0	26	13.2
550	31	4,930	-11.4	-23.9	26	15.4
500	31	5,664	-15.8	-29.1	26	18.5
450	31	6,441	-21.2	-34.2	26	21.7
400	31	7,310	-27.3	-38.7	26	23.8
350	31	8,258	-34.4	-44.6	25	25.4
300	31	9,318	-42.2	-48.8	25	27.3
250	31	10,528	-50.5		25	28.5
200	31	11,959	-56.7		26	32.3
175	31	12,803	-58.1		26	32.8
150	31	13,769	-59.7		26	30.4
125	31	14,905	-61.1		26	24.7
100	31	16,288	-61.7		26	17.4
80	31	17,673	-60.8		26	15.0
70	31	18,505	-59.8		26	14.0
60	31	19,470	-59.1		26	12.1
50	31	20,615	-58.5		27	8.8
40	27	22,040	-58.4		27	9.3
30	26	23,860	-56.2		27	11.1
25	23	25,013	-54.6		27	11.4
20	22	26,457	-52.6		27	13.3
15	18	28,339	-49.8		27	17.6
10	11	30,978	-44.7		26	32.9
7						
5						

+ PAGO PAGO, AMERICAN SAMOA 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	5	28.4	24.2	12	5.3
1000	31	109	26.5	21.7	11	6.0
950	31	558	22.6	18.2	11	6.5
900	31	1,029	19.5	15.0	10	5.4
850	31	1,521	17.5	11.3	09	4.7
800	31	2,038	15.2	7.0	06	3.5
750	31	2,578	12.9	2.9	05	2.5
700	31	3,160	9.7	-1.5	01	1.2
650	31	3,768	6.4	-6.0	33	1.8
600	31	4,424	2.3	-10.5	31	2.8
550	31	5,114	-1.6	-16.2	30	3.1
500	31	5,876	-5.7	-20.5	29	4.7
450	31	6,685	-10.6	-25.7	30	6.0
400	31	7,592	-16.4	-30.6	29	7.5
350	31	8,583	-23.2	-37.3	28	9.1
300	31	9,694	-31.6	-45.2	28	10.7
250	31	10,958	-41.6		28	12.2
200	31	12,433	-53.6		27	13.9
175	31	13,280	-60.1		27	14.3
150	31	14,226	-66.8		27	13.1
125	31	15,311	-73.2		28	11.8
100	31	16,602	-76.7		28	9.3
80	31	17,893	-73.2		28	7.2
70	31	18,683	-69.3		27	6.2
60	31	19,614	-64.2		26	3.6
50	31	20,740	-60.4		31	.8
40	31	22,141	-56.8		05	2.3
30	29	23,981	-52.5		07	2.4
25	27	25,166	-50.2		08	4.2
20	27	26,634	-46.9		07	5.9
15	27	28,560	-42.1		09	7.5
10	22	31,333	-36.9		11	7.6
7	5	33,876	-32.2			
5						

*** PEORIA, ILL. 995 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	200	7.1	4.3	19	1.2
1000	31	153				
950	31	579	9.6	2.5	24	4.7
900	31	1,026	8.3	-.2	26	5.9
850	31	1,497	6.5	-4.4	26	7.1
800	31	1,993	4.4	-5.9	26	9.4
750	31	2,514	1.9	-9.5	26	10.3
700	31	3,072	-.1	-11.7	26	12.2
650	31	3,659	-2.7	-15.5	26	13.5
600	31	4,294	-6.1	-19.2	26	14.7
550	31	4,964	-9.7	-23.6	26	17.1
500	31	5,700	-14.3	-28.6	26	20.0
450	31	6,482	-19.8	-32.3	26	21.8
400	31	7,355	-25.9	-37.8	26	24.1
350	31	8,308	-33.2	-44.3	26	25.7
300	31	9,372	-41.4	-49.7	26	27.9
250	31	10,585	-49.8		26	32.2
200	31	12,019	-56.8		26	36.5
175	31	12,862	-58.1		26	35.9
150	31	13,829	-60.1		26	32.5
125	31	14,959	-62.2		26	27.0
100	31	16,333	-63.3		26	21.1
80	31	17,710	-61.4		26	15.5
70	31	18,541	-59.6		26	13.4
60	29	19,504	-59.1		27	11.3
50	29	20,648	-58.3		27	9.8
40	29	22,055	-57.0		27	10.5
30	29	23,885	-54.7		27	11.3
25	29	25,056	-52.7		27	12.6
20	29	26,505	-50.1		26	15.6
15	27	28,387	-46.5		26	19.9
10	25	31,090	-42.5		26	27.2
7	20	33,533	-39.4		26	32.3
5	9	35,862	-35.8			

*** PITTSBURGH, PA. 978 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	359	7.2	3.9	24	1.2
1000	31	172				
950	31	596	9.0	3.3	24	3.4
900	31	1,043	7.7	-.3	27	5.7
850	31	1,514	6.2	-3.9	27	6.3
800	31	2,010	4.6	-7.9	26	7.4
750	31	2,537	2.9	-10.8	26	8.8
700	31	3,090	.4	-13.3	26	10.4
650	31	3,683	-2.7	-16.5	26	12.0
600	31	4,313	-5.9	-19.9	26	13.1
550	31	4,985	-9.6	-24.6	27	15.3
500	31	5,719	-14.2	-28.7	27	17.0
450	31	6,506	-19.4	-33.2	27	20.3
400	31	7,377	-25.2	-38.1	27	23.6
350	31	8,333	-32.2	-44.4	27	25.3
300	31	9,404	-39.9	-46.4	26	28.1
250	31	10,627	-48.1		27	31.3
200	31	12,072	-55.1		27	34.5
175	31	12,919	-57.9		27	33.0
150	31	13,886	-60.5		27	31.3
125	31	15,012	-63.8		27	25.9
100	30	16,381	-64.5		27	20.8
80	30	17,753	-61.6		27	15.3
70	29	18,585	-60.8		28	13.0
60	28	19,553	-59.7		28	9.5
50	28	20,695	-59.1		28	9.3
40	28	22,101	-56.8		28	10.5
30	28	23,937	-53.7		27	9.9
25	28	25,114	-51.5		27	12.6
20	28	26,573	-48.5		27	14.4
15	26	28,467	-46.0		26	18.5
10	22	31,173	-42.5		26	26.2
7	16	33,551	-40.3		27	31.0
5	■	35,914	-36.8			

+ PONAPE, CAROLINE IS. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	39	29.3	24.2	02	1.7
1000	31	87	28.4	22.7	02	1.4
950	31	535	24.2	17.8	08	.8
900	31	1,013	21.1	14.3	11	1.5
850	31	1,507	18.3	10.7	11	2.1
800	31	2,024	15.6	6.8	10	2.7
750	31	2,569	12.8	2.6	09	3.8
700	31	3,147	9.9	-1.8	09	4.7
650	31	3,757	6.5	-6.5	09	5.0
600	31	4,413	2.8	-10.6	10	6.1
550	31	5,110	-1.1	-14.4	09	6.0
500	31	5,868	-5.3	-19.2	10	6.6
450	31	6,686	-9.8	-24.5	09	6.3
400	31	7,590	-15.2	-30.7	09	6.1
350	31	8,586	-22.1	-38.0	09	5.9
300	31	9,700	-30.5	-45.7	09	5.9
250	31	10,969	-40.8		07	4.8
200	31	12,447	-53.1		07	5.6
175	31	13,294	-60.1		07	5.6
150	31	14,240	-67.2		08	5.3
125	31	15,319	-74.5		07	4.5
100	31	16,601	-77.5		08	6.2
80	31	17,896	-71.9		01	.4
70	31	18,689	-68.8		27	1.9
60	31	19,620	-65.1		28	2.8
50	30	20,740	-61.4		28	2.5
40	29	22,135	-57.9		29	.8
30	29	23,967	-53.5		16	.6
25	29	25,148	-50.4		13	1.5
20	29	26,610	-48.0		11	2.8
15	28	28,517	-45.3		10	7.0
10	27	31,255	-39.3		09	18.9
7	21	33,725	-34.2		09	27.7
5						

PORTLAND, MAINE 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	20	5.7	2.3	29	1.0
1000	31	161	7.5	2.1	29	1.7
950	31	582	6.6	-.5	29	4.8
900	31	1,027	5.2	-2.5	29	6.4
850	31	1,494	4.3	-6.3	29	7.8
800	31	1,986	2.9	-8.8	28	9.8
750	31	2,503	.7	-11.6	28	11.4
700	31	3,058	-2.2	-15.3	28	12.9
650	31	3,640	-5.1	-18.8	27	14.9
600	31	4,269	-8.7	-22.8	27	16.1
550	31	4,933	-12.6	-26.8	27	18.4
500	31	5,660	-17.2	-31.5	27	19.8
450	31	6,435	-22.2	-35.0	27	21.1
400	31	7,299	-28.1	-39.2	27	23.2
350	31	8,245	-34.7	-45.1	27	26.2
300	31	9,304	-42.3	-50.4	27	28.4
250	31	10,515	-50.1		27	30.0
200	31	11,951	-55.8		27	33.0
175	31	12,797	-57.4		27	32.4
150	31	13,768	-59.1		27	28.1
125	31	14,906	-60.6		27	26.2
100	31	16,292	-61.3		27	21.3
80	31	17,681	-59.9		27	16.6
70	31	18,516	-59.3		27	14.3
60	31	19,482	-58.7		27	12.4
50	31	20,630	-57.7		27	12.3
40	31	22,042	-56.2		27	11.0
30	29	23,876	-53.5		26	12.9
25	23	25,037	-51.3		26	15.8
20	21	26,491	-49.0		26	17.7
15	15	28,383	-46.1		25	24.4
10	6	31,140	-42.1			
7						
5						

■ QUILLAYUTE, WASH. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	58	7.0	6.4	09	1.5
1000	31	144	8.3	6.4	10	2.0
950	31	567	9.0	2.9	16	3.4
900	31	1,015	6.6	-.3	18	3.4
850	31	1,482	3.9	-3.8	19	3.5
800	31	1,973	1.5	-6.8	22	2.8
750	31	2,489	-1.4	-9.2	24	2.7
700	31	3,037	-4.3	-13.5	26	3.1
650	31	3,613	-7.7	-18.5	25	4.1
600	31	4,236	-11.2	-22.7	26	4.7
550	31	4,890	-15.1	-25.8	28	5.5
500	31	5,613	-19.8	-31.4	29	7.3
450	31	6,378	-25.2	-36.0	30	8.1
400	31	7,233	-30.7	-40.7	30	10.6
350	31	8,169	-36.9	-44.9	30	13.9
300	31	9,220	-44.1		29	16.4
250	31	10,423	-51.2		29	16.4
200	31	11,852	-56.8		29	18.0
175	31	12,696	-57.7		28	17.4
150	31	13,668	-57.9		29	15.4
125	29	14,820	-58.5		29	13.7
100	29	16,220	-59.2		30	10.9
80	29	17,621	-58.5		29	8.5
70	29	18,460	-58.4		29	7.3
60	28	19,435	-58.2		29	6.3
50	27	20,585	-58.0		29	5.8
40	27	21,990	-58.3		30	5.6
30	25	23,795	-57.5		30	6.1
25	25	24,947	-57.3		30	6.8
20	25	26,357	-57.2		31	7.7
15	24	28,205	-55.8		30	10.5
10	18	30,818	-53.6		30	15.1
7	11	33,062	-50.9			
5						

RAPID CITY, S. DAK. 905 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	966	1.5	-2.9	33	2.5
1000	31	155				
950	31	573				
900	31	1,010	.7	-3.4	34	3.1
850	31	1,474	2.6	-4.8	31	5.6
800	31	1,963	.3	-7.1	31	6.3
750	31	2,475	-2.1	-9.7	30	7.1
700	31	3,025	-4.4	-13.5	30	8.4
650	31	3,602	-7.3	-16.7	28	9.1
600	31	4,226	-11.0	-20.9	28	10.4
550	31	4,882	-15.0	-26.2	27	12.2
500	31	5,604	-19.5	-30.1	27	13.3
450	31	6,372	-25.1	-35.5	27	15.5
400	31	7,224	-31.4	-40.6	26	17.9
350	31	8,156	-38.2	-46.7	26	20.5
300	31	9,200	-45.7		26	22.6
250	31	10,396	-51.8		26	23.3
200	31	11,829	-55.6		26	22.0
175	30	12,676	-56.1		26	21.9
150	30	13,654	-57.2		26	20.6
125	30	14,806	-57.8		27	17.0
100	30	16,209	-58.3		26	14.4
80	30	17,613	-58.4		27	11.9
70	29	18,457	-58.9		27	10.1
60	29	19,424	-58.8		27	9.8
50	29	20,569	-58.8		27	9.3
40	29	21,969	-58.8		27	10.0
30	29	23,780	-57.8		28	11.0
25	29	24,932	-57.0		28	11.1
20	27	26,357	-55.4		27	14.0
15	24	28,190	-51.8		27	17.6
10	17	30,815	-48.9		27	19.5
7	■	33,267	-43.6			
5	5	35,551	-40.7			

ST CLOUD, MINN. 978 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	316	3.7	.6	25	.8
1000	31	137				
950	31	553	4.2	.3	25	2.9
900	31	995	3.3	-1.5	27	5.9
850	31	1,457	1.9	-5.8	27	7.3
800	31	1,945	.1	-8.6	28	8.2
750	31	2,457	-1.9	-10.1	27	8.4
700	31	3,007	-4.7	-13.2	27	9.8
650	31	3,580	-7.6	-18.6	27	10.9
600	31	4,206	-11.2	-21.9	27	12.2
550	31	4,863	-15.1	-26.7	27	14.6
500	31	5,584	-19.6	-30.8	27	17.3
450	31	6,352	-24.6	-36.9	26	19.8
400	31	7,208	-30.4	-41.9	26	22.6
350	31	8,144	-37.3	-46.4	26	25.8
300	31	9,191	-44.8		25	27.6
250	31	10,390	-51.7		26	29.4
200	31	11,822	-55.8		25	29.1
175	31	12,670	-56.3		26	27.4
150	31	13,648	-56.9		26	26.1
125	31	14,800	-58.0		26	22.6
100	31	16,201	-58.6		26	17.9
80	31	17,603	-58.2		27	14.5
70	31	18,443	-58.4		27	13.8
60	31	19,412	-58.2		27	12.2
50	[illegible]	20,554	-58.6		28	11.7
40	30	21,955	-58.2		28	12.2
30	28	23,785	-57.1		28	13.1
25	28	24,941	-56.0		28	13.5
20	28	26,365	-54.0		27	15.1
15	26	28,231	-51.1		27	20.4
10	23	30,886	-47.0		27	29.1
7	11	33,300	-44.6			
5						

*** ST PAUL IS., ALASKA 1002 MB**

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	10	3.9	1.6	36	4.7
1000	31	28			02	2.3
950	31	444	2.0	-.2	36	5.6
900	31	879	-.9	-2.8	36	4.7
850	31	1,334	-3.4	-6.9	01	4.6
800	31	1,811	-5.4	-13.3	01	3.8
750	31	2,315	-7.9	-17.0	02	2.8
700	31	2,849	-10.8	-20.7	36	2.7
650	31	3,413	-13.9	-24.8	35	2.1
600	31	4,020	-17.6	-27.3	32	1.3
550	31	4,664	-21.5	-32.4	29	2.0
500	31	5,363	-26.1	-35.5	28	2.2
450	31	6,114	-31.2	-40.2	26	2.5
400	31	6,943	-37.1	-44.3	25	2.7
350	31	7,853	-43.5	-46.7	26	2.6
300	31	8,875	-50.1		25	2.5
250	31	10,054	-53.8		24	2.8
200	31	11,491	-52.4		23	4.8
175	31	12,356	-51.4		23	6.2
150	31	13,359	-50.9		24	5.7
125	31	14,546	-50.3		24	6.4
100	30	16,007	-49.9		24	7.3
80	30	17,465	-50.0		24	7.0
70	30	18,338	-50.1		24	7.2
60	30	19,344	-50.2		25	7.3
50	30	20,534	-50.4		25	7.3
40	30	21,990	-50.2		26	7.8
30	30	23,866	-50.8		27	8.3
25	30	25,051	-51.3		28	8.4
20	30	26,501	-51.3		29	9.0
15	28	28,375	-50.3		29	10.1
10	25	31,036	-50.0		29	11.7
7	23	33,397	-48.9		30	15.1
5	12	35,599	-49.2			

SALEM, OREG. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	61	6.7	5.1	18	1.0
1000	31	153	8.3	6.0	17	.9
950	31	578	9.0	3.2	21	1.0
900	31	1,025	7.3	-.8	22	1.4
850	31	1,494	4.6	-3.8	23	2.5
800	31	1,986	2.2	-8.4	25	3.3
750	31	2,502	-.6	-10.8	27	4.4
700	31	3,053	-3.5	-15.6	28	4.9
650	31	3,632	-6.8	-20.1	29	5.3
600	31	4,257	-10.4	-24.7	29	6.8
550	31	4,915	-14.6	-27.8	29	8.2
500	31	5,638	-19.2	-31.1	29	10.6
450	31	6,409	-23.9	-36.2	30	13.7
400	31	7,265	-29.7	-40.8	30	15.3
350	31	8,204	-36.3	-45.7	30	17.1
300	31	9,257	-43.3		31	18.7
250	31	10,465	-50.3		29	16.0
200	31	11,898	-56.2		29	20.3
175	31	12,744	-57.4		29	19.6
150	31	13,715	-58.4		29	18.4
125	31	14,858	-59.8		29	16.3
100	31	16,251	-60.0		29	13.3
80	31	17,646	-59.5		29	8.5
70	31	18,481	-59.3		29	7.1
60	30	19,444	-58.7		29	6.2
50	30	20,590	-58.4		29	5.3
40	30	21,992	-58.4		30	4.9
30	28	23,809	-56.9		30	5.4
25	27	24,976	-56.2		29	6.1
20	18	26,446	-53.9		29	5.3
15	12	28,328	-52.2			
10						
7						
5						

SALT LAKE CITY, UTAH 871 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	1,288	5.0	-.9	15	2.0
1000	31	148				
950	31	574				
900	31	1,023				
850	31	1,491	6.7	-2.1	16	1.9
800	31	1,987	4.2	-4.3	17	.6
750	31	2,508	.8	-6.6	32	.2
700	31	3,060	-2.6	-10.6	32	2.7
650	31	3,639	-6.3	-14.0	30	5.1
600	31	4,266	-10.0	-19.5	29	6.4
550	31	4,928	-14.1	-24.2	29	7.8
500	31	5,648	-19.1	-29.3	28	8.7
450	31	6,416	-24.3	-34.4	29	11.4
400	31	7,273	-30.4	-40.5	29	13.1
350	31	8,209	-37.2	-45.4	29	15.5
300	31	9,258	-44.4		28	17.5
250	31	10,463	-50.3		29	19.9
200	31	11,902	-55.0		29	19.2
175	31	12,754	-56.2		28	19.1
150	31	13,731	-57.6		28	18.7
125	31	14,878	-59.0		28	17.0
100	31	16,273	-60.5		27	14.1
80	30	17,663	-59.8		27	10.1
70	30	18,498	-59.8		27	8.1
60	29	19,458	-59.1		27	6.1
50	29	20,603	-58.6		26	6.6
40	28	22,013	-58.0		27	7.4
30	28	23,831	-56.5		27	7.1
25	27	24,999	-55.2		27	9.0
20	23	26,441	-53.7		28	8.6
15	21	28,307	-51.0		27	8.5
10	15	30,990	-47.3			
7						
5						

SAN DIEGO, CALIF. 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	124	13.5	9.5	05	.4
1000	31	104			03	.8
950	31	539	15.1	5.4	31	.5
900	31	997	15.3	-1.3	32	1.4
850	31	1,480	13.1	-4.9	32	2.8
800	31	1,988	11.0	-8.8	31	3.9
750	31	2,521	8.8	-11.8	30	5.3
700	31	3,092	5.9	-14.2	30	6.1
650	31	3,694	2.2	-16.0	30	7.6
600	31	4,337	-1.6	-19.3	29	9.2
550	31	5,015	-6.4	-23.5	29	10.3
500	31	5,763	-11.6	-27.7	29	11.7
450	31	6,555	-17.1	-33.7	30	14.2
400	31	7,437	-23.5	-39.9	30	15.6
350	31	8,400	-30.5	-45.4	29	17.3
300	31	9,477	-38.6	-51.1	29	19.9
250	31	10,707	-47.3		29	22.4
200	31	12,156	-55.1		29	24.6
175	31	13,002	-58.6		28	23.9
150	31	13,963	-61.9		28	22.0
125	31	15,082	-65.2		28	18.9
100	31	16,430	-67.4		28	14.9
80	31	17,780	-65.7		28	9.3
70	31	18,595	-63.5		28	6.6
60	31	19,547	-61.2		26	3.9
50	31	20,686	-58.7		28	3.4
40	31	22,097	-56.3		26	2.4
30	31	23,933	-53.7		26	3.8
25	31	25,109	-52.2		26	4.2
20	31	26,561	-49.6		26	5.8
15	23	28,455	-46.9		26	13.4
10	8	31,169	-41.4			
7						
5						

SAN JUAN, P. R. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed Mps
SURFACE	31	6	24.9	21.5	17	1.8
1000	31	110	24.9	21.0	14	2.8
950	31	559	22.7	18.2	11	5.1
900	31	1,031	20.2	14.7	11	5.3
850	31	1,522	17.6	10.2	11	4.8
800	31	2,039	14.9	6.2	11	3.7
750	31	2,581	12.1	2.1	11	3.4
700	31	3,158	9.0	-2.3	11	3.4
650	31	3,764	5.7	-6.9	10	3.3
600	31	4,419	1.9	-11.7	10	3.2
550	31	5,109	-2.0	-16.9	10	2.5
500	31	5,867	-6.5	-21.9	08	2.5
450	31	6,676	-11.4	-26.4	06	1.5
400	31	7,577	-17.1	-32.4	03	1.6
350	31	8,564	-24.1	-38.9	03	1.9
300	31	9,669	-32.5	-46.3	36	2.7
250	31	10,926	-42.4		35	4.1
200	31	12,396	-54.0		35	6.4
175	31	13,240	-60.2		34	7.8
150	29	14,186	-66.3		35	6.4
125	29	15,273	-72.5		35	4.4
100	28	16,565	-76.9		01	2.7
80	26	17,865	-71.6		06	3.6
70	24	18,657	-68.1		08	3.0
60	24	19,593	-63.7		08	3.7
50	23	20,719	-60.2		08	4.3
40	23	22,121	-57.1		08	6.3
30	20	23,967	-51.9		09	9.4
25	19	25,147	-49.5		10	10.3
20	16	26,610	-46.2		09	11.1
15	15	28,542	-41.7		10	14.6
10	9	31,307	-37.5			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SAN NICOLAS, CALIF. 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	174	14.1	9.6	31	3.9
1000	3	108				
950	30	546	17.2	1.1	33	4.3
900	30	1,006	15.9	-4.8	33	3.8
850	30	1,489	13.7	-7.2	33	4.3
800	30	1,996	11.3	-10.5	33	5.1
750	30	2,532	9.1	-12.0	32	5.5
700	30	3,101	6.3	-15.0	32	6.9
650	30	3,704	2.9	-19.1	31	8.2
600	30	4,347	-1.3	-22.5	31	9.6
550	30	5,034	-5.8	-26.1	30	11.1
500	30	5,773	-11.0	-29.8	31	12.5
450	30	6,573	-16.8	-33.6	31	13.8
400	30	7,446	-23.5	-38.7	31	15.0
350	30	8,408	-31.0	-45.5	30	17.4
300	30	9,483	-39.2	-52.8	30	19.3
250	30	10,708	-48.2	-60.2	29	20.8
200	30	12,150	-55.7	-66.7	29	22.7
175	30	12,994	-59.1	-68.7	29	22.1
150	30	13,953	-62.4		29	21.2
125	30	15,069	-65.7		28	18.3
100	30	16,418	-67.3		29	13.7
80	30	17,770	-65.1		28	9.0
70	30	18,588	-63.3		29	5.3
60	30	19,542	-60.4		27	4.0
50	30	20,684	-58.4		27	3.1
40	30	22,095	-56.3		25	2.5
30	30	23,934	-53.5		26	3.6
25	30	25,111	-52.0		27	4.1
20	28	26,565	-49.3		26	6.9
15	27	28,465	-46.2		27	13.7
10	26	31,183	-42.5		27	18.6
7	23	33,601	-39.3		26	24.9
5	12	35,979	-35.6		25	28.2
4	5	37,498	-37.6			

• SAULT STE MARIE, MICH. 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	221	4.2	1.9	06	.5
1000	31	135				
950	31	553	3.6	.8	25	2.2
900	31	990	2.0	-1.8	26	5.0
850	31	1,450	-.1	-4.5	27	7.5
800	31	1,934	-1.4	-9.1	26	9.6
750	31	2,446	-2.8	-12.8	26	12.2
700	31	2,993	-5.0	-14.9	26	14.1
650	31	3,572	-7.9	-17.1	26	14.8
600	30	4,189	-11.4	-20.4	26	15.7
550	30	4,850	-15.4	-24.5	26	17.2
500	30	5,566	-19.7	-27.5	26	18.7
450	30	6,336	-24.9	-33.6	26	21.5
400	30	7,189	-30.3	-37.9	26	25.1
350	30	8,126	-36.8	-41.4	26	27.4
300	30	9,176	-43.9	-45.2	26	29.9
250	30	10,380	-50.9		26	32.5
200	30	11,813	-56.2		27	33.8
175	30	12,660	-56.6		27	31.7
150	30	13,638	-56.6		26	30.0
125	30	14,791	-57.9		27	25.7
100	30	16,195	-58.3		27	22.3
80	30	17,600	-57.9		27	18.2
70	30	18,442	-57.7		27	17.1
60	30	19,415	-57.6		27	15.0
50	30	20,566	-57.5		27	14.8
40	30	21,975	-57.5		28	14.4
30	30	23,799	-55.8		27	15.5
25	30	24,962	-54.8		27	15.7
20	29	26,392	-53.0		27	19.3
15	27	28,252	-49.6		26	25.5
10	22	30,931	-45.0		26	35.5
7	13	33,334	-40.6			

• SHEMYA, ALASKA 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	38	4.7	1.4	34	2.1
1000	31	88			33	3.4
950	31	505	1.7	-.6	34	3.1
900	31	938	-1.3	-3.6	34	2.9
850	31	1,392	-3.5	-7.7	32	2.9
800	31	1,869	-6.1	-12.0	32	3.2
750	31	2,369	-9.0	-17.1	31	3.8
700	31	2,903	-12.0	-20.6	30	4.2
650	31	3,464	-15.2	-24.3	29	5.5
600	31	4,068	-18.7	-27.1	29	6.3
550	31	4,706	-22.9	-31.6	28	7.3
500	31	5,405	-27.7	-36.2	28	7.9
450	31	6,147	-32.7	-41.1	28	8.9
400	31	6,977	-38.3	-43.8	28	8.3
350	30	7,889	-44.2		28	8.9
300	30	8,909	-50.1		29	11.8
250	30	10,093	-52.2		28	14.8
200	30	11,538	-51.6		28	17.5
175	30	12,405	-51.2		28	17.6
150	28	13,401	-50.9		28	16.3
125	27	14,594	-50.8		27	14.8
100	26	16,049	-50.4		27	12.7
80	26	17,505	-50.2		28	12.6
70	26	18,378	-50.0		27	10.7
60	26	19,385	-49.9		27	9.8
50	26	20,579	-49.5		26	8.9
40	26	22,043	-49.1		26	8.0
30	26	23,930	-49.2		27	6.6
25	25	25,126	-49.2		26	6.2
20	24	26,590	-49.1		28	5.7
15	23	28,474	-49.4		29	5.2
10	19	31,139	-47.6		29	5.5
7	18	33,510	-45.7		29	6.4
5	12	35,761	-43.4			

• SHREVEPORT, LA. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	79	15.1	11.5	06	1.5
1000	31	142	15.1	10.6	07	2.6
950	31	584	15.4	9.3	13	3.8
900	31	1,038	15.1	7.0	17	3.2
850	31	1,521	13.3	4.8	21	2.7
800	31	2,030	11.0	2.0	23	3.1
750	31	2,565	8.2	-1.4	26	4.3
700	31	3,134	5.1	-6.0	25	4.8
650	31	3,736	2.0	-11.2	26	6.5
600	30	4,379	-1.3	-15.4	26	7.6
550	30	5,062	-5.5	-20.1	26	9.2
500	30	5,810	-9.9	-25.6	26	11.2
450	30	6,611	-15.0	-30.1	26	14.2
400	30	7,496	-21.4	-34.5	26	15.9
350	30	8,466	-28.5	-40.0	25	19.0
300	30	9,551	-36.8	-47.2	25	22.4
250	30	10,790	-45.5		25	25.0
200	30	12,244	-55.4		25	28.4
175	30	13,087	-59.8		25	27.6
150	29	14,043	-64.7		25	26.5
125	28	15,143	-69.5		25	22.1
100	28	16,464	-71.4		25	17.4
80	28	17,796	-67.3		25	10.5
70	28	18,605	-65.1		24	5.5
60	28	19,549	-62.7		23	3.8
50	28	20,681	-59.9		22	1.2
40	27	22,081	-56.9		29	.7
30	27	23,918	-53.2		29	2.5
25	26	25,097	-51.2		27	3.0
20	25	26,559	-48.5		27	3.6
15	24	28,476	-44.4		26	7.4
10	23	31,214	-40.2		26	10.3
7	18	33,654	-36.1		25	17.6
5	15	36,000	-31.6		26	28.2
4	6	37,561	-30.6			

SPOKANE, WASH. 934 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	720	3.0	-1.4	15	1.1
1000	31	160				
950	31	577				
900	31	1,021	5.4	-.1	17	1.6
850	31	1,487	3.8	-3.4	23	1.3
800	31	1,977	.9	-6.2	27	2.3
750	31	2,491	-2.2	-10.0	27	2.6
700	31	3,038	-5.1	-13.7	29	3.3
650	31	3,612	-8.5	-16.3	29	4.4
600	31	4,234	-12.0	-20.7	30	5.6
550	31	4,889	-16.2	-25.4	30	6.3
500	31	5,606	-20.9	-31.2	30	6.6
450	31	6,369	-26.2	-34.9	31	7.6
400	31	7,219	-32.1	-40.6	32	9.0
350	31	8,148	-38.8	-45.2	32	10.0
300	31	9,191	-45.4		32	13.0
250	31	10,390	-51.9		32	15.8
200	31	11,819	-56.3		31	16.7
175	31	12,666	-56.5		30	15.2
150	31	13,645	-56.5		30	13.8
125	31	14,801	-56.9		30	13.4
100	29	16,219	-57.2		30	10.5
80	29	17,631	-57.0		30	8.5
70	29	18,477	-56.9		29	7.6
60	29	19,452	-57.3		30	7.2
50	29	20,604	-57.5		30	6.2
40	29	22,014	-57.3		30	6.1
30	27	23,838	-56.5		30	6.1
25	26	24,995	-56.4		29	7.5
20	24	26,425	-55.4		30	8.6
15	24	28,267	-53.6		29	9.2
10	14	30,990	-49.9			

• SWAN ISLAND, W. I. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	10	26.3	23.8	12	1.4
1000	31	82	26.0	23.4	11	1.9
950	31	530	23.4	21.1	11	2.8
900	31	1,007	20.7	17.7	11	3.1
850	31	1,501	18.0	14.3	12	3.2
800	31	2,019	15.1	10.8	13	2.8
750	31	2,566	12.5	6.7	14	2.4
700	31	3,142	9.8	1.2	14	2.6
650	31	3,751	6.4	-3.3	12	2.2
600	31	4,408	2.7	-7.5	11	2.2
550	31	5,105	-1.2	-11.0	09	2.2
500	31	5,863	-5.2	-17.3	08	2.3
450	31	6,684	-9.9	-23.8	08	2.4
400	31	7,585	-15.6	-29.7	08	2.7
350	31	8,578	-22.5	-36.5	09	2.1
300	31	9,691	-31.0	-43.7	09	2.0
250	31	10,956	-41.2		09	2.9
200	31	12,431	-53.6		10	3.0
175	30	13,274	-60.7		11	3.0
150	30	14,217	-68.1		08	3.8
125	29	15,293	-75.0		08	5.4
100	27	16,574	-78.6		08	6.0
80	27	17,860	-73.0		09	5.7
70	27	18,652	-68.5		08	5.8
60	25	19,588	-64.9		09	6.3
50	22	20,712	-61.1		08	6.4
40	22	22,108	-57.4		09	8.1
30	22	23,948	-52.4		10	9.0
25	19	25,127	-50.7		09	9.6
20	18	26,591	-47.9		09	10.6
15	14	28,508	-44.5		09	14.6
10	10	31,261	-38.1			
7						

TAMPA, FLA. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	8	22.1	20.6	07	3.0
1000	31	123	22.4	20.1	07	4.1
950	31	573	20.6	16.9	09	6.5
900	31	1,037	18.0	14.0	11	5.7
850	31	1,525	15.3	11.3	11	4.5
800	31	2,038	13.3	6.2	13	3.3
750	31	2,583	10.7	.6	13	2.7
700	31	3,153	8.3	-4.0	14	2.1
650	31	3,760	5.1	-8.3	17	1.5
600	31	4,412	1.4	-13.5	20	.9
550	31	5,104	-2.3	-17.6	24	1.7
500	31	5,858	-6.7	-22.8	26	2.8
450	31	6,671	-11.9	-27.6	28	3.6
400	31	7,566	-18.0	-33.1	28	4.9
350	31	8,550	-25.2	-38.3	28	6.3
300	31	9,651	-33.5	-44.8	27	9.3
250	31	10,904	-43.3		27	12.7
200	31	12,369	-54.4		27	14.5
175	31	13,213	-60.6		27	15.3
150	31	14,158	-66.7		27	15.3
125	31	15,245	-72.1		28	12.7
100	31	16,544	-75.1		28	6.9
80	31	17,850	-70.7		33	1.0
70	31	18,647	-67.6		07	2.2
60	31	19,583	-64.1		08	2.5
50	31	20,709	-60.2		08	2.1
40	30	22,115	-56.4		06	2.0
30	27	23,954	-52.8		08	3.8
25	26	25,135	-49.7		09	4.7
20	23	26,613	-46.6		10	4.7
15	20	28,532	-42.7		09	3.9
10	19	31,292	-37.8		10	1.6
7	7	33,785	-35.1			

TOPEKA, KANS. 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	268	8.1	5.3	17	.5
1000	31	151				
950	31	577	9.3	2.2	18	1.5
900	31	1,024	8.7	-.2	23	3.5
850	31	1,496	7.3	-2.7	25	5.0
800	31	1,995	5.5	-4.8	26	7.4
750	31	2,519	3.3	-8.7	26	8.9
700	31	3,078	.7	-11.7	26	10.4
650	31	3,667	-1.9	-14.4	26	12.3
600	31	4,304	-5.6	-18.2	26	13.4
550	31	4,971	-9.5	-22.9	25	15.7
500	31	5,712	-14.4	-27.6	25	17.2
450	31	6,496	-19.6	-33.7	25	19.1
400	31	7,369	-25.9	-39.2	25	21.5
350	31	8,323	-32.8	-45.2	25	24.2
300	31	9,390	-40.9	-50.6	25	26.9
250	31	10,607	-49.4		25	31.3
200	31	12,043	-57.0		25	33.9
175	31	12,885	-58.6		26	32.5
150	31	13,849	-61.0		26	30.2
125	31	14,976	-63.2		26	25.9
100	31	16,346	-63.9		26	19.0
80	28	17,724	-62.4		26	13.4
70	28	18,551	-61.1		26	10.9
60	28	19,511	-59.5		26	8.9
50	28	20,654	-58.9		26	7.0
40	26	22,055	-57.6		27	7.6
30	23	23,878	-55.5		28	7.8
25	23	25,044	-53.6		27	11.0
20	23	26,485	-50.9		27	13.3
15	20	28,372	-47.5		26	16.2
10	17	31,103	-42.4		26	23.9
7	5	33,554	-37.6			

TRUK, CAROLINE IS. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	2	28.8	24.5	29	.2
1000	31	96	27.7	22.4	27	.3
950	31	549	23.8	19.0	23	.5
900	31	1,022	20.8	15.0	16	.7
850	31	1,516	18.2	11.4	13	1.0
800	31	2,034	15.5	8.1	11	1.3
750	31	2,577	12.6	4.6	10	2.3
700	31	3,157	9.8	-.4	10	3.4
650	31	3,768	6.5	-4.5	10	4.0
600	31	4,422	2.5	-8.2	10	4.5
550	31	5,115	-1.2	-12.8	10	5.0
500	31	5,877	-5.2	-17.9	10	5.1
450	31	6,691	-9.8	-23.7	09	5.7
400	31	7,599	-15.3	-29.8	09	5.5
350	31	8,595	-22.1	-36.4	09	5.1
300	31	9,711	-30.4	-44.0	08	6.3
250	31	10,980	-40.7	-52.3	08	6.5
200	31	12,460	-53.0		07	8.0
175	31	13,307	-60.0		07	8.1
150	31	14,253	-67.6		07	7.3
125	31	15,330	-75.0		07	7.6
100	31	16,611	-77.2		08	6.8
80	31	17,911	-71.4		07	1.3
70	31	18,706	-68.3		27	.5
60	31	19,639	-65.0		26	1.1
50	31	20,759	-61.2		27	1.7
40	31	22,161	-56.5		23	.7
30	31	24,001	-52.8		09	2.2
25	31	25,183	-50.6		10	2.1
20	29	26,651	-47.7		10	4.8
15	27	28,570	-44.3		10	8.4
10	26	31,320	-38.7		09	19.8
7	13	33,788	-33.6			

• TUCSON, ARIZ. 922 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	789	13.0	1.7	16	2.9
1000	31	96				
950	31	533				
900	31	992	17.2	2.7	16	2.9
850	31	1,479	15.1	.6	18	2.7
800	31	1,989	11.6	-1.7	21	4.8
750	31	2,522	8.3	-5.9	22	7.2
700	31	3,093	5.3	-11.3	23	8.5
650	31	3,688	1.7	-14.8	24	9.0
600	31	4,336	-2.1	-19.2	25	11.0
550	31	5,015	-6.4	-23.1	25	12.7
500	31	5,761	-11.5	-27.8	26	14.1
450	31	6,552	-17.0	-33.1	26	15.5
400	31	7,435	-23.2	-38.9	26	18.5
350	31	8,399	-30.2	-44.4	26	20.8
300	31	9,477	-38.4	-50.3	26	22.2
250	31	10,706	-47.2		27	23.3
200	31	12,156	-54.9		27	23.0
175	31	13,002	-58.3		26	24.3
150	31	13,963	-62.0		27	23.3
125	31	15,080	-65.8		27	19.7
100	31	16,427	-67.8		26	15.5
80	31	17,774	-65.8		27	12.1
70	31	18,590	-63.4		26	8.8
60	31	19,544	-60.8		26	5.2
50	31	20,682	-59.0		26	3.2
40	31	22,089	-56.9		24	1.7
30	31	23,922	-54.0		27	2.6
25	30	25,098	-52.5		26	3.3
20	29	26,552	-50.2		25	5.3
15	28	28,442	-47.1		27	10.1
10	20	31,147	-43.6		26	14.6
7	10	33,554	-37.6			

• VANDENBERG AFB, CALIF. 1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	100	11.1	7.9	04	1.0
1000	31	119			02	1.4
950	31	556	15.3	3.3	01	4.3
900	31	1,011	14.2	-1.5	36	3.9
850	31	1,492	12.3	-4.3	34	3.6
800	31	1,998	10.0	-7.9	33	4.8
750	31	2,534	8.0	-10.6	32	6.2
700	31	3,099	5.3	-13.1	32	7.8
650	31	3,697	2.1	-16.0	32	8.6
600	31	4,343	-1.6	-19.9	31	10.7
550	31	5,021	-6.3	-23.2	31	10.9
500	31	5,768	-11.4	-27.3	31	11.8
450	31	6,560	-17.0	-32.4	31	14.0
400	31	7,441	-23.4	-36.7	31	15.3
350	31	8,403	-31.1	-43.1	31	15.9
300	31	9,477	-39.4	-50.0	31	18.0
250	31	10,701	-48.5		30	19.9
200	31	12,143	-56.3		30	21.9
175	31	12,985	-59.2		30	22.2
150	31	13,944	-62.2		29	21.5
125	30	15,061	-65.1		28	20.0
100	30	16,414	-66.8		29	14.4
80	29	17,770	-65.2		29	10.2
70	28	18,590	-63.5		29	7.6
60	28	19,542	-61.2		29	5.9
50	28	20,680	-59.1		29	4.4
40	27	22,082	-57.4		28	3.9
30	26	23,906	-54.9		26	4.3
25	25	25,079	-53.3		27	4.9
20	24	26,520	-51.1		27	6.7
15	20	28,428	-47.9		27	9.9
10	20	31,125	-44.1		27	16.3
7	14	33,555	-40.4		27	15.4

VICTORIA, TEXAS 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	33	18.5	16.3	04	2.4
1000	31	121	19.3	16.9	06	3.6
950	31	560	18.7	15.2	12	5.0
900	31	1,028	17.0	11.4	15	4.7
850	31	1,515	15.2	5.9	17	3.8
800	31	2,028	12.9	3.2	19	3.0
750	31	2,564	10.2	-1.9	22	3.0
700	31	3,140	7.4	-6.9	23	3.7
650	31	3,745	4.0	-11.0	24	5.0
600	31	4,393	.0	-15.6	25	7.0
550	31	5,079	-3.8	-22.8	25	7.6
500	31	5,831	-8.6	-27.6	26	8.4
450	31	6,636	-13.6	-32.0	25	10.1
400	31	7,526	-19.9	-36.1	25	12.5
350	31	8,503	-26.9	-40.9	25	15.1
300	31	9,596	-35.2	-48.3	25	18.7
250	31	10,842	-44.4		25	21.2
200	31	12,304	-54.7		25	23.8
175	31	13,147	-60.1		25	23.7
150	31	14,096	-65.8		25	21.4
125	31	15,188	-71.2		25	18.6
100	31	16,498	-73.3		25	12.0
80	30	17,811	-70.0		25	4.6
70	28	18,612	-66.5		21	1.8
60	28	19,560	-63.0		15	1.8
50	28	20,682	-59.8		10	1.4
40	28	22,084	-57.2		10	1.8
30	28	23,918	-53.3		09	1.7
25	27	25,098	-51.2		08	1.9
20	27	26,558	-47.9		10	1.4
15	25	28,464	-44.0		23	1.4
10	22	31,231	-38.8		23	3.3
7	11	33,713	-33.7			

• WAKE IS., PACIFIC AREA 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	27.9	24.5	09	5.8
1000	31	124	26.6	22.8	09	6.5
950	31	575	23.0	20.8	09	7.2
900	31	1,047	20.2	16.7	10	6.9
850	31	1,540	17.5	12.8	10	6.7
800	31	2,057	14.9	8.2	10	6.9
750	31	2,601	12.3	3.4	09	6.6
700	31	3,178	9.4	-2.4	09	6.2
650	31	3,785	6.1	-7.1	09	6.1
600	31	4,441	2.6	-12.3	09	6.3
550	31	5,134	-1.3	-18.1	09	6.7
500	31	5,894	-5.9	-23.2	09	6.6
450	31	6,704	-11.1	-27.5	09	6.4
400	31	7,607	-17.1	-33.9	08	6.3
350	31	8,594	-24.2	-39.9	08	6.7
300	31	9,700	-32.3	-46.3	06	6.2
250	31	10,959	-42.3		05	6.5
200	31	12,430	-53.8		04	7.1
175	31	13,276	-59.9		04	7.8
150	31	14,224	-66.4		04	6.6
125	30	15,310	-73.0		06	7.1
100	30	16,602	-77.5		07	7.8
80	29	17,882	-76.0		07	6.3
70	26	18,656	-71.4		08	7.1
60	24	19,582	-65.7		09	7.2
50	24	20,702	-61.3		09	7.0
40	24	22,098	-57.9		08	8.0
30	21	23,928	-53.9		09	9.2
25	21	25,106	-51.1		09	9.7
20	19	26,568	-48.9		08	9.9
15	17	28,472	-44.8		09	11.3
10	13	31,208	-39.8		09	14.2
7	5	33,652	-35.7			

• WALLOPS IS., VA. NASA 1020 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	3	12.6	10.5	35	2.3
1000	31	168	13.6	9.0	36	2.8
950	31	598	11.8	4.3	35	2.8
900	31	1,051	9.9	-.2	31	2.5
850	31	1,525	8.8	-2.9	29	3.3
800	31	2,026	7.4	-5.2	27	4.6
750	31	2,555	5.4	-8.2	27	6.4
700	31	3,118	2.9	-11.9	27	8.0
650	31	3,713	.3	-15.9	27	9.4
600	31	4,354	-2.8	-20.6	27	10.5
550	31	5,035	-6.7	-24.2	27	11.9
500	31	5,777	-11.3	-27.5	27	13.9
450	31	6,571	-17.0	-31.4	27	16.1
400	31	7,451	-23.3	-37.1	27	17.3
350	30	8,417	-30.2	-43.4	27	19.6
300	30	9,495	-38.5	-48.1	27	21.1
250	30	10,724	-47.3		27	24.0
200	30	12,172	-55.4		27	28.2
175	30	13,017	-59.1		27	29.4
150	30	13,975	-62.8		27	26.1
125	29	15,086	-65.7		28	21.3
100	29	16,438	-66.4		27	18.7
80	29	17,794	-64.2		28	13.5
70	28	18,620	-62.5		28	10.5
60	28	19,575	-60.6		29	8.0
50	28	20,713	-59.0		29	6.6
40	28	22,121	-56.2		29	6.1
30	28	23,962	-52.6		27	6.7
25	27	25,145	-50.0		27	7.2
20	25	26,604	-47.8		26	9.2
15	22	28,515	-45.5		26	11.3
10	15	31,249	-42.8		25	13.0
7	6	33,567	-40.0			

WASHINGTON DULLES INT. AP 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	85	6.4	4.2	31	.8
1000	31	178	9.1	5.6	33	1.5
950	31	610	10.8	2.4	31	2.9
900	31	1,056	8.6	-1.1	30	3.7
850	31	1,527	6.9	-3.5	28	4.4
800	31	2,026	6.3	-8.5	27	5.6
750	31	2,555	4.3	-12.2	27	6.5
700	31	3,112	1.8	-16.5	27	8.1
650	31	3,708	-.7	-19.9	27	9.7
600	31	4,344	-3.6	-22.6	27	11.9
550	31	5,025	-7.6	-25.9	27	14.2
500	31	5,763	-12.0	-29.7	27	16.3
450	31	6,557	-17.6	-34.2	27	18.7
400	31	7,432	-24.1	-39.6	27	20.8
350	31	8,393	-31.2	-45.2	27	22.9
300	31	9,468	-39.3	-49.6	27	25.4
250	31	10,693	-48.1		27	28.2
200	31	12,140	-55.3		27	32.7
175	31	12,986	-58.6		27	32.3
150	31	13,947	-61.8		27	28.2
125	30	15,075	-64.2		27	22.8
100	30	16,435	-65.2		27	18.1
80	30	17,801	-63.4		27	12.7
70	29	18,623	-61.5		28	12.7
60	29	19,582	-60.1		28	10.4
50	28	20,715	-58.9		28	7.6
40	28	22,125	-56.2		27	8.0
30	27	23,961	-53.1		27	9.1
25	26	25,146	-50.3		26	10.3
20	26	26,614	-47.2		26	14.2
15	26	28,530	-44.4		26	15.9
10	25	31,262	-41.3		26	20.8
7	13	33,670	-38.5			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	WAYCROSS, GA. 1012 MB						WINNEMUCCA, NEV. 870 MB					
	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	44	16.9	15.6	03	2.7	31	1,312	-.6	-4.3	19	.4
1000	31	142	17.4	15.4	04	4.5	31	181				
950	31	581	18.1	15.0	08	6.7	31	599				
900	31	1,045	16.2	11.4	11	4.3	31	1,043				
850	31	1,530	13.9	7.2	13	2.6	31	1,501	5.2	-2.1	02	.3
800	31	2,040	11.5	3.6	17	1.7	31	1,996	3.6	-4.4	32	1.2
750	31	2,579	9.1	-2.0	22	1.0	31	2,517	.4	-7.5	30	2.6
700	31	3,147	6.8	-7.8	25	2.1	31	3,068	-2.6	-12.5	29	4.4
650	31	3,747	4.0	-9.8	25	2.9	31	3,649	-5.7	-17.8	29	6.2
600	31	4,400	.4	-12.3	25	4.5	31	4,277	-9.0	-21.6	29	8.1
550	31	5,085	-3.4	-18.7	25	6.2	31	4,937	-13.1	-25.9	29	9.0
500	31	5,840	-7.5	-24.2	26	7.2	31	5,665	-17.9	-31.1	29	11.4
450	31	6,646	-13.0	-29.6	26	8.5	31	6,440	-23.2	-35.2	30	13.7
400	31	7,539	-19.3	-34.8	27	11.3	31	7,297	-29.4	-41.1	30	15.1
350	31	8,518	-26.3	-40.0	27	14.6	31	8,236	-36.2	-46.8	31	20.1
300	31	9,613	-34.5	-47.7	27	17.4	31	9,290	-43.2	-51.0	31	22.1
250	31	10,863	-43.8		27	19.8	31	10,499	-49.8		31	24.3
200	31	12,326	-54.4		27	23.8	31	11,936	-55.9		30	24.7
175	31	13,170	-60.1		27	24.1	31	12,784	-56.8		30	23.7
150	30	14,121	-65.9		27	23.0	31	13,756	-58.5		30	21.3
125	30	15,214	-70.6		27	18.8	31	14,897	-60.2		29	18.2
100	30	16,527	-72.8		27	11.6	31	16,285	-61.1		29	14.2
80	30	17,847	-69.1		29	5.2	31	17,672	-60.5		28	9.7
70	29	18,646	-66.5		30	2.0	31	18,506	-59.7		28	7.8
60	29	19,586	-63.3		03	.3	31	19,469	-59.4		28	6.7
50	28	20,720	-59.6		35	1.1	29	20,617	-58.4		27	5.2
40	28	22,126	-56.5		36	.6	29	22,023	-57.5		27	5.4
30	27	23,971	-52.2		02	.6	27	23,830	-56.2		27	7.8
25	27	25,159	-49.0		11	.7	26	24,992	-55.3		27	9.1
20	24	26,628	-46.9		17	.7	23	26,429	-53.6		27	9.7
15	21	28,551	-43.7		26	3.7	18	28,277	-51.3		27	13.0
10	17	31,306	-38.8		28	9.8						
7	7	33,765	-37.2									

Standard pressure surface (mb)	WINSLOW, ARIZ. 850 MB						YAKUTAT, ALASKA 1010 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,487	5.4	-3.3	23	.8	31	12	2.6	-.2	09	2.6
1000	31	134					31	95			10	3.8
950	31	560					31	516	7.2	-1.3	12	6.7
900	31	1,012					31	961	4.3	-3.6	13	7.2
850	31	1,487			17	.2	31	1,424	1.3	-6.0	14	8.2
800	31	1,987	7.9	-2.2	23	2.2	31	1,910	-1.5	-9.1	14	8.6
750	31	2,514	4.8	-5.5	23	3.5	31	2,420	-4.3	-12.4	15	8.4
700	31	3,077	1.3	-9.8	25	5.7	31	2,963	-7.2	-16.2	16	8.2
650	31	3,668	-1.7	-14.8	25	8.0	31	3,535	-10.2	-19.3	17	8.7
600	31	4,304	-5.3	-18.7	25	11.0	31	4,150	-13.8	-23.8	18	9.6
550	31	4,980	-9.0	-23.3	26	13.0	31	4,799	-18.2	-27.6	18	9.3
500	31	5,715	-13.4	-26.2	26	16.0	31	5,512	-23.0	-32.3	17	9.5
450	31	6,506	-18.9	-31.1	27	18.6	31	6,267	-28.6	-37.7	17	10.0
400	31	7,378	-25.3	-36.3	27	20.7	31	7,109	-34.8	-42.2	18	11.7
350	31	8,333	-32.4	-42.9	27	22.0	31	8,028	-41.5	-45.6	18	12.8
300	31	9,403	-40.3	-48.9	27	24.4	31	9,058	-48.3		18	11.9
250	31	10,624	-48.6		27	25.2	31	10,243	-53.3		19	11.5
200	31	12,069	-55.0		27	25.8	31	11,668	-55.3		20	9.1
175	31	12,917	-58.0		27	25.7	31	12,523	-53.9		20	7.4
150	31	13,881	-61.0		27	24.1	31	13,512	-54.0		22	7.0
125	31	15,006	-63.9		26	21.0	31	14,681	-54.3		23	6.2
100	30	16,364	-65.4		26	16.4	31	16,109	-54.3		24	6.5
80	30	17,725	-63.7		26	11.1	31	17,540	-54.1		27	6.5
70	30	18,546	-62.8		26	8.6	31	18,396	-54.4		27	7.6
60	30	19,500	-60.6		26	6.5	31	19,384	-54.2		28	7.1
50	30	20,640	-59.1		27	5.1	31	20,550	-55.4		28	7.9
40	30	22,044	-57.6		26	5.0	30	21,962	-55.8		30	9.4
30	28	23,869	-55.2		26	6.8	29	23,782	-56.7		30	11.6
25	25	25,036	-53.3		26	7.9	29	24,936	-57.2		31	12.7
20	23	26,472	-51.3		26	10.1	25	26,336	-57.7		31	15.0
15	12	28,331	-48.7				21	28,155	-57.9		32	17.9
10							16	30,695	-58.1		32	22.8
7							6	32,826	-58.5			

Standard pressure surface (mb)	+ YAP, CAROLINE IS. 1008 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	14	28.8	24.9	20	.5
1000	31	85	27.8	23.1	21	.7
950	31	531	23.7	19.1	22	1.7
900	31	1,010	20.7	15.0	21	1.5
850	31	1,504	18.1	11.3	19	1.2
800	31	2,021	15.6	7.8	15	1.3
750	31	2,569	12.9	4.1	13	1.7
700	31	3,144	9.8	.3	13	2.4
650	31	3,757	6.4	-3.7	12	3.2
600	31	4,410	2.8	-8.5	12	3.5
550	31	5,108	-1.0	-13.5	11	4.3
500	31	5,865	-5.4	-18.2	11	4.5
450	31	6,682	-10.2	-23.8	10	5.2
400	31	7,584	-15.6	-30.4	09	4.9
350	31	8,578	-22.4	-37.2	10	4.7
300	31	9,691	-30.6	-44.5	08	5.2
250	31	10,958	-40.8	-52.3	08	6.5
200	31	12,437	-53.1		08	8.7
175	31	13,283	-60.1		08	9.2
150	31	14,228	-67.5		08	9.2
125	30	15,303	-74.9		08	9.9
100	30	16,584	-77.9		09	8.1
80	29	17,869	-73.0		09	3.0
70	29	18,660	-68.8		07	1.8
60	29	19,590	-65.2		07	1.8
50	29	20,711	-61.1		07	2.2
40	29	22,109	-57.9		09	2.9
30	28	23,941	-53.5		10	4.5
25	27	25,124	-50.5		09	5.7
20	27	26,591	-47.4		10	7.5
15	26	28,503	-44.7		10	10.9
10	24	31,251	-38.5		09	17.2
7	17	33,727	-34.0			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 880 MB						YUMA, ARIZ. 994 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,198	4.5	-2.7	34	1.1	23	131	16.1	1.9	36	.6
1000	31	140					23	83				
950	31	564					23	526	21.1	3.9	33	1.8
900	31	1,016					23	990	18.6	.7	31	1.2
850	31	1,488	10.6	-3.1	01	3.8	23	1,477	15.3	-2.3	26	1.3
800	31	1,991	7.6	-5.2	02	2.3	23	1,988	12.2	-6.9	27	1.9
750	31	2,519	4.2	-8.1	34	1.3	23	2,522	9.6	-9.6	29	2.9
700	31	3,078	1.6	-12.9	31	3.3	23	3,094	6.3	-12.6	29	4.3
650	31	3,668	-1.9	-16.1	31	5.4	23	3,694	2.9	-15.6	29	5.7
600	31	4,304	-5.9	-19.5	31	7.9	23	4,341	-1.3	-19.0	29	7.5
550	31	4,977	-10.0	-24.5	30	10.4	23	5,021	-6.2	-22.7	30	9.4
500	31	5,710	-14.7	-29.3	30	12.6	23	5,767	-11.6	-27.3	29	10.4
450	31	6,495	-19.8	-32.9	30	17.8	23	6,556	-17.5	-32.5	29	11.2
400	31	7,365	-25.9	-37.9	30	19.1	23	7,437	-24.4	-37.7	29	13.0
350	31	8,318	-33.0	-43.4	29	22.3	23	8,396	-31.3	-43.5	29	14.4
300	31	9,385	-40.4	-47.6	29	24.3	22	9,470	-39.3	-49.8	29	16.6
250	31	10,605	-48.6		29	27.3	20	10,694	-47.7		29	17.7
200	30	12,052	-55.2		29	30.0	19	12,143	-55.2		28	17.6
175	30	12,900	-57.2		29	29.1	9	12,983	-57.7			
150	30	13,869	-59.6		29	25.9	6	13,943	-62.0			
125	30	15,003	-62.2		28	21.5						
100	29	16,376	-63.3		29	15.5						
80	28	17,748	-62.5		28	9.7						
70	27	18,573	-61.5		28	6.7						
60	27	19,533	-59.3		27	5.1						
50	26	20,674	-58.3		27	3.3						
40	26	22,082	-57.3		27	4.4						
30	25	23,912	-54.8		27	4.0						
25	24	25,087	-53.1		27	4.3						
20	22	26,536	-51.5		27	4.4						
15	14	28,421	-49.0		26	6.8						

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.
The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
\+ Observations for these stations are scheduled at 0000 G.C.T.
† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Oct.									
1	0.82	0.91	1.05	----	----	1.25	----	----	----
3	----	----	1.19	1.29	1.37	----	----	----	----
4	.89	.99	1.09	1.26	1.39	----	----	----	----
5	.97	1.09	1.19	1.32	1.45	1.28	1.13	1.00	0.89
6	1.01	1.11	1.22	1.37	1.49	1.34	1.20	1.08	.95
7	.96	1.06	1.18	1.31	1.40	----	----	----	----
8	.90	1.00	1.09	1.24	1.38	1.14	.94	.83	.70
9	.89	1.01	1.08	1.24	----	----	1.04	----	----
10	.92	1.04	1.14	1.35	----	----	----	----	----
12	.94	1.06	1.13	----	----	1.26	.99	.90	.70
13	1.02	1.05	1.22	1.30	1.38	1.24	.97	.79	----
14	1.03	1.12	1.20	----	----	----	----	----	----
15	----	1.01	1.09	1.26	----	----	----	----	----
16	----	----	----	----	1.40	----	1.04	.92	.77
17	----	----	----	----	1.41	----	----	----	----
18	----	----	----	1.33	----	----	----	----	----
20	.90	1.01	1.13	1.28	----	----	----	----	----
23	----	----	----	----	----	----	1.15	1.05	.92
24	----	1.00	1.13	1.27	1.39	----	----	----	----
25	.93	1.07	1.20	----	----	----	----	----	----
28	----	----	----	----	----	----	----	.80	.71
29	.97	1.05	1.22	1.39	1.45	1.38	1.24	1.07	----
30	.93	1.05	1.18	1.31	1.41	1.33	1.20	1.07	.97
31	----	----	----	----	1.44	1.35	1.21	1.08	.97
Averages	0.94	1.04	1.15	1.30	1.41	1.29	1.10	0.96	0.84

Date	BLUE HILL OBS., MASS.								
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Oct.									
5	----	----	----	----	1.27	1.15	0.93	0.84	0.75
6	0.89	0.99	1.16	1.23	1.27	1.15	.99	.84	.75
9	.82	.94	1.05	1.22	1.30	1.20	1.05	.94	.84
10	.89	.98	1.12	1.23	1.30	1.15	.98	.89	.81
15	----	1.06	1.16	1.28	1.33	1.29	1.10	----	----
16	.88	.99	1.15	----	1.33	1.23	1.04	----	----
18	----	----	1.05	1.22	1.28	1.22	1.04	.88	.79
26	----	----	1.05	1.20	1.20	1.08	.91	.76	.62
29	----	----	1.08	1.21	1.20	1.23	1.08	.98	.88
30	----	----	1.05	1.18	1.23	1.07	.98	.86	.75
Averages	0.87	0.99	1.10	1.22	1.27	1.18	1.01	0.87	0.77

Date	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Oct.									
2	HS0.85	HS0.95	HS1.03	HS1.22	HS1.34	HS1.11	‡	HS0.82	HS0.72
3	----	----	----	----	HM1.02	----	----	----	----
6	----	----	----	----	1.33	HS1.16	HS1.04	HS .86	HS .78
7	.90	.99	1.15	1.27	----	----	----	----	----
8	.92	1.03	1.13	----	HS1.30	1.18	----	----	----
14	.90	1.00	1.11	1.23	----	----	----	----	----
16	.97	1.04	1.15	----	----	----	----	----	----
17	.94	1.03	1.11	1.24	----	----	----	----	----
20	.88	1.02	1.15	1.28	1.33	1.30	1.10	1.01	.93
21	----	----	1.07	1.20	1.23	1.25	1.07	----	.84
27	.95	1.05	1.16	1.31	1.36	HS1.34	HS1.16	HS1.06	HS .96
Averages	0.91	1.01	1.12	1.25	1.27	1.22	1.09	0.94	0.85

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Oct.									
4	IGFH.28	HI0.35	HI0.45	HI0.66	HI0.84	----	----	----	----
8	----	----	----	----	----	S 1.28	S 1.14	S 1.02	S 0.93
14	S .91	S 1.03	S 1.15	S 1.29	----	----	----	----	----
17	S .82	S 1.04	S 1.16	----	----	----	----	----	----
23	S .95	S 1.06	S 1.16	S 1.30	S 1.34	S 1.24	S 1.09	----	----
28	S .92	S 1.03	S 1.14	----	----	----	M 1.07	M .91	----
Averages	0.78	0.90	1.01	0.65	1.09	1.26	1.10	0.97	0.93

Date	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Oct.									
1	0.69	0.80	0.93	1.12	1.24	1.03	0.91	0.78	0.66
2	----	----	.92	1.11	1.29	1.16	.95	.83	.74
3	.79	.88	.98	1.06	----	1.15	.99	.87	.77
4	----	----	----	----	1.26	1.11	.95	.81	.73
5	.79	.88	.99	1.15	1.25	1.10	.94	.80	.68
6	.86	.95	1.06	1.18	1.37	1.22	1.01	.91	.79
7	----	.91	----	----	----	----	----	----	----
8	.84	.93	1.03	1.18	1.36	1.25	1.12	1.00	.91
9	----	----	1.11	1.27	1.38	1.24	1.10	.98	.88
10	.88	.98	1.09	1.24	1.38	1.21	1.06	.93	.85
11	.81	.90	.98	1.12	1.27	----	----	----	----
12	.92	1.01	1.13	1.27	1.38	1.26	1.08	.95	.84
13	.80	.89	.99	1.13	1.31	1.16	1.04	.93	.86
14	.86	.97	1.04	----	----	1.21	1.09	.95	.87
15	.84	.92	1.03	1.18	1.29	1.19	1.01	.87	.79
16	.84	.93	1.03	1.21	1.32	1.18	1.06	.93	.84
17	.88	.98	1.09	1.23	1.33	1.23	1.08	.97	.87
18	.86	.95	1.04	1.17	1.28	1.17	1.00	.89	.79
19	.74	.83	.95	1.12	1.23	1.12	.97	.87	.75
21	----	----	----	----	----	1.16	----	----	----
22	----	----	----	----	----	----	----	.83	.74
23	.81	.91	1.02	1.18	1.34	1.18	.95	.84	.73
24	.84	.94	1.09	1.23	1.32	1.17	.96	.87	.77
25	.82	.91	1.04	1.21	----	----	1.03	.90	.78
26	.69	.78	.89	1.06	1.21	1.08	+	+	+
27	+	+	.94	----	----	----	----	----	----
28	.72	.81	----	1.12	----	----	----	----	----
29	.75	.83	.97	1.16	1.27	1.21	1.05	.91	.82
30	.93	1.01	1.12	1.27	1.38	1.27	1.15	1.05	.96
31	.92	1.02	1.14	1.25	1.37	1.24	1.06	.91	.80
Averages	0.82	0.91	1.02	1.18	1.31	1.18	1.02	0.90	0.80

Date	GUAM, M. I.								
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observations due to cloudiness								

HS Slight haze
HM Moderate haze
HI Intense haze
\+ Missing
‡ Pole
M Moderate haze - indeterminable
S Slight haze - indeterminable
* Values corresponding to true solar noon
IGFH Intense ground fog and haze

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. OCTOBER 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	479	459	485	438	483	500	466	459	425	461	175	434	452	387	398	391	269	324	322	392	198	---	---	396	341	355	273	238	397	395	388	386
AMES IOWA	162	262	355	352	81	370	341	387	230	141	294	26	87	345	54	279	346	86	58	287	311	285	197	111	117	216	248	285	216	5	63	213
ANNETTE ALASKA	125	240	372	27	70	168	24	171	223	214	238	252	263	251	219	243	233	35	40	120	79	97	178	181	203	138	188	77	38	74	13	155
APALACHICOLA FLORIDA	476	509	408	417	224	505	504	488	478	483	481	478	486	420	191	402	475	463	122	99	131	304	432	114	72	216	206	418	345	290	75	346
ARGONNE NAT. LAB.	313	351	390	355	286	108	382	411	367	56	209	38	56	389	246	67	382	183	182	138	233	302	339	216	177	60	340	191	296	216	25	236
ASTORIA OREGON	---	307	374	358	365	349	22	244	127	349	324	346	---	332	56	---	---	---	---	---	---	---	---	104	---	74	99	115	20	31	223	---
ATLANTA GEORGIA	---	---	---	453	469	434	211	155	222	338	390	441	385	396	115	340	---	436	146	139	278	434	424	371	170	349	380	374	382	375	258	321
BARROW ALASKA	47	53	35	74	91	43	18	25	67	71	60	83	27	28	15	10	13	5	11	9	55	23	---	5	7	13	44	39	23	28	25	35
BETHEL ALASKA	111	206	73	171	51	124	---	182	122	49	128	53	75	135	97	112	80	107	93	78	40	84	22	73	55	42	62	35	48	99	19	88
BISMARCK N.DAK.	271	413	160	145	339	221	215	---	262	100	191	189	124	356	152	345	359	356	145	225	112	200	312	114	83	76	316	261	61	38	177	211
BLUE HILL MASS.	384	206	115	---	333	386	316	45	378	373	141	276	219	138	368	345	130	344	290	285	303	119	296	313	125	287	131	130	285	279	243	253
BOISE IDAHO	377	272	414	416	409	393	328	101	262	241	372	277	367	371	380	---	104	327	345	329	329	317	277	203	278	246	140	140	293	275	275	295
BROWNSVILLE TEXAS	529	499	497	363	279	492	438	455	308	440	309	381	141	508	360	145	418	413	398	256	426	391	451	444	375	328	424	274	344	297	443	382
CAPE HATTERAS N.C.	301	288	266	225	292	473	431	416	436	400	271	137	296	307	151	395	379	450	379	362	305	416	376	370	330	321	323	111	185	391	273	324
CARIBOU MAINE	329	181	46	317	409	111	316	73	392	345	270	231	103	173	294	313	250	323	286	51	144	208	179	261	88	167	52	---	288*	220	196	221*
CHARLESTON S.C.	---	---	---	415	309	332	---	221	355	429	477	464	344	447	410	136	442	428	400	157	288	424	444	434	229	194	193	178	416	246	135	331
CLEVELAND OHIO	340	202	237	394	387	217	116	390	411	377	208	211	346	136	305	120	216	344	78	112	297	124	123	312	641	104	75	117	299	297	204	240
COLUMBIA MISSOURI	401	438	451	435	122	93	466	443	433	83	153	32	113	440	245	180	425	37	327	160	394	395	304	210	231	139	386	364	194	35	200	269
DAVIS CALIFORNIA	469	456	466	482	472	440	335	276	318	311	435	423	281	166	46	310	391	383	395	386	367	379	221	284	354	288	294	363	348	323	337	348
DODGE CITY KANSAS	473	478	454	175	257	481	480	464	424	250	176	90	282	---	247	348	253	51	329	414	204	203	25	113	66	259	185	146	29	72	308	258
E. LANSING MICHIGAN	315	118	297	258	286	163	338	162	401	---	---	52	69	312	272	56	245	366	45	96	210	195	388	306	246	88	233	328	160	316	80	221
EL CENTRO CALIF. NPF	465	465	492	512	511	493	486	474	462	457	472	472	465	434	436	434	445	433	434	423	197	590	590	264	264	264	374	381	408	404	393	432
EL PASO TEXAS	519	512	530	446	526	536	284*	454	518	510	504*	521	513	502	508	491	486	477	387	318	274	422	370	415	462	340	145	276	440	458	442	438*
ELY NEVADA	---	---	---	---	---	---	---	---	387	243	399	365	413	95	286	343	302	138	374	431	406	405	403	362	384	355	263	337	386	367	381	340
EPPLEY NEWPORT R.I.	370	267	188	380	354	395	271	109	381	391	138	309	314	177	382	352	195	360	339	318	317	141	302	339	---	309	216	239	303	303	272	291
FAIRBANKS ALASKA	135	169	64	68	170	108	142	123	105	89	89	119	86	127	140	138	126	124	77	51	118	126	141	118	111	112	105	37	25	28	30	103
FLAMING GORGE UTAH	420	107	218	141	279	432	420	196	203	74*	112	256	435	152	337*	362	127	108	350	321*	396	310	384	379	370	367	327	92	135	368	216	271*
FORT WORTH TEXAS	519	495	495	241	157	204	523	493	442	425	402	48	352	491	470	377	160	422	312	386	376	366	178	276	287	372	46	136	56	195	428	327
FRESNO CALIFORNIA	430	427	434	435	402	418	423	313	405	385	391	399	402	226	102	219	305	328	366	356	353	342	310	252	311	279	267	265	306	320	313	338
GENEVA NEW YORK	336	57	30	100	377	294	153	250	366	357	325	116	236	136	345	67	191	252	66	130	105	92	294	155	170	67	78	112	254	281	213	194
GLASGOW MONTANA	398	64	220	56	110	274	389	183	298	70	244	205	195	242	140	352	343	332	287	179	150	220	279	28	82	80	160	210	122	244	190	205
GRAND JUNCTION COLO.	489	322	127	300	474	485	473	367	239	168	144	215	417	343	404	96	217	174	421	426	302	58	139	272	250	381	360	153	183	350	357	294
GREAT FALLS MONTANA	296	212	102	162	250	196	384	126	282	78	143	132	337	131	161	378	353	361	244	181	214	199	240	114	244	75	157	79	287	232	133	209
GREENSBORO N.C.	268	193	420	390	172	280	278	65	428	398	404	388	404	369	95	211	390	402	376	133	372	379	400	387	66	204	262	331	385*	285	199	301*
INDIANAPOLIS INDIANA	9	---	---	397	403	244	420	427	403	235	141	166	102	313	384	83	390	234	342	125	366	297	355	258	284	220	329	311	308	233	31	269
LAKE CHARLES LA.	513	513	438	490	469	141	285	194	373	214	449	287	298	488	476	318	449	445	389	173	236	444	455	406	373	417	386	354	291	76	115	353
LAKELAND FLORIDA	285	139	294	254	250	530	466	407	482	457	446	525	514	416	453	437	301	280	222	312	256	303	393	124	109	190	345	326	144	205	185	324
LANDER WYOMING	455	261	180	294	405	377	433	304	420	178	111	305	430	355	386	306	155	77	367	393	362	353	351	247	310	143	291	112	205	337	204	294
LARAMIE WYOMING	422	294	126	269	430	339	420	213	309	108	150	369	457	373	382	223	166	226	378	372	358	324	319	324	334	86	287	70	132	152	278	280
LAS VEGAS NEVADA	504	471	443	510	503	501	491	378	455	467	430	469	456	332	371	---	432	441	416	278	103	329	390	312	385	382	366	381	411	397	394	407
LEXINGTON KENTUCKY	222	95	422	394	384	247	133	431	417	321	166	370	384	115	276	245	421	380	368	160	389	381	358	311	55	204	119	355	352	329	191	290
LITTLE ROCK ARKANSAS	334	430	428	388	288	226	479	472	443	234	238	242	235	456	456	451	443	427	433	321	433	402	417	251	280	292	273	366	126	---	136	347
LOS ANGELES CALIF.	474	334	446	486	517	446	505	429	431	474	458	478	453	441	396	397	427	456	439	403	361	317	269	154	324	249	278	218	345	389	386	393
MADISON WISCONSIN	382	250	---	354	218	161	388	444	309	194	341	55	80	393	129	106	381	219	47	243	140	340	352	251	203	77	240	327	306	159	30	237
MANHATTAN KANSAS	251	423	367	374	63	32	41	396	346	98	180	46	138	390	44	319	314	28	147	337	331	278	211	190	164	319	348	210	41	47	---	216
MATANUSKA ALASKA	177	106	66	92	82	72	85	117	33	46	63	55	153	152	179	171	131	37	157	152	153	153	150	146	165	152	55	23	35	30	23	104
MEDFORD OREGON	197	251	425	457	460	435	231	252	104	379	383	430	302	371	173	171	159	290	327	---	281	287	234	162	271	177	81	270	282	303	245	280
MIAMI FLORIDA	496	292	518	593	482	586	494	548	497	539	517	575	368	543	483	474	253	292	253	508	304	258	355	56	366	328	401	262	289	53	288	396
MIDLAND TEXAS	467	471	447	264	389	150	467	444	405	463	452	265	---	428	459	342	260	367	346	145	113	52	99	155	404	141	---	---	243	---	---	317
NASHVILLE TENNESSEE	54	198	377	395	398	166	247	428	423	326	177	358	355	79	186	366	410	399	374	202	377	397	408	355	132	269	270	377	333	343	118	300
NEW YORK N.Y. U	344	78	184	465	436	404	321	108	415	342	168	372	107	150	403	230	244	378	343	330	286	269	339	318	134	297	132	195	333	287	163	277
NORTH OMAHA NEBRASKA	235	433	395	385	80	409	416	412	267	141	235	35	122	355	30	300	341	46	58	374	353	161	275	242	184	172	353	283	59	39	44	233
OAK RIDGE TENNESSEE	148	137	389	402	429	354	64	449	436	349	308	396	389	121	140	342	430	411	389	53	389	407	424	382	51	185	152	388	364	364	312	308
OKLAHOMA CITY OKLA.	421	477	474	330	184	161	494	491	415	354	64	43	233	426	389	337	345	290	243	282	201	177	56	262	191	117	96	181	15	386	353	274
PAGE ARIZONA	547	490	348	512	551	549	541	465	475	484	385	475	485	276*	456	74*	369	400	448	312	122	180	355	377	358	398	342	301	411	408	379	396*

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

OCTOBER 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	491	477	464	466	514	509	457	454	468	431	463	486	474	425	436	434	408	426	434	422	295	365	427	403	252	399	289	380	418	413	404	425
PORTLAND MAINE	397	221	73	425	418	408	218	47	390	392	84	220	145	176	381	339	208	330	330	153	324	48	301	306	158	199	128	288	311	303	298	259
PROSSER WASHINGTON	115	381	322	393	375	380	112	267	265	331	---	---	354	345	289	121	268	323	259	244	287	279	133	281	289	180	170	258	185	199	246	264
RAPID CITY S.DAK.	396	340	156	133	394	284	406	228	286	323	100	163	341	369	172	358	251	133	255	330	253	324	329	185	101	208	308	197	31	84	282	249
RENO NEVADA	433	439	347	456	453	420	336	308	399	360	419	411	408	111	92	282	318	---	384	364	365	363	328	250	353	204	196	345	340	335	328	338
RIVERSIDE CALIFORNIA	514	225	469	548	550	501	532	485	458	398	521	520	504	440	443	416	365	455	466	436	273	378	337	119	250	341	367	335	444	442	435	418
RUSTON LOUISIANA	454	421	379	403	377	267	208	451	330	176	218	238	88	370	435	419	257	407	383	81	373	401	404	354	344	256	274	368	160	29	42	302
SAINT CLOUD MINN.	310	373	314	215	51	328	212	242	118	236	132	31	110	165	88	129	311	305	56	248	148	233	183	83	42	174	222	291	188	68	24	182
SALT LAKE CITY	482	184	377	360	431	486	476	266	301	180	415	357	376	153	377	206	244	84	278	410	401	402	390	302	374	377	309	207	329	364	326	330
SAN ANTONIO TEXAS	526	415	485	182	283	298	522	510	448	456	228	155	470	510	438	150	200	282	365	449	386	448	323	381	441	303	43	74	77	191	457	339
SANTA MARIA CALIF.	491	469	510	498	502	440	491	432	465	441	453	479	435	444	---	226	---	449	436	439	429	284	224	181	387	260	350	---	395	395	395	407
SAULT STE MARIE MICH	67	110	326	293	292	85	218	240	188	129	72	213	43	160	92	---	126	212	198	85	92	169	125	97	34	23	49	77	86	116	64	136
SEATTLE TACOMA WASH.	289	255	260	329	361	351	59	190	283	214	332	356	353	334	231	77	285	236	66	77	170	68	179	159	260	103	134	233	84	99	217	214
SPOKANE WASHINGTON	80	222	337	262	258	286	222	200	165	206	234	292	280	287	289	287	310	312	230	115	281	255	95	205	221	198	37	97	157	108	111	214
STERLING VIRGINIA	350	46	331	422	224	339	229	205	410	---	312	349	309	176	400	306	337*	386	338	315	363	342	326	---	168	218	175	324	332	322	---	298*
SWAN ISLAND W.I.	476	423	525	183	531	523	535	518	471	564	531	480	472	379	446	51	225	207	400	483	499	506	512	400	461	464	445	171	130	341	465	413
TALLAHASSEE FLORIDA	337	368	367	340	327	353	365	394	435	377	426	441	441	418	285	352	437	436	169	147	153	333	414	108	123	178	224	385	354	224	100	317
TAMPA FLORIDA	309	101	263	240	312	528	463	417	450	437	420	502	506	408	427	437	318	342	147	312	216	280	---	127	97	268	313	322	113	130	247	315
TUCSON ARIZONA	496	508	462	449	495	510	436	498	496	490	404	500	477	460	461	460	452	424	447	222	280	253	433	429	388	412	355	392	413	419	411	430
WAKE ISLAND PACIFIC	574	573	564	580	323	341	389	583	562	511	565	359	546	549	471	537	526	502	531	523	533	504	486	501	509	524	496	526	505	520	520	508

Note.--Langley is the unit used to denote one gram calorie per square centimeter.

Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

OCTOBER 1969

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	38	-6	-13	27	-33	-15	-54	14	-53	-19	-50	-68	-51	-56	-38	-37	-50	-87	-67	-50	-30	-27	-37	-37	-35	-33	*	-19	-25	-29	-89	-33

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

* less than 0.5

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	6.27	9.70	11.12	11.36	4.14	12.55	12.07	12.55	8.52	6.27	9.82	1.89	5.09	12.66	2.96	9.70	11.36	4.73	3.07	9.35	7.69	8.16	8.40	5.32	5.20	8.16	9.35	9.47	7.22	0.71	2.96	7.67

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λs Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), October

B. Temperature Departure from 30 - Year Mean (°F 1931-60), October 1969.

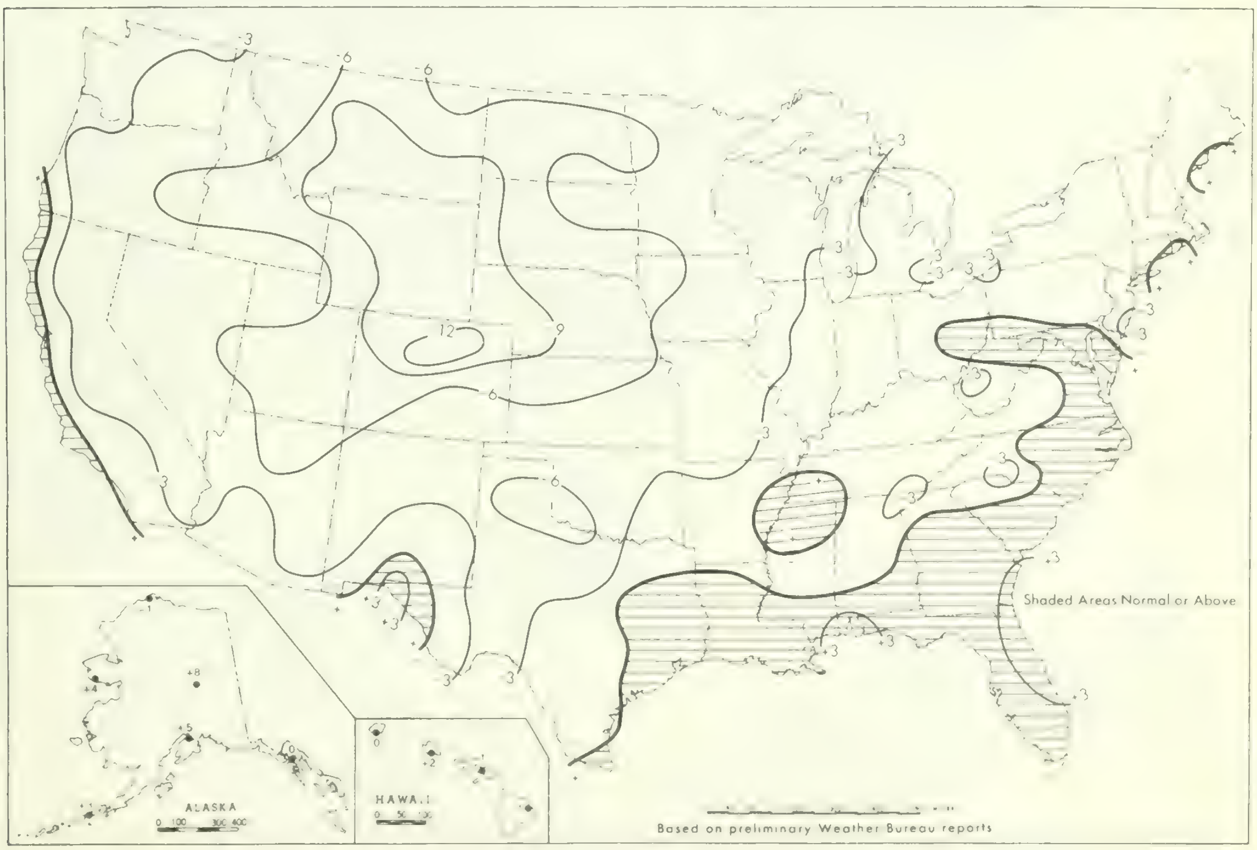


Chart II. Total Precipitation (Inches), October 1969.

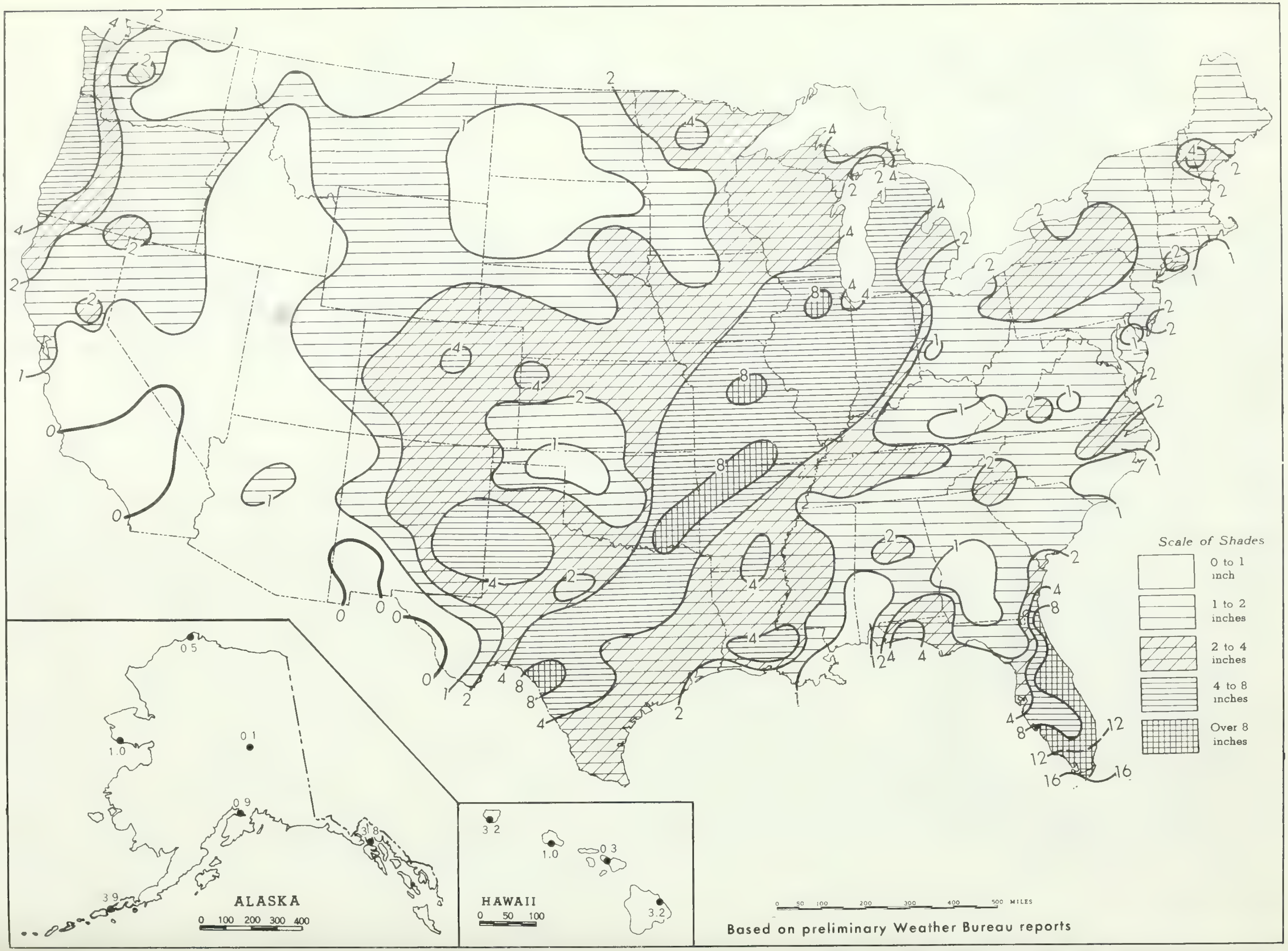


Chart III. Percentage of Normal Precipitation, October 1969.

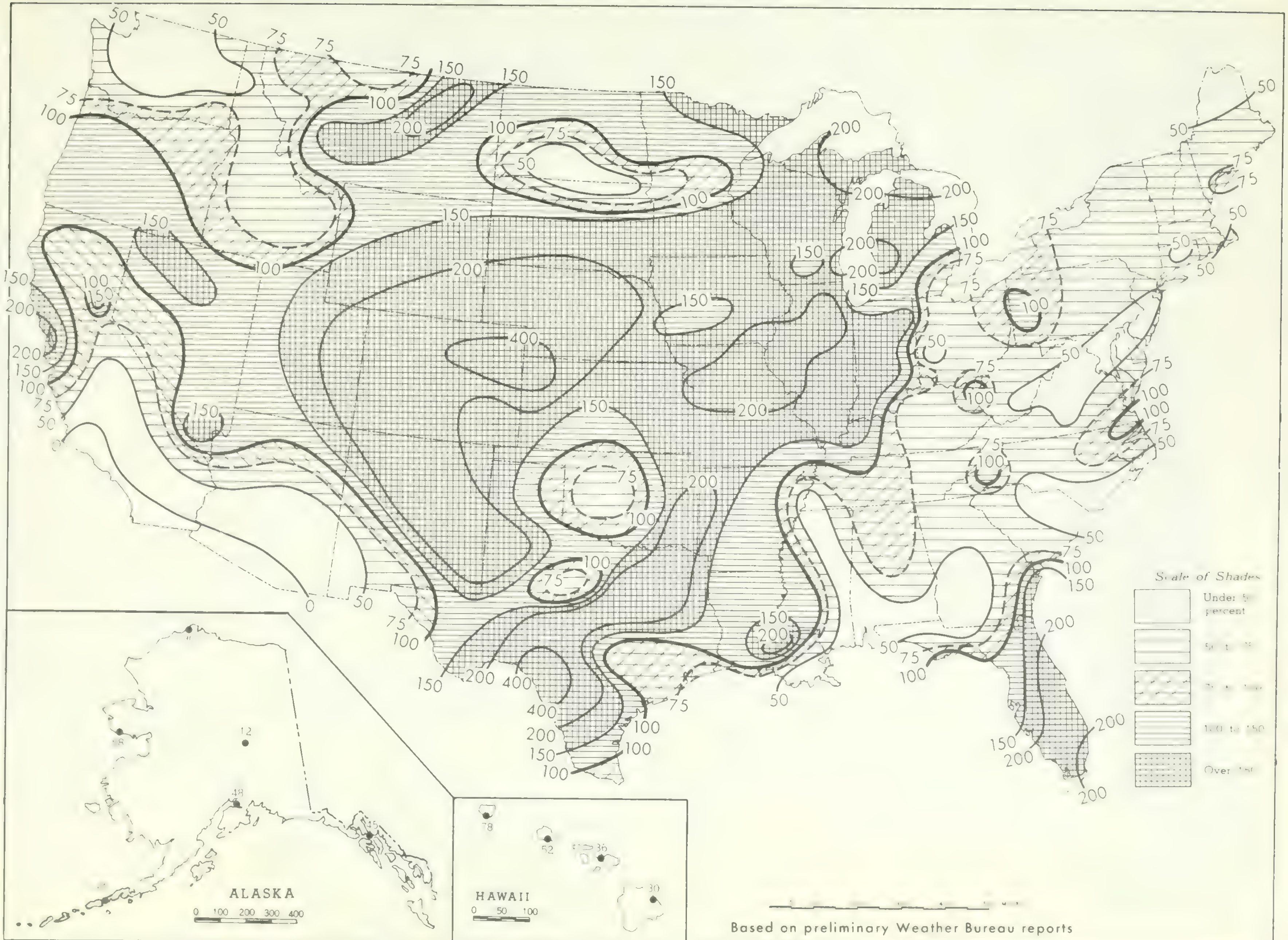
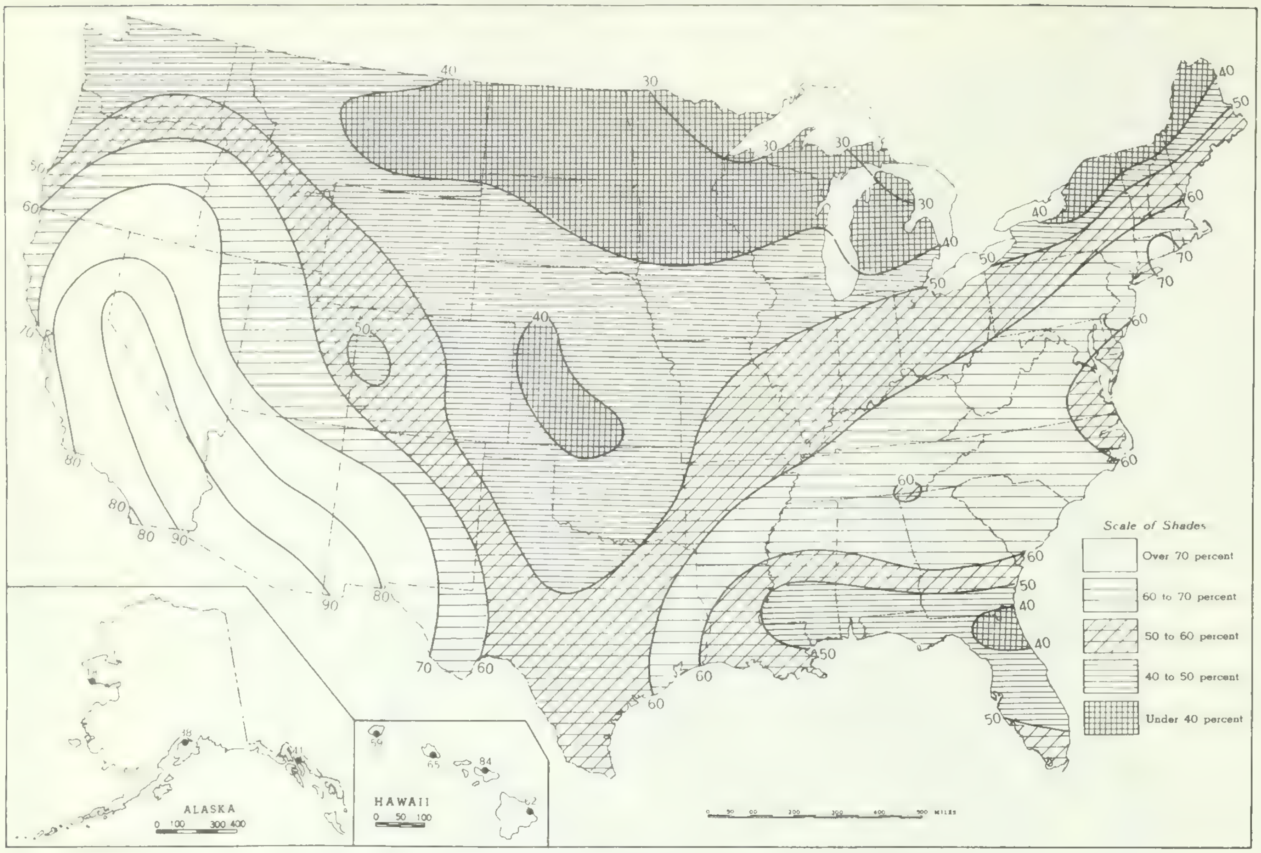
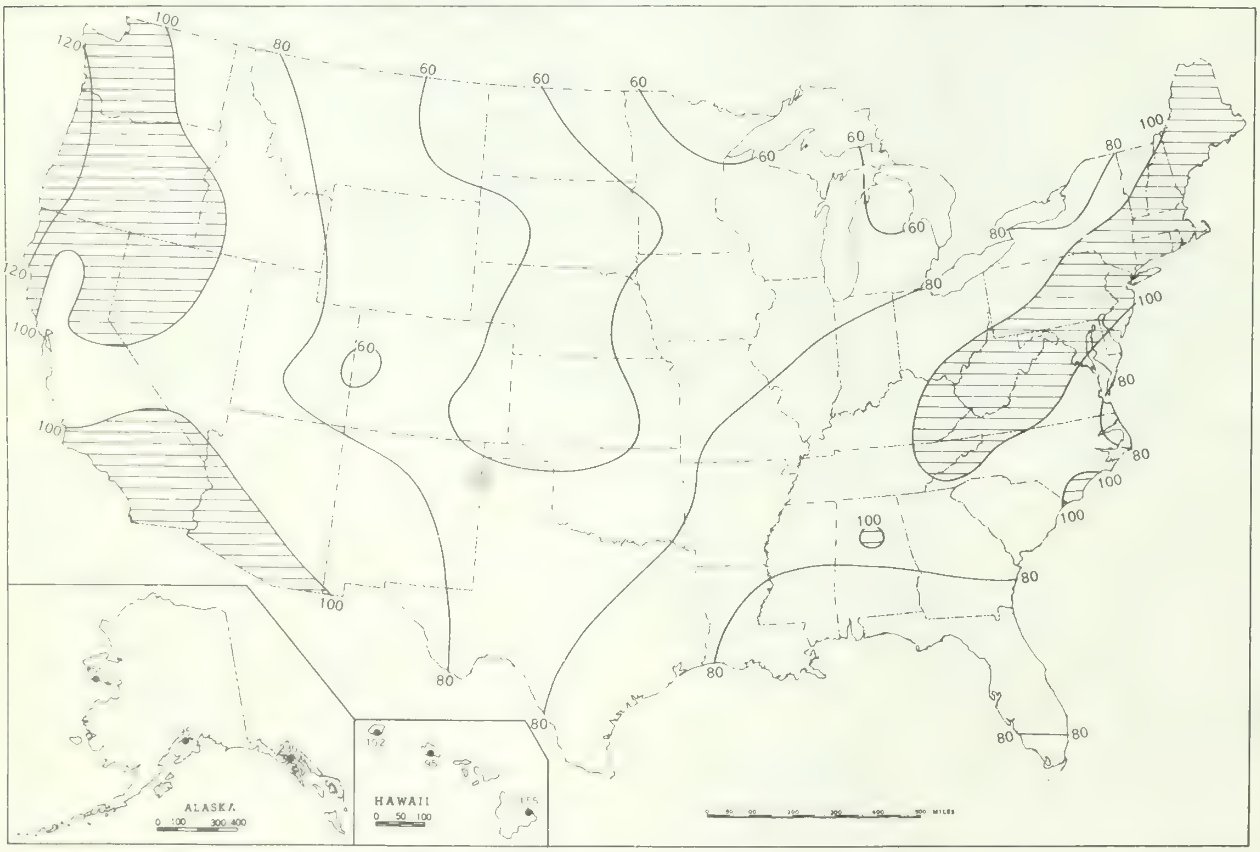


Chart VI. A. Percentage of Possible Sunshine, October 1969.

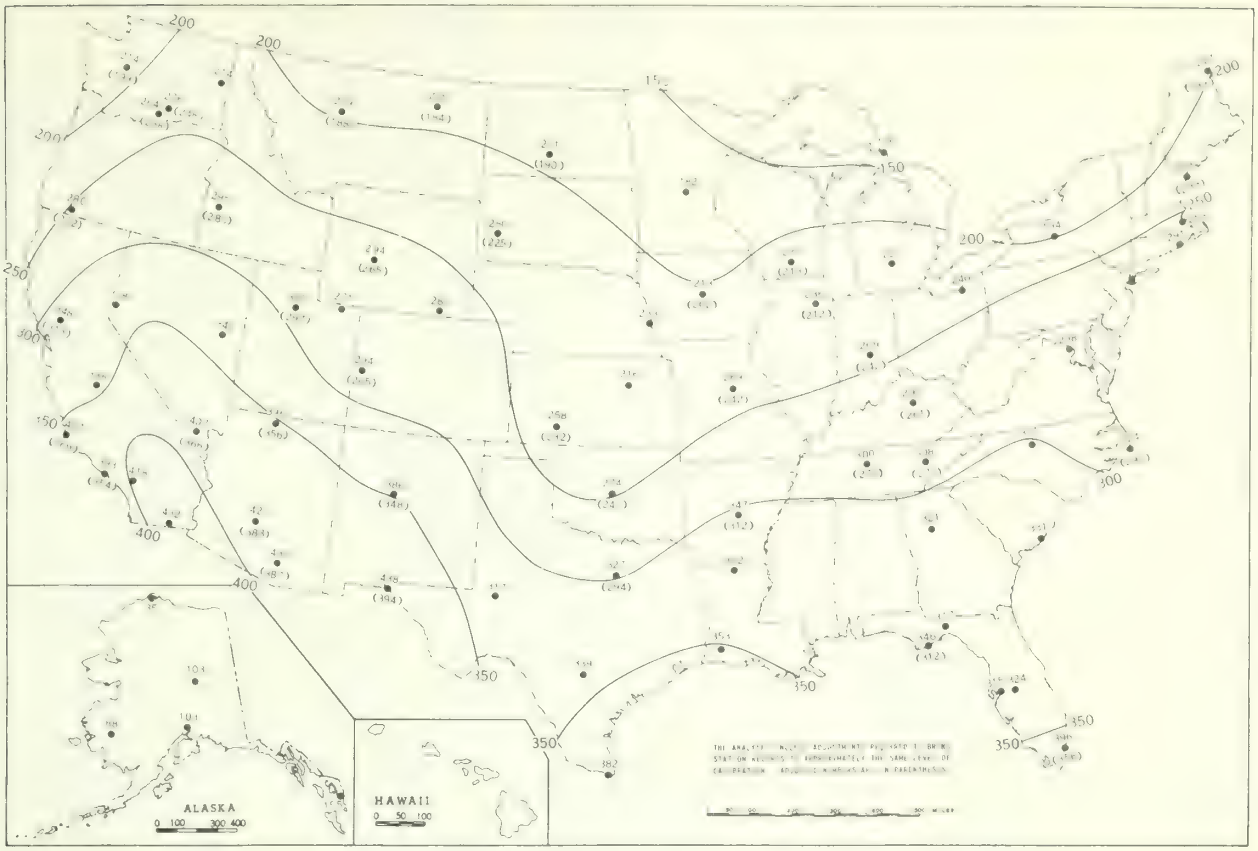


B. Percentage of Mean Monthly Sunshine, October 1969.

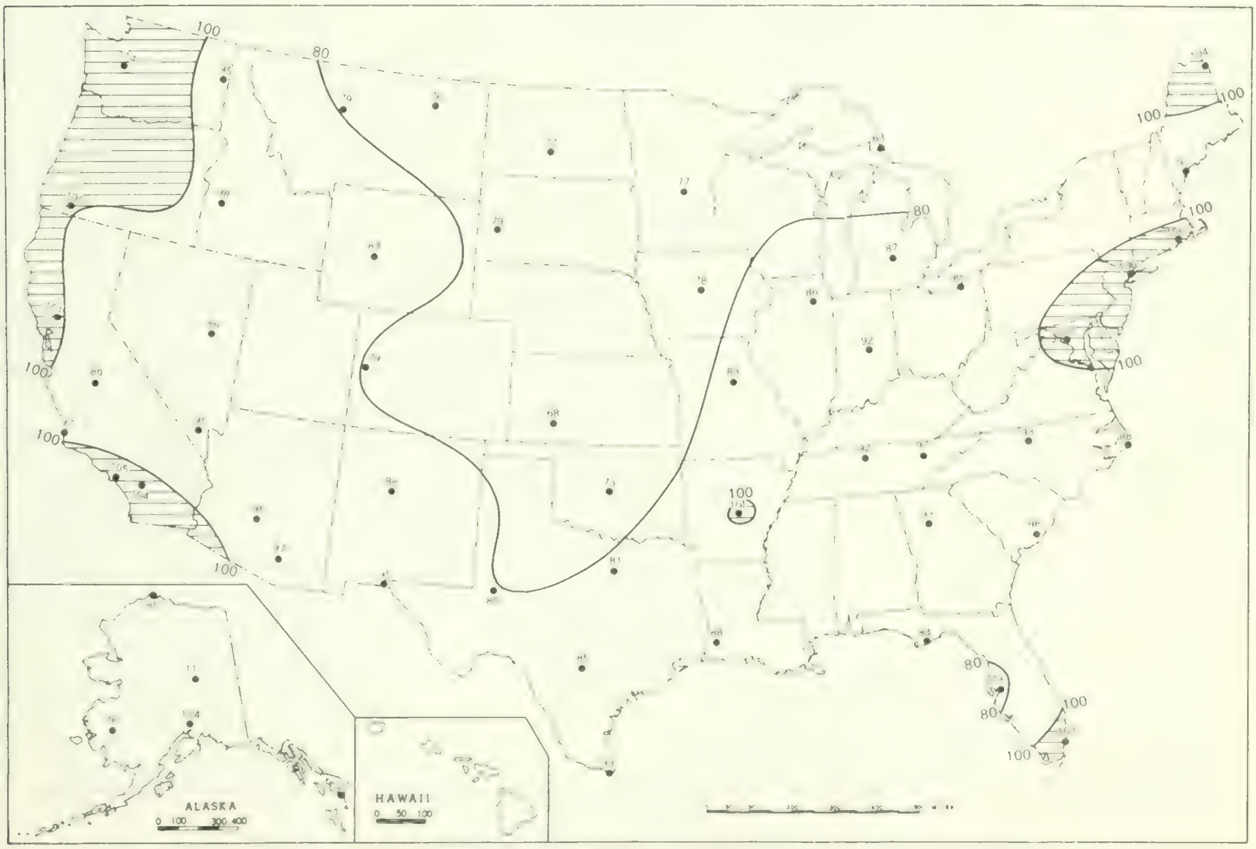


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, October 1969.

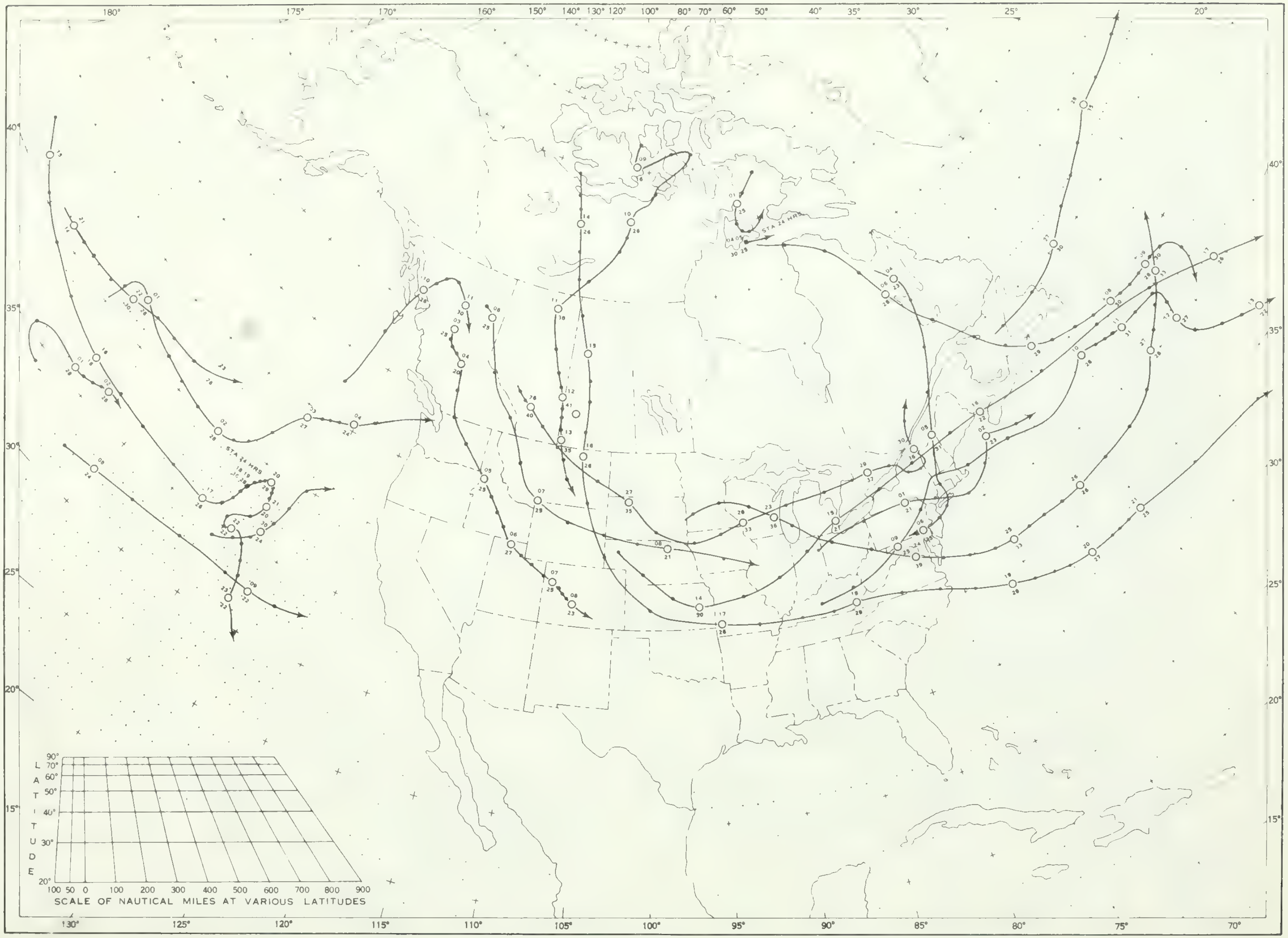


B. Percentage of Mean Daily Solar Radiation, October 1969.



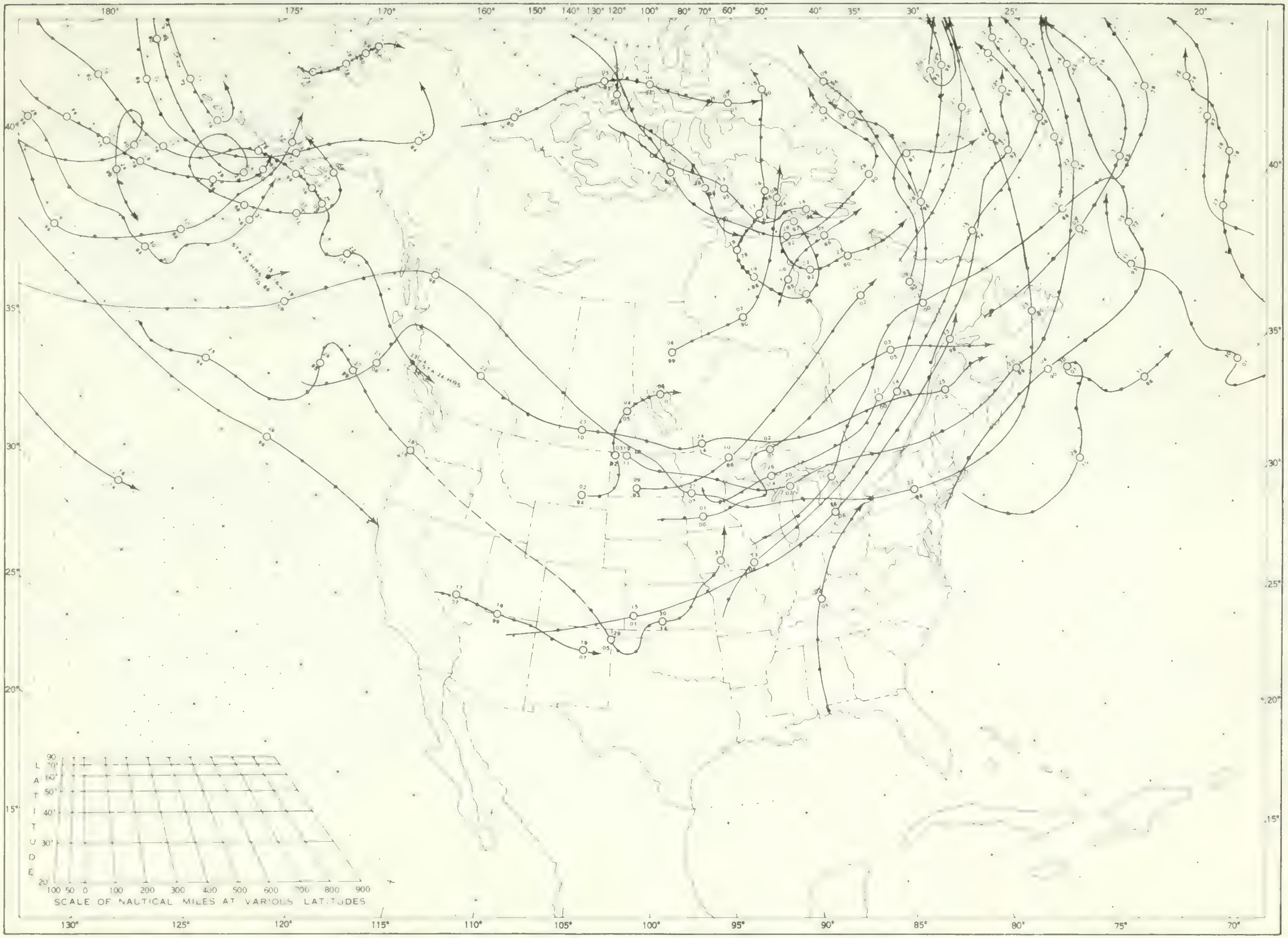
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII Tracks of Centers of Anticyclones at Sea Level, October 1969.



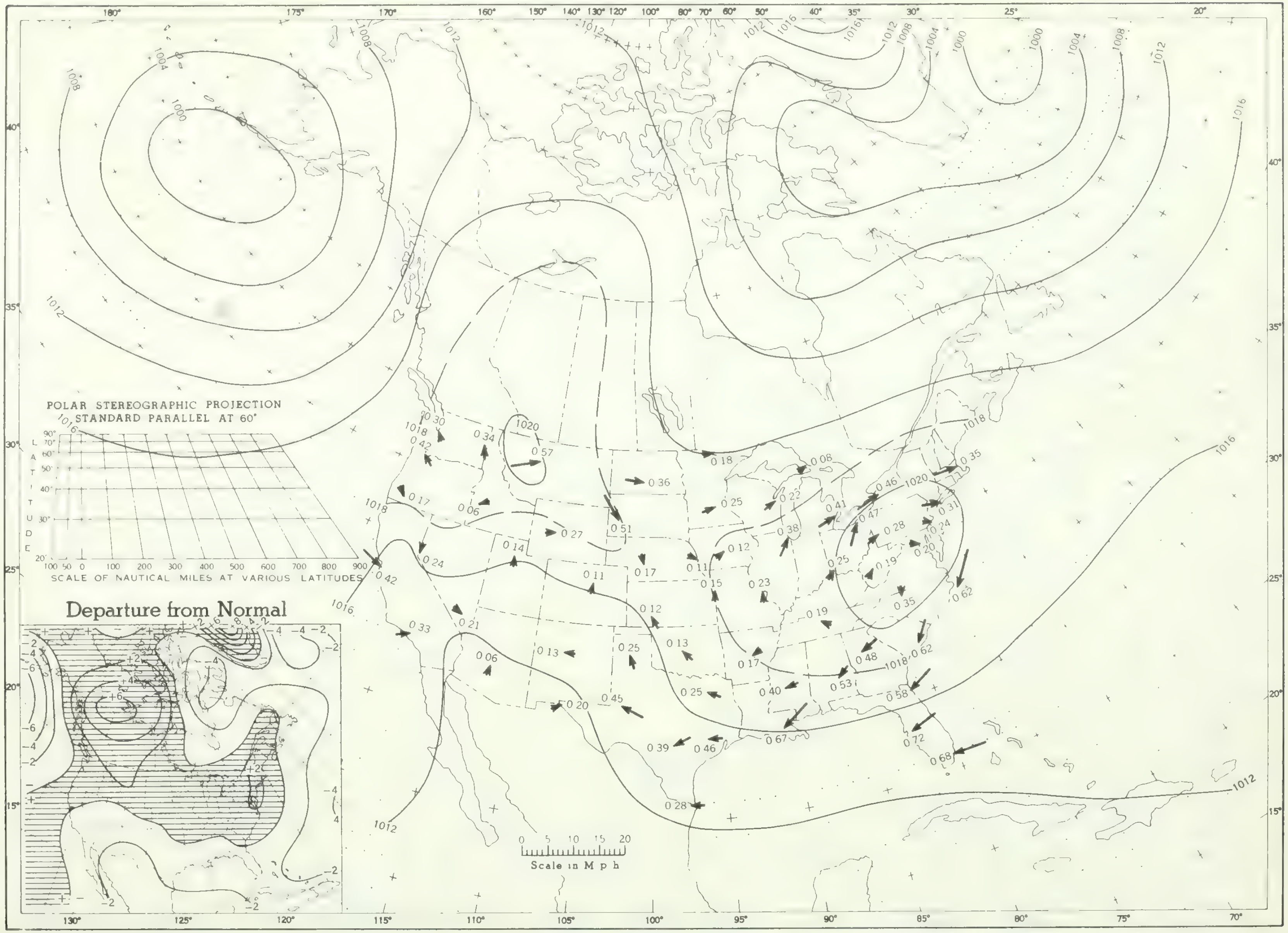
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX   Tracks of Centers of Cyclones at Sea Level, October 1969.



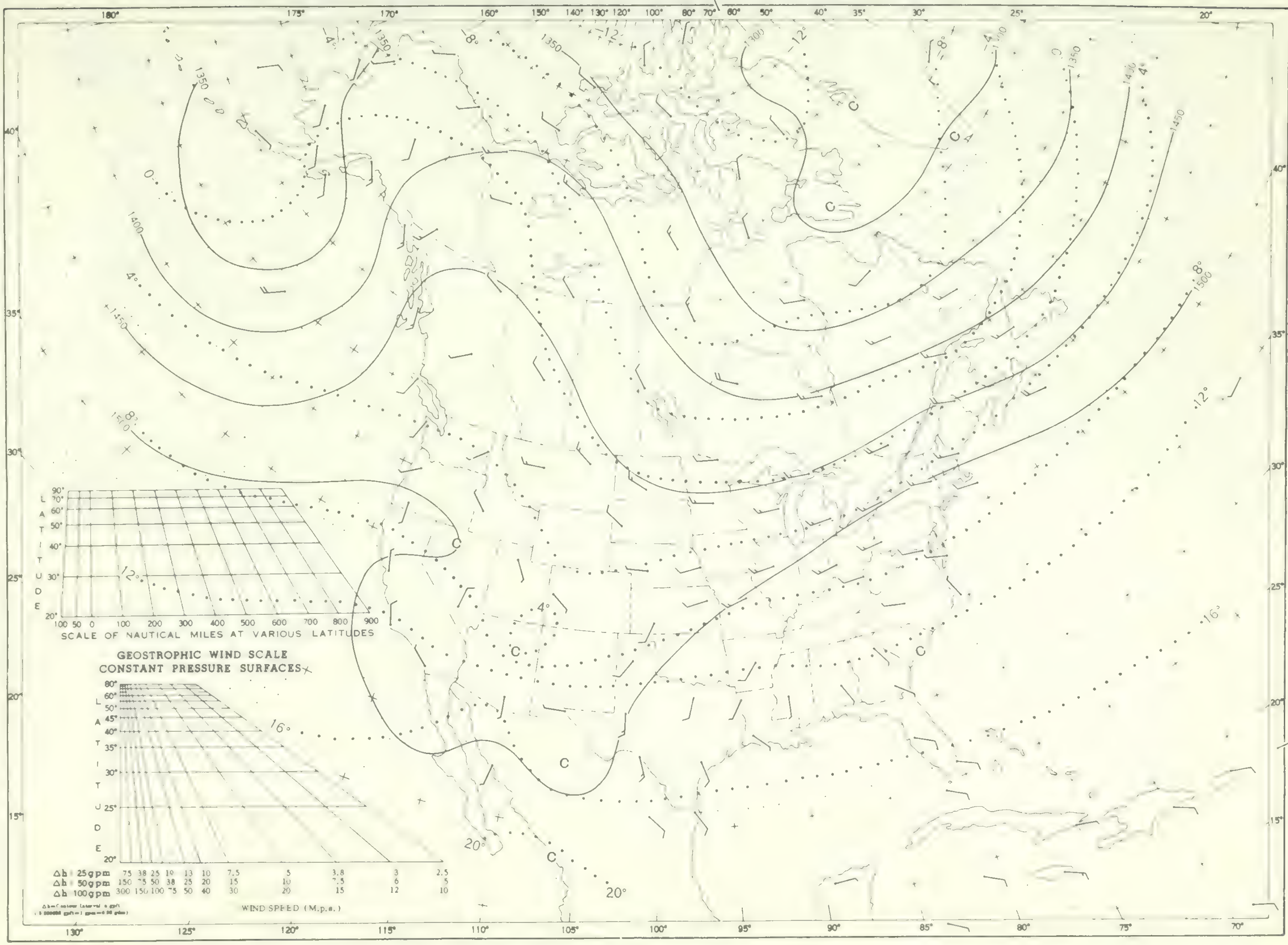
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, October 1969. Inset. Departure of Average Pressure (mb) from Normal, October 1969.



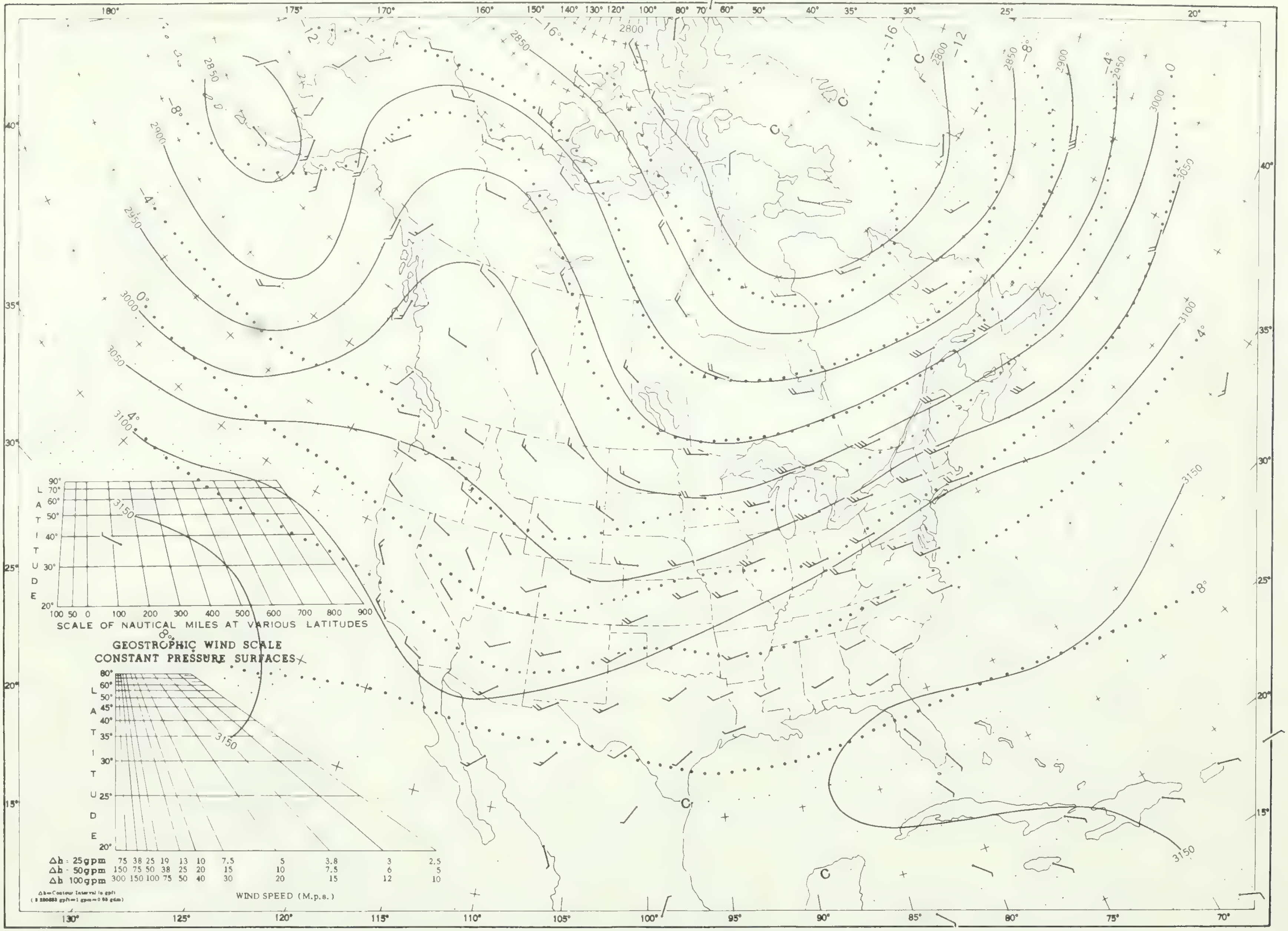
Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb Surface, 1200 GMT, **October 1969**. Average Height and Temperature, and Resultant Winds.



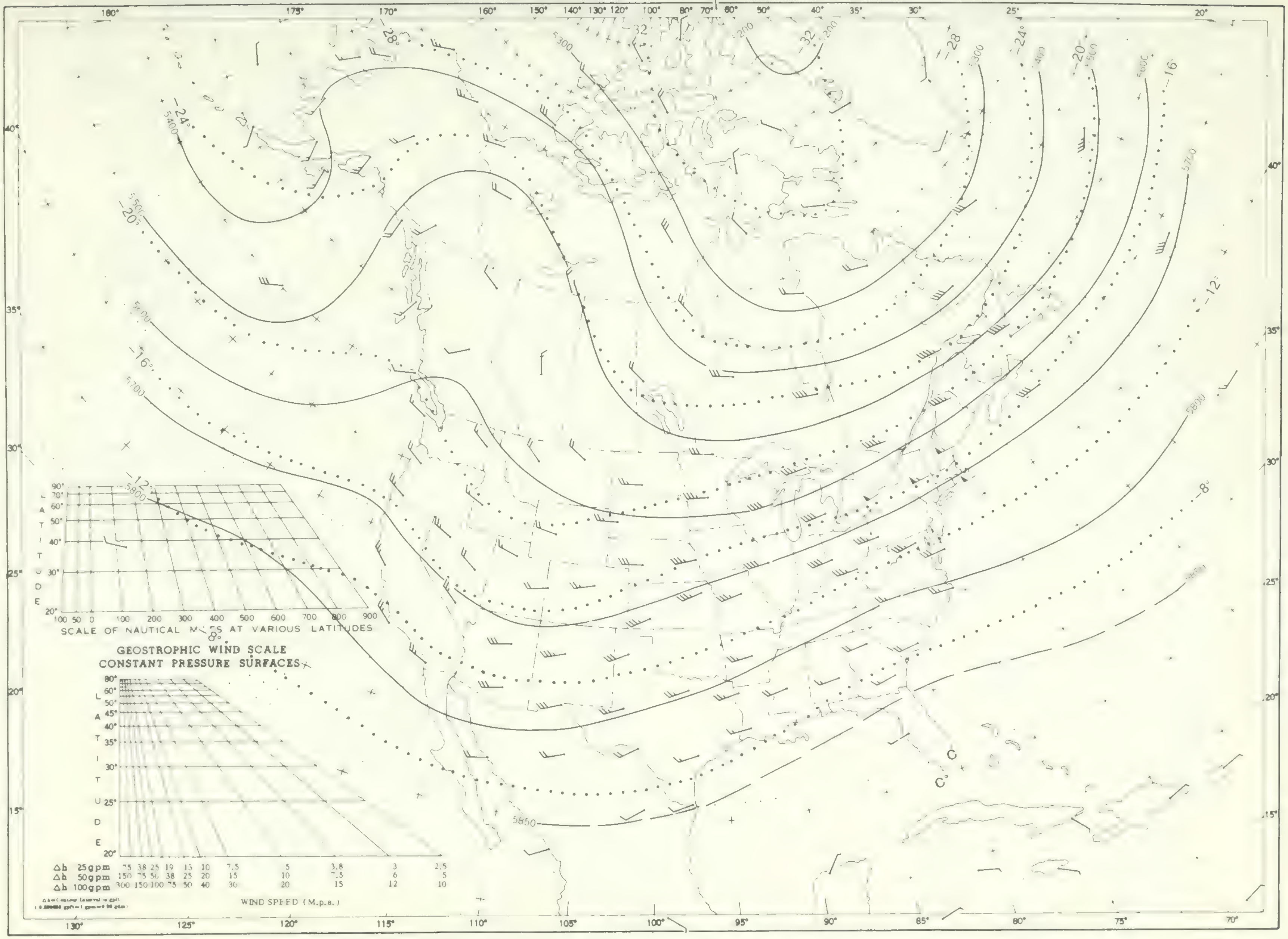
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, October 1969. Average Height and Temperature, and Resultant Winds.



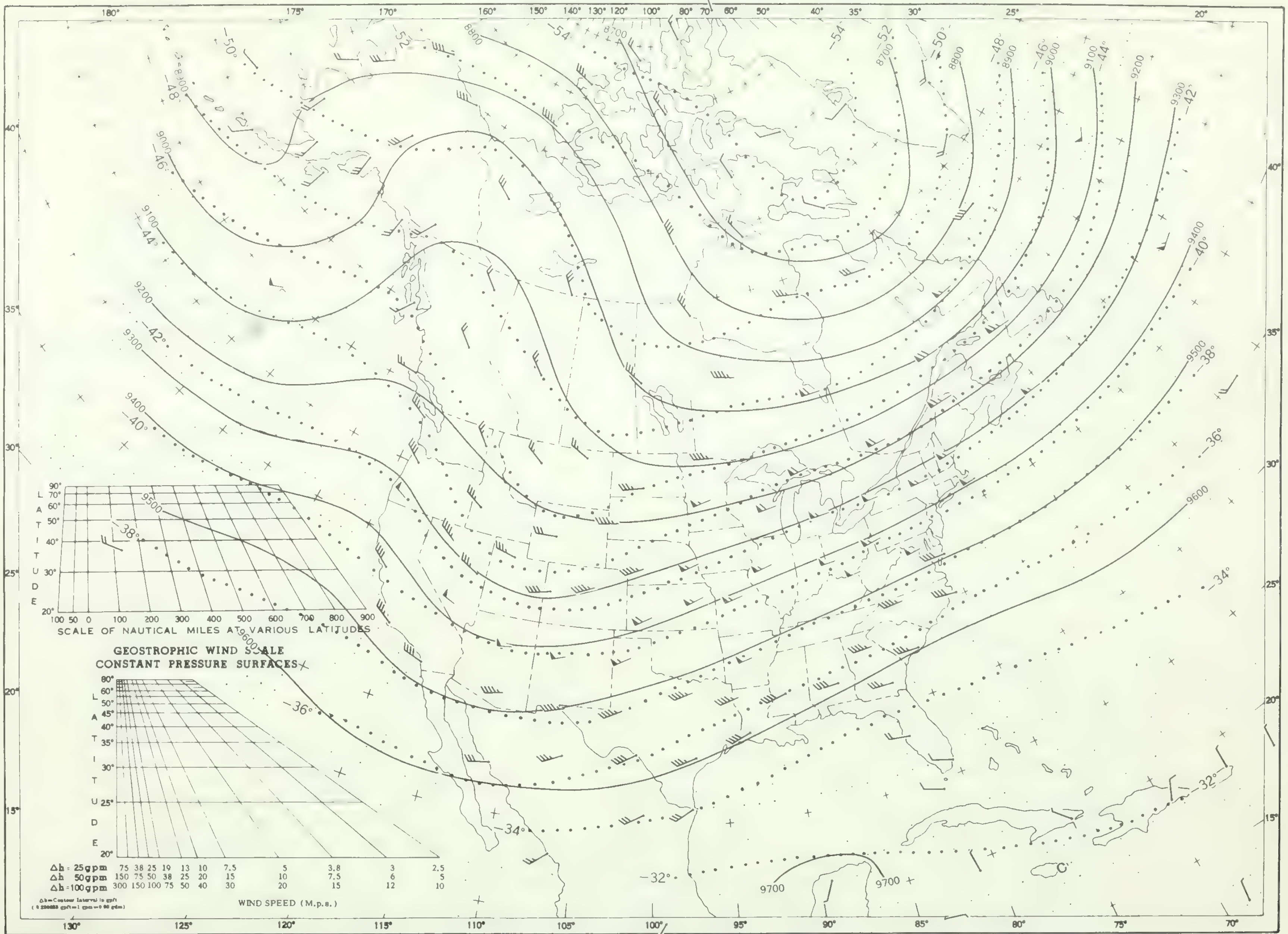
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb Surface, 1200 GMT, October 1969. Average Height and Temperature, and Resultant Winds.



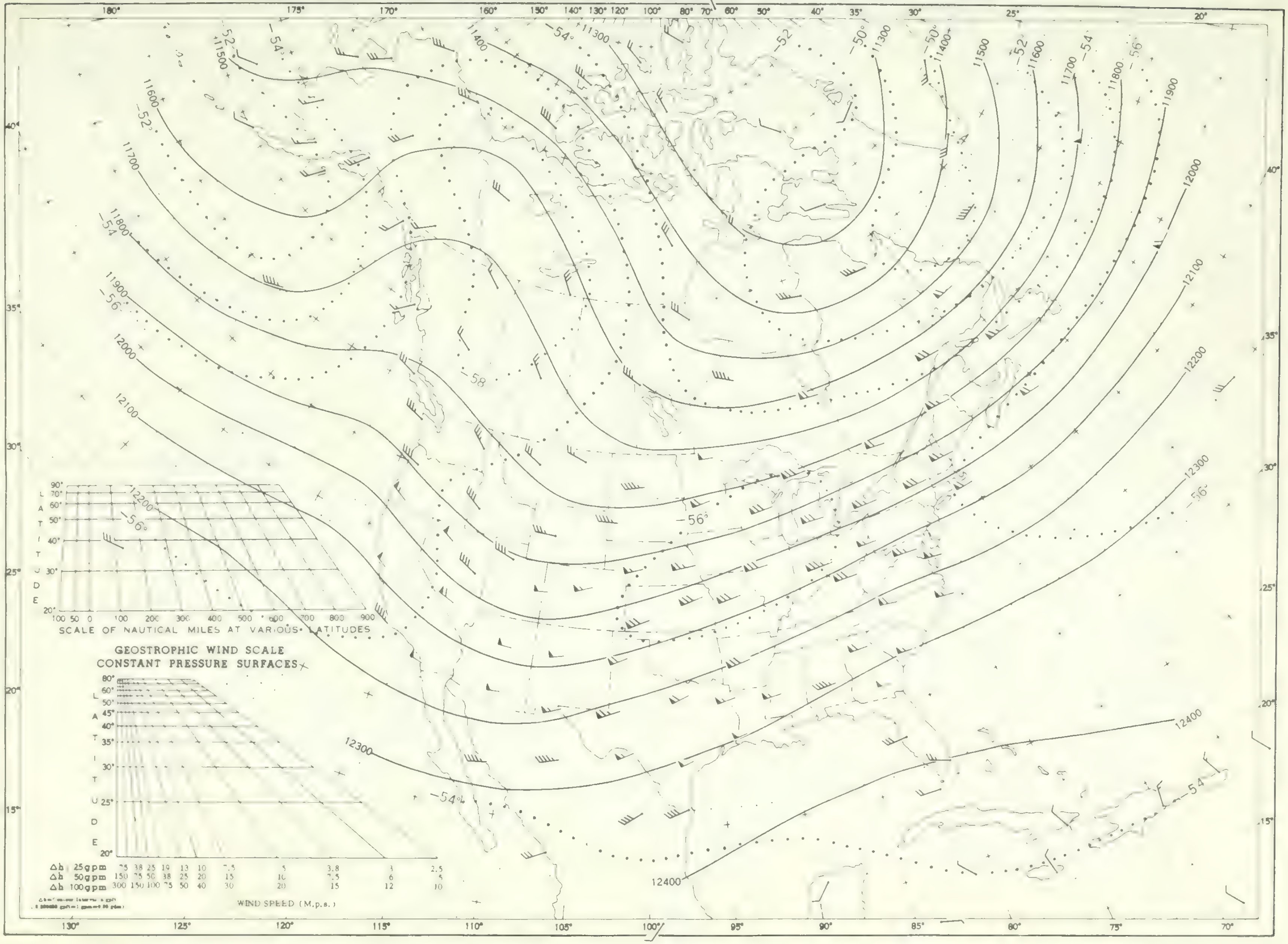
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, October 1969. Average Height and Temperature, and Resultant Winds.



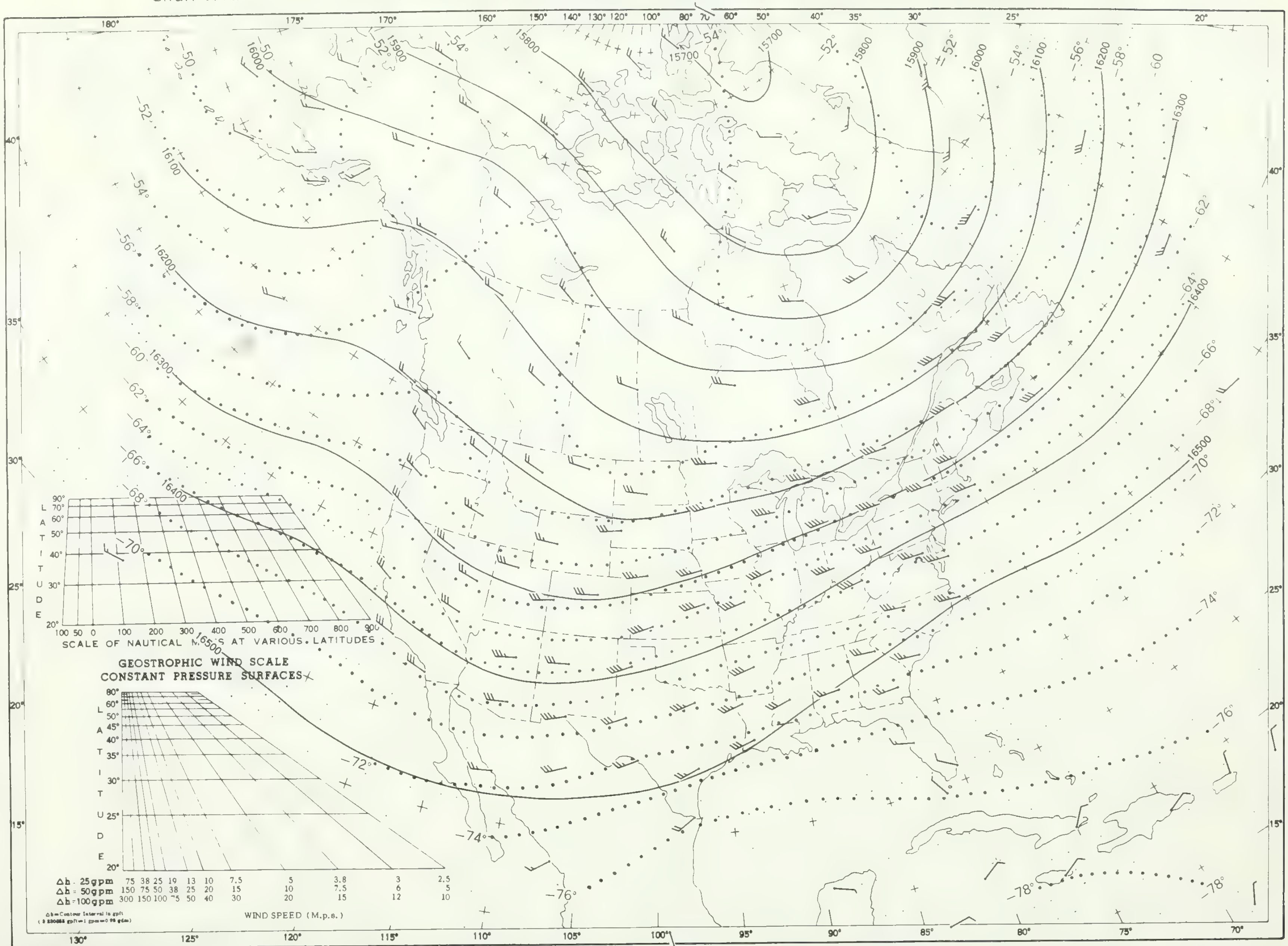
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25mps, full feather 5mps, and half feather 2.5mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, October 1969. Average Height and Temperature, and Resultant Winds.



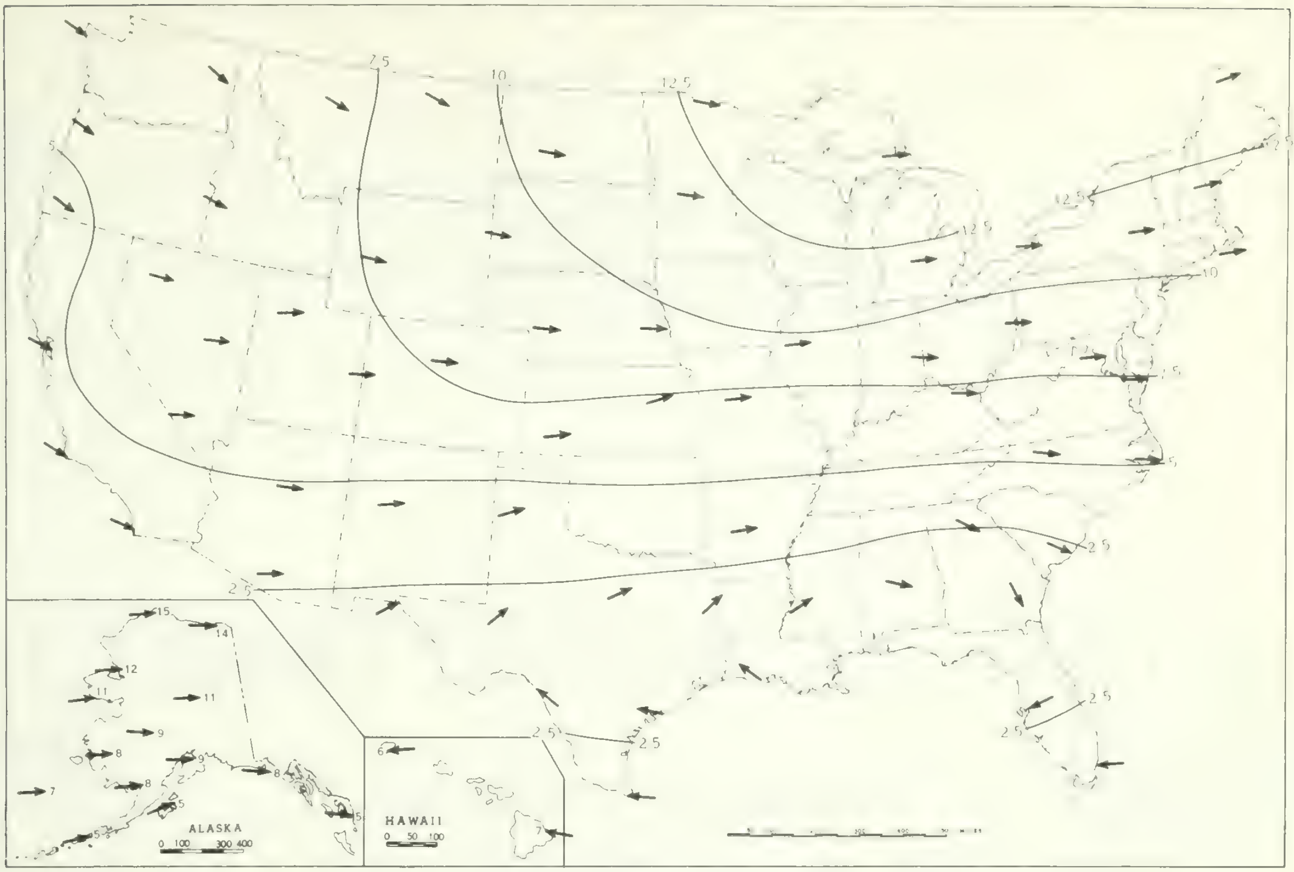
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, **October 1969**. Average Height and Temperature, and Resultant Winds

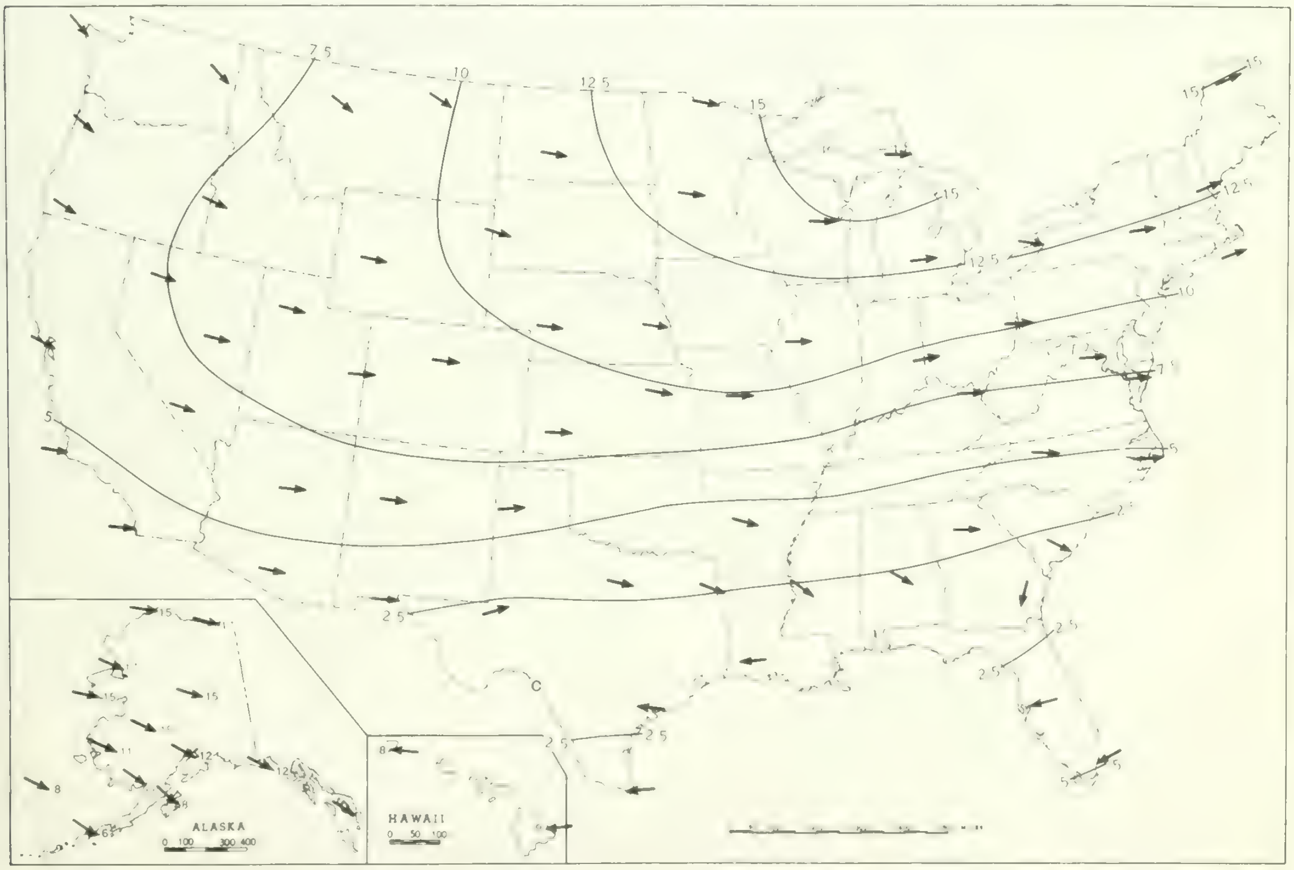


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, October 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, October 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-ESSA-ASHEVILLE, N.C.-4-20-70-1930

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

NOVEMBER 1969
Volume 20 No. 11

Asheville 1970

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 11 NOVEMBER 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. Temperatures averaged above normal over most of the West and below normal over most of the East.
2. Most of the northwestern two-thirds of the Nation received less than an inch of rain.
3. The first half of the month was especially rainy in the Northeast.

TEMPERATURE.--In general, temperatures averaged above normal from the Pacific Ocean to the northern and central Great Plains and below normal from Texas to Lower Michigan and eastward to the Atlantic Ocean. Much of the northern Great Plains averaged 4° to 7° warmer than normal. A narrow strip from southern Ohio to the western part of the Florida Peninsula averaged 3° to 5° cooler than normal.

The month began with warm weather in the Southwestern States and wintry weather along the eastern slopes of the Rockies and the western portion of the central Great Plains. A polar high pushed the freezing line far southward into Mississippi, Alabama, and the western portion of the Florida Panhandle in the first week of the month. Tallahassee, Fla., registered 32° on the morning of the 5th. On the same day, quick warming in the western Great Plains pushed afternoon temperatures into the 70's, with Miles City, Mont., and Dickinson, N. Dak., registering 72°. High pressure, fine weather, and near-normal temperatures prevailed from coast to coast early in the second week of November. Afternoon temperatures reached the 40's and 50's across the northern portion of the Country, and the 70's and 80's across the southern portion. However, considerable fog lay over parts of the Central and East. A change in circulation pushed the fog and pollution from the Central and East and brought dry arctic air into Montana. By the 14th, the leading edge of the cold air had reached the Gulf of Mexico and by the next day, temperatures in northern Florida had tumbled into the 20's. A hard freeze occurred over much of the Deep South. Some areas from Alabama to North Carolina had never been so cold so early in the season. Mild weather lingered only along the southern Atlantic seaboard. The 14th was sunny but cold over most of the Nation. Blustery winds sharpened the bite of the cold. Shortly after midmonth southerly winds brought quick warming to the southern Great Plains and to the eastern half of the Nation. Oklahoma City, Okla., warmed to 70° on the 15th; the highest temperature on the 14th was 42°. At the same time a fresh supply of cold, dry, arctic air moved into the northern Great Plains. The cold air spread southward quickly and soon a strong cold front stretched across the Nation from north to south separating two air masses that differed widely. To the east lay warm, moist, Gulf air. Cold, dry, arctic air covered the northern and central Great Plains west of the front. At noon on the 17th, Concordia, Kans., in the cold air, registered 37° and Topeka, in the warm air about 100 miles east of Concordia, registered 70°. As the front moved rapidly eastward, temperatures dropped quickly--aften 10° to 15° within an hour. By noon on the 19th, only the Atlantic seaboard lay in the warm air. Subfreezing temperatures occurred as far south as the Gulf coast. Temperatures from Lake Charles to New Orleans, La., dropped from near 80° on the 18th to below freezing by the morning of the 24th. Subzero temperatures occurred in the Red River of the North Valley, and thin ice formed at some places in the northernmost Great Lakes. Temperatures dropped to below zero in the central Rocky Mountains, also.

A huge High followed the front. It brought clearing skies and temperatures rose quickly west of its center. Sidney, Nebr., which had been no warmer than 28° on the 18th, warmed to 60° by the afternoon of the 21st. The warming trend spread eastward, and sunny, pleasant weather covered most of the Nation in the last week of November. The month ended with mild temperatures from the Southwest to the northern Great Plains and along the east Gulf and south Atlantic coasts, and below-normal temperatures in the Northwest and from New Mexico and Texas to New England.

PRECIPITATION.--November rainfall ranged widely along the northern Pacific coast, from 3 to over 8 inches. A short distance inland, the totals ranged from 1 to 3 inches. Most of the area from California to the upper and middle Mississippi River received less than 1 inch. Central and eastern Texas and most of the area east of the Mississippi River received 1 to 4 inches. Totals exceeded 4 inches from Shreveport, La., to Memphis, Tenn., and 8 inches along the coast from Portland, Maine, to Boston, Mass.

Gale winds accompanied torrential rains along portions of the Atlantic coast early in November. Jacksonville, Fla., received 5.47 inches, over 3 times the November normal, in the 24-hour period ending at 7 a.m., November 1, and over 7 inches fell at Myrtle Beach, S. C., in 6 hours late that evening. By the middle of the first week of November, rains were soaking the north Pacific coast. Snow fell above 5,000 feet in the mountains from Washington to northern California and eastward to northern Montana. Heavy rains also fell in much of the Northeast. Some wet snow was mixed with the rain in northern Indiana and northern Ohio, and the southern Appalachians received their first snow of the season on the 4th. Precipitation continued in parts of the Northeast for 13 consecutive days, the longest such period of record at some locations. About midmonth, heavy snow, driven by strong winds, closed mountain highways in Colorado, and heavy squalls dumped 6 to 14 inches of snow in the lee of the Great Lakes. Snow accumulated to 10 inches in the La Porte and South Bend, Ind., area to about 14 inches at Holland and 12 inches at Hancock in Michigan, and to 6 to 10 inches in New York near Lake Erie. Niagara Falls, N. Y., received 6 inches of snow in 1 hour on the evening of the 15th. About 5 inches fell in the mountains of Kentucky, Virginia, and North Carolina and up to 11 inches in West Virginia. Meanwhile, another winter storm moved into the northern Rocky Mountains. By the evening of the 16th, 11 inches of snow lay on the ground at West Yellowstone, Mont.

In the third week of November, heavy rains occurred in connection with a powerful, eastward-moving cold front that stretched from north to south across mid-America. Southerly winds brought mild, moist air

northward ahead of the front. Northerly winds pushed frigid arctic air southward west of the front. Cloudiness increased and rain fell ahead of the front. A few thunderstorms occurred in the warm, moist air. By the 18th, rains covered a belt about 300 miles wide and extending from the Great Lakes to the Gulf of Mexico. As the front approached, snow became mixed with rain in the northern and central sections. Snow fell in the cold air after the frontal passage followed by clearing skies. Storm totals ranged from 2 to more than 4 inches from northeastern Texas to northwestern Ohio. Cold air picked up moisture as it crossed the Great Lakes and deposited heavy snow on the lee side of the Lakes. Light snow fell from the northern Rockies to the Great Lakes and in the Appalachians, and moderate to heavy snow in the Cascades and Olympic Mountains.

Light rain fell across the Southland and along the Atlantic coast, and heavy showers in southern Texas in the last week of November when wide areas from the Pacific Ocean to the Ohio River Valley received no rain or only light sprinkles.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

NOVEMBER 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	3 Stations	82	12+	Valley Head	10	15	Red Bay	5.48	Beatrice 1E	0.36
Alaska	Juneau 9NW	63	1	Tok	-53	17	Ketchikan	42.98	Oil Well Road EP	T
Arizona	Davis Dam No 2	90	4	Jacob Lake	3	18	Palisade RS	5.07	Douglas B-D FAA AP	.08
Arkansas	Eudora	85	12	2 Stations	11	29+	Magnolia 3N	9.60	Ratcliff	.26
California	Indio US Date Garden	97	2	do	-3	29+	Honeydew 2WSW	8.35	3 Stations	.00
Colorado	Julesburg	79	5	Fraser	-27	19	Wolf Creek Pass 4W	4.00	Brandon	.00
Connecticut	2 Stations	70	4+	Mansfield Hollow Dam	9	22	Wolcott Reservoir	8.31	Bridgeport WBAP	3.82
Delaware	Bridgeville 1NW	72	3	Milford 2WSW	14	22	Lewes 1SW	3.74	Newark University Farm	1.74
Florida	3 Stations	90	3+	Fountain 3SSE	17	15	Fernandina Beach	23.80	Fort Myers WBAP	.22
Georgia	Americus 4ENE	84	2	Jasper 1NNW	9	15	Folkston 3SW	7.73	Preston	.55
Hawaii	Mauna Kea Beach 98	92	8+	Mauna Loa Slope Obs	28	25	Mount Waialeale 1047	29.76	4 Stations	.00
Idaho	Slate Creek RS	75	5	Island Park Dam	-11	18	Powell	2.08	2 Stations	.00
Illinois	3 Stations	73	7+	Park Forest	9	20	Lawrenceville	4.58	do	.21
Indiana	Mount Vernon	73	8	2 Stations	10	20	Bowling Green 2NE	4.94	Collegeville St Jo Col	1.28
Iowa	2 Stations	72	8+	do	1	19	Sigourney	1.22	2 Stations	T
Kansas	Ashland	79	8	do	9	29+	Dresden	.63	13 Stations	.00
Kentucky	Golden Pond 8N	77	12	do	8	15	Golden Pond 8N	6.00	Blaine	1.69
Louisiana	Saint Bernard	89	8	Hineston 4NNE	16	15	Keithville	10.36	Schriever	.27
Maine	8 Stations	63	7+	2 Stations	-8	28	West Buxton 2NNW	9.50	Telos Dam	4.09
Maryland	La Plata 1W	75	3	3 Stations	10	22+	Catoctin Mountain Park	D 5.53	Rockville	.17
Massachusetts	Plymouth	66	3	2 Stations	7	22	Chestnut Hill	10.64	Nantucket WBAP	4.16
Michigan	Ontonagon	67	7	Kenton US Forest	-8	21	Bloomingdale	5.87	Harrisville 7SW	.48
Minnesota	Maple Plain	70	8	2 Stations	-18	27	Babbitt 2SE	2.08	Red Lake Falls	.05
Mississippi	7 Stations	85	12+	Waynesboro 2W	14	15	Greenville	8.69	2 Stations	.90
Missouri	2 Stations	78	7+	Annapolis 4WSW	8	15	Bernie	4.97	do	.00
Montana	do	78	5	West Yellowstone	-16	18	Bozeman 12NE	2.72	5 Stations	.00
Nebraska	Niobrara	79	5	Agate 3E	-1	27	McCool Junction	1.30	Staplehurst	.00
Nevada	2 Stations	83	1	2 Stations	-1	28+	Ruth	2.10	2 Stations	.00
New Hampshire	Keene	64	4	Mount Washington	-11	22	Mount Washington	14.41	Lancaster	4.52
New Jersey	3 Stations	71	3	High Point Park	10	22+	Milton	5.90	Burlington	1.42
New Mexico	Maljamar	82	7	Eagle Nest	-15	18	Dulce	1.35	14 Stations	.00
New York	Patchogue 2N	71	3	Old Forge	-6	22	Tannersville 2E	12.20	New Albion	1.75
North Carolina	3 Stations	80	3+	Grandfather Mountain	-12	15	Lake Toxaway 2SW	12.40	Mangums Store 4WSW	.43
North Dakota	Hettinger	76	5	Hannah 2N	-11	20	Wahpeton	.52	7 Stations	.00
Ohio	4 Stations	70	18+	Hiram	8	20	Hiram	D 4.70	Canton Repository	1.11
Oklahoma	2 Stations	88	11+	Freedom	7	28	Smithville 3NNW	6.34	10 Stations	.00
Oregon	Powers	82	2	Fremont	-2	30+	Otis 2NE	10.48	McDermitt 26N	T
Pennsylvania	2 Stations	72	3	Coudersport 5NW	0	22	Dushore 2SSW	6.31	Chadds Ford	1.63
Puerto Rico	do	95	21+	Cerro Maravilla	52	23+	Rio Grande El Verde	27.84	San German	3.85
Rhode Island	do	67	3	Kingston	11	22	Block Island WBAP	8.06	Providence WBAP	6.35
South Carolina	do	80	2	Caesars Head 1NE	7	15	Edisto Island 5SW	14.10	Blair	.64
South Dakota	Murdo	79	7	Zeona 2ESE	-6	27	Lead 1SE	1.39	2 Stations	.00
Tennessee	Savannah	79	8	Crossville Exp Sta	5	15	Selmer	5.56	Nashville WBAP	1.83
Texas	Falcon Dam	99	13	Lipscomb	7	28	Jacksonville	11.24	5 Stations	.00
Utah	2 Stations	78	12+	Soldier Creek	-10	18	Silver Lake Brighton	2.17	2 Stations	T
Vermont	Mc Indoe Falls	63	5+	3 Stations	-4	29+	Wardsboro	9.45	Manchester Center	4.29
Virginia	Fort Lee	79	3	Big Meadows	6	15	Big Meadows	5.69	2 Stations	.50
Washington	2 Stations	74	5+	2 Stations	6	30+	Spruce	11.23	Wapato	.02
West Virginia	3 Stations	74	1	Seneca State Forest	4	21	Harpers Ferry Nat Park	3.94	Arbovale 2	.95
Wisconsin	Gurney	68	7	Gordon 2ESE	-9	27	Port Wing 5SW	2.20	Dodge	.24
Wyoming	Sheridan Field Sta	75	5	2 Stations	-14	27+	Burgess Junction	1.95	4 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
ALABAMA	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In	In			In	In	M.p.h.		M.p.h.							%
BIRMINGHAM	620	997.3	1020.1	64	37	50.1	- 3.2	76	11	21	15	0	12	38	68	2.66	- 0.87	1.30	7	2	T	T	1.1	31	27	W	19+	13	10	7	4.6	67
HUNTSVILLE	624	996.6	1020.3	61	35	48.0	- 2.8	77	7	16	15	0	13	38	72	2.47	- 1.18	1.24	9	1	0.1	T	1.3	36	35	31	14	12	8	10	4.8	
MOBILE	211	1011.9	1020.0	71	46	58.0	- 0.9	82	11	26	15	0	3	47	71	0.44	- 2.91	0.30	4	1	0.0	0	2.9	1	23	36	19+	12	9	9	4.6	
MONTGOMERY	183	1012.9	1020.2	67	38	52.4	- 1.8	79	11+	21	15	0	9	39	68	0.73	- 2.29	0.27	4	1	0.0	0	2.3	36	30	W	19	16	8	6	3.7	61
ALASKA												B																				
ANCHORAGE	114	994.2	999.4	29	18	23.7	1.5	50	1	- 7	17	0	27	14	64	0.84	- 0.19	0.41	10	0	2.6	1	3.5	2	23	15	28	8	4	18	7.3	42
ANNETTE	110	1003.1	1007.2	47	38	42.5	2.1	57	1	26	16	0	3	38	84	24.89	10.24	3.49	28	0	T	T	8.9	15	44	14	1	[illegible]	4	26	9.1	
BARROW	31	1004.6	1015.2	- 5	-15	- 9.8	- 9.1	14	7	-27	30	0	30	-14	79	0.24	0.01	0.10	6	0	2.6	4	7.3	7	30	4	1	V	V	V		
BARTER ISLAND	39	1011.9	1013.6	0	-12	- 6.3	- 6.5	18	3+	-33	16	0	30	-14	68	0.60	0.20	0.33	9	0	4.2	6	7.8	9	38	11	20	X	X	X		
BETHEL	125	996.6	1002.5	16	3	9.5	- 7.7	39	27	-12	15	0	30	5	79	0.04	- 1.02	0.02	2	0	4.3	2	8.3	2	30	4	17	4	2	24	8.1	
BETTLES	644	983.1	1010.[illegible]	0	-13	- 6.5		25	27	-40	15	0	30	-12	74	[illegible].67		0.20	12	0	18.3	10	6.1	36	20	2	28	9	6	15	6.1	
BIG DELTA	1268	956.7	1006.6	14	- 1	6.3		48	1	-40	17+	0	30	1	78	0.29		0.12	5	0	5.6	5	7.0	13	39	22	29	7	6	17	6.9	
COLD BAY	96	995.3	998.7	38	29	33.5	- 0.9	48	5+	20	10	0	22	28	78	2.97	- 0.82	1.05	18	0	4.5	2	4.7	31	46	27	7	2	[illegible]	25	[illegible]	
FAIRBANKS	436	988.8	1006.9	10	- 8	1.2	- 2.7	37	27	-41	16	0	30	- 7	67	0.54	- 0.06	0.22	9	0	11.4	9	2.4	1	25	26	10	6	5	19	7.4	
GULKANA	1572	944.8	1006.1	13	- 4	4.2		43	1	-43	18	0	30	0	79	0.26		0.12	6	0	6.4		2.8	33	33	19	29	5	3	22	7.5	
HOMER	67			33	22	27.3		47	1	1	16	0	25			3.61	1.11	1.20	16	0	8.8	4						7	2	21	7.[illegible]	
ILIAMNA	186			27	16	21.3		45	1	1	15	0	28			1.86		0.47	12	0	14.1	10						4	6	20	[illegible]	
JUNEAU	12	1003.7	1004.4	37	28	32.3	- 2.0	52	1	3	17	0	18	32	96	8.69	2.63	2.13	28	0	18.2	8	7.5	11	48	12	2	[illegible]	2	28	9.5	14
KING SALMON	49	996.3	998.4	25	9	17.0	- 5.0	39	27+	-14	15	0	28	11	72	1.84	0.38	0.71	11	0	16.1	5	4.8	1	35	9	27	3	5	22	8.2	
KOTZEBUE	10	1007.8	1008.4	7	- 4	1.4	- 6.0	22	3	-21	19	0	30	- 6	69	0.34	- 0.02	0.08	12	0	7.7	6	6.5	3	38	27	9	12	[illegible]	16	[illegible]	
MC GRATH	344	991.5	1005.1	8	- 8	0.3	- 5.0	39	27	-36	17+	0	30	- 8	67	0.42	- 0.66	0.16	8	0	7.8	8	1.2	35	22	3	27	7	[illegible]	20	[illegible]	
NOME	13	1004.7	1005.5	16	1	8.7	- 7.8	32	4	-22	19	0	30	0	63	0.18	- 0.98	0.05	6	0	2.0	2	5.4	36	41	4	27	11	4	15	6.1	54
ST. PAUL ISLAND	22	999.3	1000.1	37	28	32.5	- 0.4	43	6+	20	6	0	24	28	81	1.92	- 0.58	0.40	24	0	4.9	1	6.3	2	49	25	7	[illegible]	3	27	9.4	
SHEMYA	122	1001.7	1005.3	40	32	35.6	- 0.2	47	3	18	28	0	14	29	76	2.61	- 0.11	0.74	23	0	6.7	2	6.0	28	54	21	3	1	10	19	9.1	
SUMMIT	2401	913.0	10[illegible].7	14	5	9.4		39	1	-20	17+	0	30	4	77	1.69		0.70	10	0	18.2	19	11.6	4	55	7	13	5	7	18	7.9	
TALKEETNA	345	986.8	1000.5	27	12	19.5	0.7	43	2+	-15	16	0	30	11	69	0.87	- 0.92	0.26	10	0	5.9	3	4.4	3	25	3	17	8	2	20	6.4	
UNALAKLEET	15	1003.7	1004.4	16	5	10.5		32	28	-16	14	0	30	- 1	58	0.49		0.20	7	0	18.5	15	11.0	8	41	8	12	7	2	21	7.3	
YAKUTAT	28	998.6	999.5	38	27	32.4	- 1.4	50	1	12	12	0	26	26	77	15.50	- 0.53	2.29	27	1	8.4	3	6.5	11	39	13	25+	[illegible]	[illegible]	28	[illegible]	
ARIZONA																																
FLAGSTAFF	7006	790.0	1022.4	46	22	33.9	- 2.2	62	13	11	22	0	29	19	58	2.04	1.04	0.91	6	2	3.0	T	3.2	6	24	5	8	18	[illegible]	7	4.6	
PHOENIX	1117	978.0	1017.0	74	50	62.1	4.0	82	1	38	23+	0	0	38	47	0.65	0.16	0.31	6	0	0.0	0	4.6	8	35Y	ENE	24	15	8	7	4.[illegible]	[illegible]
TUCSON	2584	927.9	1016.4	70	47	58.6	0.5	79	6+	34	18	0	0	34	47	1.06	0.44	0.45	6	1	0.0	0	6.1	14	34	E	28	11	8	11	4.8	[illegible]
WINSLOW	4895	855.4	1022.8	56	27	41.5	0.2	70	6+	15	19+	0	24	24	56	0.36	0.00	0.18	4	0	0.0	0	1.0	26	38	21	7	18	4	8	4.5	
YUMA	194	1009.5	1016.7	75	53	63.8	2.1	86	1	42	22	0	0	38	46	1.66	1.54	1.42	3	1	0.0	0	4.4	2	32	N	17	16	7	7	4.[illegible]	71
ARKANSAS																																
FORT SMITH	447	1003.4	1020.2	64	34	49.1	- 0.9	77	10	19	29	0	13	36	66	0.62	- 2.56	0.37	6	1	T	0	1.4	32	29	NW	1[illegible]	13	8	9	4.6	59
LITTLE ROCK	257	1010.5	1020.2	62	37	49.4	- 0.1	73	11+	20	15	0	8	38	68	3.94	- 0.18	2.72	6	1	T	T	3.1	17	36	SE	18	14	[illegible]	10	4.6	[illegible]
CALIFORNIA																																
BAKERSFIELD	475	1001.0	1018.7	71	45	58.3	2.4	88	4	35	29	0	0	39	54	0.42	- 0.07	0.42	1	0	0.0	[illegible]	1.4	5	26	14	8	17	6	7	[illegible]	
BISHOP	4108	877.8		66	27	46.5	0.7	77	2+	16	24	0	25			0.16	- 0.37	0.16	1		0.[illegible]	[illegible]						18	5	7	[illegible]	
BLUE CANYON	5280			59	42	50.4	4.7	69	1	27	17	0	5			3.60	- 3.15	2.57	5		19.4	13			24	21	[illegible]	18	2	10	[illegible]	
EUREKA	43			58	44	51.3	0.1	70	12	37	30+	0	0			3.49	- 1.12	1.71	6		0.0	0			31	SE	7	12	5	1[illegible]	5.2	63
FRESNO	328	1006.8	1018.8	68	38	53.1	- 0.7	82	4+	28	28	0	11	41	72	0.80	- 0.15	0.75	2	0	0.0	0	[illegible]	4	16	E	6	14	10	6	3.7	[illegible]
LONG BEACH	34	1015.9	1017.2	77	53	64.8	3.6	90	1	40	29	1	0	44	56	1.41	0.38	1.33	[illegible]	0	0.0	0	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	
LOS ANGELES	97	1012.9	1016.4	74	54	64.3	3.2	84	27	44	28	0	0	43	56	1.37	0.28	1.32	5	0	0.0	0	1.8	32	[illegible]Y	W	14	12	10	8	[illegible]	
LOS ANGELES [illegible]	270			75	55	65.2	2.5	87	2	47	28+	0	0			1.11	0.03	1.09	3		0.0	0			14	NE	28+	18	7	5	3.5	77
MT SHASTA R	3544	895.7	1021.4	56	31	43.3	1.5	72	1	21	29	0	18	30	65	2.81	- 1.16	1.71	5		T	T	1.3	1								
OAKLAND	6	1018.6	1018.8	63	47	55.1	0.4	72	1	40	30+	0	0	48	78	0.71	- 1.02	0.60	[illegible]	0	0.0	0	[illegible]	19	[illegible]	5	8	15	8	[illegible]	[illegible]	
RED BLUFF	342	1006.4	1019.3	69	40	54.8	0.3	86	1	29	29	0	5	38	61	0.62	- 1.67	0.54	5	0	0.0	0	[illegible]	34	34	S	4	[illegible]	[illegible]	8	[illegible]	[illegible]
SACRAMENTO	17	1018.0	1018.9	67	41	53.9	1.0	81	1	31	28	0	3	43	75	0.60	- 0.85	0.59	2	0	0.0	0	[illegible]	2	[illegible]	N	17	18	[illegible]	7	[illegible]	[illegible]
SANDBERG R	4517	864.5		57	43	49.7	0.7	71	4	31	18	0	2	25	48	1.40	0.48	1.24	6		[illegible]	0			[illegible]	N	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SAN DIEGO	13	1015.6	1016.5	73	55	64.1	2.3	84	11	48	23+	0	0	44	54	0.79	- 0.11	0.49	6	[illegible]	[illegible]	[illegible]	[illegible]	31	24	W	6	14	[illegible]	[illegible]	[illegible]	74
SAN FRANCISCO	8	1018.3	1018.8	66	46	56.1	1.3	77	1	39	30	0	0	45	71	0.69	- 0.88	0.64	3	[illegible]	0.0	0	[illegible]	23	28	26	16	15	9	6	[illegible]	
SAN FRANCISCO C	52			66	53	59.3	1.9	78	1	48	29+	0	0			0.45	- 1.55	0.42	3		0.0	0			23	W	2					[illegible]
SANTA MARIA	236			74	43	58.5	2.4	88	1	34	21+	0	0			0.34	- 0.08	0.33	3		0.0	0						15	4	11	[illegible]	
STOCKTON	22	1018.3	1019.4	67	40	53.2	0.2	79	3+	29	30	0	6	41	69	0.60	- 0.57	0.49	3	0	0.0	0	[illegible]	22	22	31	5	13	9	8	4.[illegible]	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	774.1		48	12	30.3	0.8	57	7+	- 4	19	0	30			0.11	- 0.18	0.07	2		1.7	T						22	3	5	2.8	
COLORADO SPRINGS	6145	813.1	1022.3	50	24	37.0	- 0.5	68	5	8	18	0	26	19	55	0.39	- 0.01	0.22	2	0	5.6	3	4.7	2	30	35	26	15	7	8	4.2	
DENVER	5283	838.5	1020.0	53	25	39.1	1.4	67	7	12	18	0	26	23	61	0.62	- 0.07	0.38	6	0	5.1	2	3.5	19	31	NW	12	11	8	11	4.9	70
GRAND JUNCTION	4843	857.4	1024.2	51	27	39.2	0.4	67	7	18	19	0	23	20	51	0.45	- 0.13	0.35	5	1	0.5	T	2.4	12	37	NW	16	18	5	7	3.5	77
PUEBLO	4684	858.1	1020.1	61	27	44.0	4.0	77	5	9	19	0	23	24	54	0.48	- 0.05	0.26	2	0	2.8	3	1.2	36	33	W	16	15	9	6	3.5	81
CONNECTICUT																																
BRIDGEPORT	7	1015.6	1016.2	52	38	45.1	0.6	65	3	22	22	0	13	36	71	3.82	- 0.20	1.07	14	0	T	0	3.7	33	33	31	20	6	9	15	6.9	
HARTFORD	169	1009.1	1015.8	49	33	41.2	- 0.1	64	3	14	22	0	15	34	78	6.17	2.33	1.52	13	0	T	0	2.4	30	26	W	20+	3	8	19	7.8	43
DELAWARE																																
WILMINGTON	74	1014.2	1017.1	54	35	44.6	- 0.8	70	3	22	25+	0	14	35	72	1.79	- 1.74	0.65	11	1	0.1	T	3.2	28	27	27	5	8	7	15	6.6	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1015.2	1017.7	56	38	47.2	- 0.5	73	3	25	22	0	11	35	64	2.39	- 0.45	0.99	8	1	T	T	3.6	30	34	NW	19+	9	5	16	6.2	43
FLORIDA																																
APALACHICOLA U	13			67	50	58.5	- 2.8	77	9	31	15	0	1			2.22	- 0.36	1.29	8	1	0.0	0			26	N	19	15	7	8	4.0	64
DAYTONA BEACH	31	1016.9	1018.5	73	54	63.5	- 1.8	83	1	35	15	0	0	53	70	1.96	- 0.37	0.65	9	1	0.0	0	2.6	33	24	2	20	10	6	14	5.7	
FORT MYERS	15	1017.3	1017.7	75	57	66.3	- 2.9	83	1	42	16+	0	0	57	75	0.22	- 0.98	0.18	3	1	0.0	0	4.6	2	25	34	4	16	9	5	3.8	
JACKSONVILLE	24	1017.6	1018.8	69	48	58.7	- 3.0	80	2	29	15	0	2	50	77	4.56	2.87	5.44	9	1	0.0	0	3.4	31	27	NW	19+	13	5	12	4.9	55
KEY WEST	4	1015.9	1016.5	77	68	72.6	- 1.5	84	1	58	15	0	0	64	75	1.80	- 1.00	1.15	5	1	0.0	0	7.3	4	35	N	4	15	11	4	3.7	73
LAKELAND U	214			72	54	63.0	- 3.9	81	2	33	15	0	0			0.94	- 0.65	0.84	5		0.0	0						10	11	9	4.7	62
MIAMI	7	1016.3	1016.4	78	63	70.4	- 2.0	87	1	49	16	0	0	59	70	1.01	- 1.82	0.32	9	1	0.0	0	3.5	1	28	32	4	10	12	8	5.0	
ORLANDO	108	1013.9	1018.2	74	54	64.0	- 1.9	83	1	33	15	0	0	54	74	0.87	- 0.70	0.66	4	1	0.0	0	3.9	36	22	4	20	11	8	11	5.3	
PENSACOLA	112	1015.2	1019.4	69	48	58.4	- 1.1	80	9	30	15+	0	2	46	66	1.28	- 1.96	0.79	4	1	0.0	0	2.9	1	26	35	19	12	10	8	4.8	
TALLAHASSEE	55	1016.9	1019.4	72	40	55.6	- 3.6	83	18+	22	15	0	8	46	77	1.93	- 0.51	0.97	6	2	0.0	0	3.4	35	20	34	19	13	9	8	4.3	
TAMPA	19	1017.6	1017.9	74	52	62.9	- 3.9	83	2	34	15	0	0	52	73	2.68	1.22	2.08	6	1	0.0	0	4.3	2	20	1	20	9	11	10	5.0	62
WEST PALM BEACH	15	1016.3	1016.8	76	59	67.7	- 4.8	86	1	45	15	0	0	56	68	3.29	0.43	1.30	8	1	0.0	0	3.8	1	26	8	18+	10	12	8	5.0	
GEORGIA																																
ATHENS	802	989.2	1018.6	62	38	50.0	- 1.5	74	7	20	15	0	10	37	64	2.02	- 0.91	1.27	5	1	T	T	2.9	29	23	31	14	15	6	9	4.6	
ATLANTA	1010	982.1	1019.3	62	38	50.1	- 1.1	74	11	19	15	0	8	37	66	2.67	- 0.29	1.44	7	2	T	T	4.0	31	26	W	19+	11	11	8	4.7	71
AUGUSTA	136	1013.2	1018.6	65	36	50.3	- 3.8	74	11+	22	16+	0	9	38	72	1.62	- 0.56	1.38	4	1	0.0	0	2.4	27	23	28	19	15	4	11	4.5	
COLUMBUS	385	1005.4		66	38	51.9	- 2.2	77	11	20	15	0	9	40	68	0.79	- 1.80	0.39	5	1	0.0	0	2.9	32	21	31	19+	15	9	6	4.3	
MACON	354	1006.4	1019.5	68	39	53.3	- 2.1	79	11	22	15	0	6	40	68	1.04	- 1.41	0.91	5	0	T	0	2.9	31	25	NW	14	14	6	10	4.6	69
ROME	637			62	32	46.6	- 2.6	73	18+	14	15	0	15			1.35	- 2.07	0.60	8		T	0										
SAVANNAH	46	1016.9	1018.6	66	42	53.9	- 3.4	78	19	25	16	0	4	44	73	3.82	1.77	5.02	6	0	0.0	0	2.3	31	26	W	14	13	4	13	5.1	69
HAWAII																																
HILO	27	1014.9	1016.1	82	65	73.3	0.1	86	30	61	27	0	0	66	80	6.33	- 7.04	1.22	20	0	0.0	0	2.1	17	22	SE	30	4	10	16	7.2	40
HONOLULU	7	1014.9	1015.5	86	71	78.7	2.8	90	3	66	28+	1	0	66	68	5.77	3.61	3.62	9	2	0.0	0	7.7	6	30	NE	5	10	13	7	5.1	59
KAHULUI	48	1012.9	1014.6	84	65	74.8	- 0.2	89	2	59	28+	0	0			0.50	- 1.02	0.26	6	0	0.0	0	6.8	6	30	NE	7+	16	5	9	4.7	72
LIHUE	103	1011.5	1016.5	81	71	75.6	1.1	83	15+	64	28	0	0	68	79	7.45	2.92	3.82	15	1	0.0	0	5.8	5	27	E	7	5	11	14	6.8	44
IDAHO																																
BOISE	2838	922.1	1024.5	50	29	39.7	1.1	68	4	17	28	0	21	27	67	0.59	- 0.61	0.49	4	0	0.3	T	2.9	14	30	W	16	9	10	11	5.7	
LEWISTON	1413			48	34	40.8	1.0	58	2+	25	30+	0	11			0.29	- 0.94	0.25	5		T	T						0	9	21	8.5	
POCATELLO	4454	868.3	1024.8	47	24	35.5	0.5	65	5	10	28+	0	25	22	62	0.87	- 0.12	0.85	3	0	T	T	3.6	21	33	SW	16	9	10	11	5.8	62
ILLINOIS																																
CAIRO U	314			54	37	45.8	- 2.1	72	7	23	14	0	10			3.74	- 0.13	1.90	8		2.5	2			24	S	17+	8	10	12	6.1	52
CHICAGO O HARE	658	992.2	1017.0	46	31	38.3	0.2	60	6	15	20	0	19	30	73	1.11	- 1.06	0.37	9	0	2.0	T	4.4	25	35	32	19	6	10	14	6.8	
CHICAGO MIDWAY	607	993.9	1017.0	46	32	38.8	- 1.1	61	6	16	20	0	16	30	73	1.55	- 0.65	0.62	9	0	3.8	1	5.6	24	30	NW	19	2	15	13	6.8	40
MOLINE	582	995.6	1017.7	48	28	37.9	- 1.3	67	6	15	28+	0	23	29	72	0.53	- 1.42	0.40	3	0	1.5	1	4.2	26	29	NW	19	7	6	17	6.5	48
PEORIA	652	993.6	1018.2	47	28	37.5	- 2.2	64	6	14	20	0	19	28	71	0.79	- 1.35	0.42	7	0	0.6	1	3.9	25	29	NW	19	7	6	17	6.7	47
ROCKFORD	724	989.2	1016.6	46	28	36.7	- 0.4	61	6	12	20	0	21	28	72	1.45	- 0.92	1.02	7	0	0.6	T	3.9	27	25	27	12	7	6	17	6.9	
SPRINGFIELD	588	995.6	1018.2	49	30	39.7	- 2.1	68	6	18	14	0	19	31	72	1.13	- 1.23	0.72	5	0	0.5	T	4.3	24	30	S	16	8	9	13	6.4	51

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M.p.h.		M.p.h.							%
INDIANA																																
EVANSVILLE	381	1004.7	1019.3	51	33	41.6	- 3.2	68	7	20	15+	0	16	32	72	3.29	0.15	2.29	7	0	2.0	2	3.4	25	26	W	16	5	8	17	7.0	45
FORT WAYNE	791	986.8	1017.5	44	30	36.8	- 2.1	57	6	15	20	0	20	30	77	3.34	0.79	2.26	10	0	4.5	3	6.4	25	32	NW	20	2	5	22	7.9	33
INDIANAPOLIS	792	988.2	1018.1	46	29	37.5	- 3.4	61	7+	13	20	0	19	31	80	2.86	- 0.23	1.80	7	0	2.5	1	3.7	24	29	SW	30	4	5	21	7.7	34
SOUTH BEND	773	988.2	1016.7	44	30	37.2	- 1.9	59	7	19	16+	0	18	32	84	2.29	- 0.36	0.93	11	0	10.5	7	5.4	23	23	30	19	2	9	19	7.8	
IOWA																																
BURLINGTON	692			49	27	38.0	- 1.4	67	7+	11	26	0	18	33	76	0.21	1.67	0.15	4	0	0.4	T	4.2	27	24	36	27+	7	9	14	6.3	
DES MOINES	938	982.7	1018.4	50	28	39.0	- 1.9	72	6	13	14	0	19	26	63	0.03	- 1.73	0.03	1	0	T	T	3.6	28	36	NW	13	6	8	16	6.6	55
DUBUQUE	1056	977.0		44	24	34.2	- 0.6	62	7+	6	28	0	23			0.60	- 1.99	0.44	8		0.9	1						8	3	19	6.8	
SIOUX CITY	1095	977.3	1018.2	49	26	37.7	1.6	70	6+	6	19	0	22	29	74	0.21	- 0.95	0.08	6	0	1.2	1	2.8	32	36	NW	13	8	7	15	6.4	60
WATERLOO	868	984.8	1017.6	44	23	33.6	- 1.1	65	6	7	20	0	22	26	76	0.12	- 1.71	0.06	3	0	0.2	T	3.5	27	28	31	19	4	10	16	7.1	
KANSAS																																
CONCORDIA	1470	964.8	1018.7	55	30	42.6	1.1	72	5	20	19+	0	18	31	70	0.12	- 0.86	0.06	4	0	T	T	4.5	27	36	N	13	15	6	9	4.1	70
DODGE CITY	2582	927.2	1019.4	60	31	45.4	2.6	76	7	19	28+	0	17	28	59	0.08	- 0.56	0.05	4	0	0.1	T	4.2	30	38	N	26	17	7	6	3.5	83
GOODLAND	3654	890.3	1019.2	55	28	41.4	3.4	72	5	16	27+	0	19	25	59	0.31	- 0.18	0.16	4	0	2.5	2	6.5	28	30	35	12	16	5	9	4.2	
TOPEKA	877	986.8	1019.2	56	29	42.5	- 0.1	71	21+	15	28+	0	18	31	68	0.10	- 1.40	0.06	4	0	0.8	T	3.3	27	43	N	13	13	8	9	4.6	67
WICHITA	1321	970.5	1019.3	58	31	44.5	0.1	70	8	14	28	0	20	30	62	0.01	- 1.48	0.01	1	0	T	T	4.0	30	45	S	16	19	8	3	2.9	80
KENTUCKY																																
COVINGTON	869	986.5	1018.6	49	32	40.3	- 2.4	61	11+	18	15	0	18	31	70	3.67	0.66	1.38	11	0	1.1	T	4.7	25	24	25	30+	2	7	21	8.2	
LEXINGTON	966	983.1	1019.3	52	34	42.8	- 1.9	63	7	16	15	0	14	32	68	3.42	0.13	1.74	9	0	1.4	T	3.9	23	24	23	[illegible]	3	9	18	7.5	
LOUISVILLE	477	1001.0	1018.9	52	35	43.3	- 1.4	64	11+	20	15	0	13	32	68	3.08	- 0.12	1.48	7	0	0.7	1	3.0	25	35	W	14	3	8	19	7.8	41
LOUISIANA																																
BATON ROUGE	64	1017.6	1020.4	71	44	57.6	- 1.3	83	18+	29	15	0	3	46	72	0.52	- 3.57	0.41	3	0	0.0	0	1.7	35	23	34	14+	12	10	8	4.7	
LAKE CHARLES	9	1019.3	1020.3	70	44	57.1	- 2.5	84	9+	25	15	0	6	48	78	0.70	- 3.52	0.65	2	0	0.0	0	1.5	3	21	34	19+	11	[illegible]	9	4.7	
NEW ORLEANS	4	1019.6	1020.6	71	46	58.5	- 1.5	82	13+	29	15	0	2	48	72	1.73	- 1.61	0.90	6	1	0.0	0	3.0	36	30	31	13	11	9	10	4.7	
SHREVEPORT	254	1011.2	1020.4	67	43	54.7	- 1.0	84	11	25	15	0	5	44	71	7.50	3.29	5.94	6	5	0.0	0	1.5	28	23	33	14	15	6	9	4.9	71
MAINE																																
CARIBOU	624	993.6		42	28	34.9	4.7	63	5	- 3	28	0	18			4.36	1.32	1.77	14		4.6	5						1	4	25	8.7	
PORTLAND	47	1013.9	1016.2	48	35	41.1	3.0	59	4	14	22	0	17	35	78	8.54	4.37	1.95	16	1	T	T	0.8	4	36	S	5	5	8	17	7.3	[illegible]
MARYLAND																																
BALTIMORE	148	1011.9	1017.4	55	37	46.1	0.6	71	3	20	22	0	14	33	64	1.74	- 1.39	0.69	9	1	T	0	4.4	29	42	SW	14	1	3	17	6.1	48
MASSACHUSETTS																																
BLUE HILL OBS R	629			48	35	41.7	- 0.3	61	8	14	22	0	13			8.59	4.06	2.02	17		0.0	0			[illegible]		[illegible]+					41
BOSTON	15	1014.9	1015.7	51	39	44.9	0.0	61	4+	22	22	0	6	37	76	8.18	4.25	2.48	15	1	T	T	1.8	29	34	SW	[illegible]	[illegible]	7	17	7.1	[illegible]
NANTUCKET	43	1015.6		52	40	46.1	0.2	61	3+	23	22	0	4			4.16	0.11	1.47	15		T	T			[illegible]	SW	25+	[illegible]	10	[illegible]	7.8	[illegible]
WORCESTER	986	978.7	1016.2	46	32	39.1	- 0.1	60	3	12	22	0	15	31	76	6.81	2.55	1.22	17	0	[illegible]	T	2.6	29	28	29	21	[illegible]	10	15	7.2	
MICHIGAN																																
ALPENA	689	986.8	1014.7	42	27	34.2	- 0.4	54	8+	4	27	0	21	29	81	1.64	- 0.73	0.69	10	0	5.8	3	3.6	26	[illegible]	W	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]
DETROIT	619			45	34	39.8	- 0.6	57	6	18	21	0	13	31	71	2.27	0.06	1.40	9	0	3.0		5.9	26	26	28	[illegible]					
DETROIT M WAYNE CO	633	991.2	1015.7	45	31	37.9	- 1.4	58	6	9	21	0	17	31	76	2.46	0.19	1.42	11	0	3.9	2	5.6	25	31	NW	[illegible]	[illegible]	7	21	8.1	[illegible]
FLINT	771	986.8	1015.4	43	30	36.9	- 1.3	57	11	7	21	0	17	31	80	2.76	0.78	1.33	11	0	6.2	3	4.9	24	[illegible]	27	[illegible]	[illegible]	9	19	[illegible]	
GRAND RAPIDS	784	986.1	1015.9	42	26	33.5	- 3.8	57	6	5	28	0	22	29	81	[illegible]	0.51	1.22	13	0	14.3	5	4.7	23	[illegible]	W	[illegible]	[illegible]	[illegible]	19	7.7	[illegible]
HOUGHTON LAKE	1149	972.6	1015.5	40	26	33.4	- 0.7	57	8	5	28+	0	24	29	84	2.19	- 0.17	0.76	[illegible]	1	17.6	[illegible]	[illegible]	26	22	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
LANSING	841	983.4	1015.9	44	29	36.2	- 1.7	58	6	5	28	0	19	32	85	2.32	0.11	1.19	9		8.5	4	5.6	24	34	NW	[illegible]	[illegible]	9	19	[illegible]	[illegible]
MARQUETTE	677			41	29	34.6	0.8	61	7	14	21	0	18			[illegible]	- 1.42	0.60	14		7.5	4			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MUSKEGON	625	992.2	1015.7	43	30	36.5	- 3.1	59	7	17	27	0	18	30	78	2.65	- 0.29	0.63	14	0	[illegible]	7	[illegible]	26	29	[illegible]	19	[illegible]	[illegible]	20	[illegible]	
SAULT STE MARIE	721	986.1	1013.4	40	26	32.9	- 0.4	59	8+	8	27	0	21	27	78	2.68	- 0.65	0.55	16	0	16.9	5	1.3	28	26	[illegible]	[illegible]+	3	6	21	[illegible]	[illegible]
MINNESOTA																																
DULUTH	1428	962.8	1015.7	37	21	28.9	1.6	56	7+	- 6	27	0	23	21	71	[illegible]	- 0.53	0.47	12	[illegible]	9.1	4	4.3	29	34	NW	19	4	9	17	7.6	[illegible]
INTERNATIONAL FALLS	1179	970.5	1015.0	34	15	24.8	1.0	63	7	-15	27	0	27	22	84	1.02	- 0.44	0.38	11	0	12.6	8	3.0	28	23	17	24	4	6	20	7.9	
MINNEAPOLIS	834	985.4	1016.7	41	26	33.6	2.4	68	7	2	20	0	19	27	78	0.65	- 0.75	0.34	8	0	3.8	2	[illegible]	29	[illegible]	SW	24	[illegible]	7	20	7.8	[illegible]
ROCHESTER	1297	967.5	1016.5	42	25	33.6	2.1	65	7+	7	20	0	21	25	72	0.70	- 0.87	0.47	7	1	0.6	T	4.8	27	[illegible]	31	13	[illegible]	4	21	7.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In.			In.	In.	M.p.h.		M p.h							%
MINNESOTA																																
ST CLOUD	1034	977.7	1016.7	39	23	31.3	1.8	65	7+	0	20	0	22		72	0.38	- 0.95	0.25	6		4.4	3						4	8	18	7.5	
MISSISSIPPI																																
JACKSON	310	1008.5	1020.6	68	37	52.4	- 3.1	85	11	20	15	0	9	43	75	1.87	- 2.03	1.54	6	2	0.0	0	0.9	32	29	NW	14	11	10	9	4.9	54
MERIDIAN	290	1009.1	1020.5	68	37	52.3	- 1.8	83	11	23	30	0	12	41	72	2.24	- 0.86	1.54	4	2	0.0	0	1.4	29	25	33	14	11	12	7	4.6	
MISSOURI																																
COLUMBIA	880	986.1	1019.0	54	32	42.9	- 0.4	70	8+	15	14	0	18	32	71	0.58	- 1.69	0.42	5	2	T	T	3.1	25	28	S	17+	8	10	12	6.0	60
KANSAS CITY	742	991.2	1018.8	58	35	46.1	1.5	75	17	19	14	0	13	32	63	0.08	- 1.72	0.06	3	0	0.6	1	3.0	26	42	SE	16	12	9	9	4.9	64
ST JOSEPH	811			58	30	44.1	2.7	74	17	18	28+	0	21	30	65	0.04	- 1.64		2		T		2.3	28	23	18	16+	11	10	9	4.7	
ST LOUIS	535	998.3	1019.1	54	33	43.4	- 0.7	71	6	18	14	0	13	32	68	0.44	- 2.13	0.25	3	1	T	T	3.2	24	29	W	13	6	10	14	6.3	54
SPRINGFIELD	1268	973.2	1019.5	57	31	44.1	- 0.9	74	7	17	14	0	18	31	64	1.02	- 1.74	0.74	6	1	T	T	3.0	24	33	NW	13	13	8	9	4.9	68
MONTANA																																
BILLINGS	3567	893.0	1019.4	49	29	38.8	3.7	72	5	13	14	0	20	22	53	0.66	0.03	0.55	5	0	5.0	3	10.1	25	33	SW	14+	6	8	16	6.8	41
GLASGOW	2284	934.3	1018.3	47	22	34.5	6.3	67	5	6	17	0	24	22	65	T	- 0.47	T	0	0	T	T	1.7	33	30	33	24	6	9	15	6.6	
GREAT FALLS	3662	889.6	1019.1	51	29	40.1	5.8	63	3	12	17	0	15	22	54	0.11	- 0.64	0.11	1	0	1.1	1	10.8	23	32	SW	25+	6	6	18	7.0	54
HAVRE	2584	924.1	1018.1	51	23	36.8	7.3	66	3	3	17	0	27	20	57	T	- 0.50	T	0	0	T	T	7.8	25	32	SW	20	8	5	17	6.5	59
HELENA	3828	883.8	1022.9	46	21	33.5	1.9	59	14	11	30	0	27	21	66	0.04	- 0.53	0.03	2	0	0.1	T	4.1	26	37	W	24	5	11	14	6.6	58
KALISPELL	2965	915.7	1023.2	42	25	33.2	2.2	52	12	11	27	0	27	25	75	0.26	- 1.17	0.10	7	0	0.8	1	1.3	21	18	15	16+	4	6	20	8.1	
MILES CITY	2629	923.8	1018.6	50	25	37.5	4.9	72	5	7	14	0	25	23	61	0.03	- 0.40		3	0	T		3.9	28								
MISSOULA	3190	909.6	1024.8	42	22	31.8	1.3	53	12	9	30	0	29	27	88	0.42	- 0.48	0.16	7	0	1.9	2	1.7	31	26	W	24	4	6	20	7.8	52
NEBRASKA																																
GRAND ISLAND	1841	951.2	1018.9	53	27	40.1	2.9	74	5	16	19+	0	19	28	69	0.19	- 0.57	0.07	7	0	1.5	1	5.1	29	33	32	14	12	5	13	5.7	
LINCOLN U	1150			53	32	42.7	1.9	71	6	17	14	0	14			0.12	- 1.14	0.05	6		0.2	T			40	N	13	11	7	12	5.6	59
NORFOLK	1544			50	27	38.8	2.9	72	6+	14	19	0	21			0.07	- 0.84	0.05	3		0.8	1						9	5	16	6.2	
NORTH PLATTE	2775	919.4	1019.5	55	22	38.3	2.8	76	5	12	27+	0	28	25	68	0.18	- 0.32	0.08	3	0	0.8	1	4.4	31	34	NW	14	11	10	9	5.1	74
OMAHA	977	982.1	1018.1	53	29	41.0	2.1	73	7	15	19	0	19	29	67	0.11	- 1.15	0.05	5	0	0.5	T	2.6	31	32	NW	13	8	7	15	6.1	64
SCOTTSBLUFF	3957	881.8	1020.8	53	24	38.3	2.5	70	6+	9	14	0	25	22	60	0.40	- 0.06	0.17	5	0	1.0	T	6.7	31	36	32	13	7	11	12	5.9	
VALENTINE	2587			53	24	38.5	4.9	75	7	0	18	0	25			0.10	- 0.39	0.07	2		0.9	1			42	NW	13	9	8	13	6.0	62
NEVADA																																
ELKO	5050	849.3	1024.7	50	18	34.3	0.1	65	4	3	28	0	28	16	55	0.34	- 0.54	0.28	3	0	T	T	0.6	24	17	26	17+	12	9	9	4.7	
ELY	6253	812.7	1023.8	50	20	35.1	1.4	67	4	7	28+	0	28	19	62	0.79	0.20	0.54	6	1	2.9	1	4.5	20	34	W	16	14	8	8	4.3	84
LAS VEGAS	2162	943.1	1020.5	67	40	53.5	1.0	78	5	29	19	0	5	24	37	0.06	- 0.25	0.05	2	0	0.0	0	1.6	28	33	N	17	21	3	6	2.8	83
RENO	4404	870.3	1022.8	58	20	39.0	0.7	76	4	10	30+	0	28	18	48	0.04	- 0.53	0.04	1	0	T	0	0.8	20	37	SW	4	19	3	8	3.5	86
WINNEMUCCA	4301	872.7	1024.5	56	16	36.0	0.2	70	4	1	29	0	28	21	66	0.15	- 0.65	0.08	3	0	0.3	T	1.3	11	25	NW	16	16	5	9	4.4	84
NEW HAMPSHIRE																																
CONCORD	342	1003.4	1016.3	48	30	38.9	1.3	61	8+	6	22	0	18	33	78	5.87	2.15	1.53	17	0	T	T	1.2	34	25	NW	24	3	10	17	7.6	38
MT WASHINGTON OBS	6262			29	16	22.5	2.2	42	3	-11	22	0	28			14.41	7.80	3.94	24	1	20.3	5			91Y	SE	6	1	4	25	9.1	18
NEW JERSEY																																
ATLANTIC CITY	64	1014.2	1016.5	52	36	43.9	- 2.8	65	3	18	22	0	14	37	78	4.28	0.62	1.73	12	1	T	0	3.4	29	28	31	20+	7	9	14	6.5	48
ATLANTIC CITY U	11			54	42	47.8	- 0.5	66	3	26	22	0	3			4.56	0.77	2.28	12						38	SW	14					
NEWARK	7	1015.2	1016.2	52	39	45.5	0.1	69	3	24	22	0	9	34	65	2.80	- 0.57	1.11	12	0	T	T	3.5	28	25	21	14+	6	10	14	6.9	
TRENTON U	56			52	39	45.4	- 0.4	69	3	24	22	0	10			2.13	- 1.03	0.64	11		0.2	T			29	S	19	7	10	13	6.5	45
NEW MEXICO																																
ALBUQUERQUE	5311	841.9	1021.7	54	29	41.4	- 2.2	65	13+	14	28	0	22	21	49	0.01	- 0.37	0.01	1	0	T	0	2.4	5	40	E	27+	17	5	8	3.6	81
CLAYTON	4969			57	28	42.5	0.8	74	5	11	28	0	20			0.27	- 0.06	0.27	1		1.8	T						18	6	6	3.1	
ROSWELL	3617			63	32	47.1	1.2	77	11+	17	20	0	18			T	- 0.34	T	0		T	0			28	N	1					72
NEW YORK																																
ALBANY	275	1005.4	1016.3	47	32	39.7	0.6	62	8	9	22	0	15	33	78	5.56	2.86	1.69	16	0	3.2	3	1.4	27	28	NW	5	1	6	23	8.6	27
BINGHAMTON	1590	956.0	1016.0	43	33	37.9	- 0.1	57	19	13	21	0	14	33	82	3.71	1.20	0.84	19	0	9.7	4	2.8	25	36	SW	19	1	3	26	9.0	26
BUFFALO	705	989.5	1015.5	44	34	39.1	0.0	62	1	18	21	0	16	34	82	4.09	0.49	0.82	22	1	22.1	7	5.1	25	32	S	19+	3	3	24	8.7	22
J.F. KENNEDY	13	1015.6	1016.3	54	41	47.2	1.0	69	3	27	22	0	8	37	68	2.48	- 1.03	1.21	11	0	T	T	4.0	30	33	27	5	5	13	12	6.6	
NEW YORK U	132	1012.5	1015.9	52	41	46.4	- 0.6	67	3	26	22	0	5	37	73	3.58	0.19	1.40	12	0	T	0	2.3	31	27	NE	9					39

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW YORK																																
NEW YORK LA GUARDIA	11	1014.9	1016.5	52	40	46.1	- 1.3	66	3	26	22	0	5	35	66	3.06	- 0.53	1.53	12	0	T	0	3.4	32	33	NE	9	5	12	13	6.9	
ROCHESTER	547	995.9	1016.7	46	34	40.1	0.0	63	1	19	21	0	16	34	78	3.42	0.91	0.81	20	0	5.8	3	3.6	24	40	SW	19	1	4	25	8.7	19
SYRACUSE	410	1000.7	1015.8	47	34	40.4	0.2	63	19	18	22	0	13	32	72	4.56	1.66	1.03	16	1	9.7	8	2.1	23	38	W	19	1	3	26	9.2	22
NORTH CAROLINA																																
ASHEVILLE	2140	941.1	1018.3	57	31	44.0	- 0.6	71	11	13	15	0	18	34	73	1.91	- 0.86	0.96	6	0	T	T	5.2	35	29	36	19	11	9	10	5.0	69
CAPE HATTERAS R	7	1017.3	1017.5	60	44	52.1	- 4.1	75	3	29	17+	0	2	44	73	3.60	- 0.49	1.46	11	0	0.0	0	4.3	33	45	SE	2	10	9	11	5.7	45
CHARLOTTE	736	990.2	1018.2	60	36	47.7	- 2.7	69	12+	20	15	0	11	35	64	1.14	- 1.39	0.63	6	0	0.0	0	1.4	29	34	SW	14	13	9	8	4.9	64
GREENSBORO	897	986.1	1018.3	59	35	47.0	- 0.9	70	2	19	16	0	13	33	60	1.41	- 1.27	0.77	4	0	0.0	0	2.3	28	29	NW	14	9	10	11	5.4	58
RALEIGH	434	1001.7	1017.8	59	33	46.1	- 3.9	74	3	19	16	0	16	34	68	1.01	- 1.76	0.50	6	0	0.0	0	2.3	29	35	32	19+	9	13	8	5.0	61
WILMINGTON	28	1016.6	1018.1	63	42	52.5	- 2.9	77	3+	28	16	0	5	42	73	5.23	2.14	4.82	9	0	0.0	0	2.1	33	32	E	2	13	9	8	4.6	69
NORTH DAKOTA																																
BISMARCK	1647	956.3	1017.7	45	20	32.5	3.6	67	6	7	18	0	29	21	65	0.06	- 0.53	0.06	1	0	0.4	T	4.7	32	47	NW	13	6	7	17	7.2	39
FARGO	896	982.7	1016.6	39	22	30.5	2.4	61	8	2	20	0	25	24	80	0.14	- 0.70	0.10	6	0	1.9	2	3.1	30	37	NW	24	7	7	16	6.8	55
WILLISTON	1899	947.5	1017.8	44	21	32.5	4.9	67	5	0	18	0	29	22	71	0.04	- 0.54	0.04	1	0	T	T	5.0	30	42	NW	13	1	14	15	7.3	53
OHIO																																
AKRON	1208	971.9	1017.2	46	32	39.1	- 1.7	58	18+	16	21	0	15	31	75	2.85	0.60	1.21	14	0	4.7	1	5.3	23	28	14	19	3	5	22	8.3	
CINCINNATI OBS	761			48	34	40.7	- 3.9	60	1	18	15	0	14			3.91	0.96	1.57	10		0.8	1			18	SW	30+					23
CLEVELAND	777	987.5	1017.0	46	35	40.2	- 1.1	57	19+	20	21+	0	12	32	73	2.86	0.25	0.69	20	0	6.6	3	6.1	22	30	SW	30	1	5	24	8.7	21
COLUMBUS	812	987.8	1018.4	47	32	39.3	- 1.9	60	1	18	21	0	18	32	77	3.87	1.37	1.73	12	0	1.8	T	3.9	23	36	SW	30	2	5	23	8.5	18
DAYTON	1002	981.0	1018.0	47	33	39.6	- 2.2	59	6+	16	20+	0	14	31	74	3.14	0.47	1.35	11	0	2.3	1	5.0	23	31	SW	30	2	7	21	8.1	32
MANSFIELD	1295			45	32	38.7	- 0.7	58	1	14	21	0	15	31	76	3.25	0.56	1.42	14	0	3.7	1	7.2	24	30	20	30	1	4	25	8.5	
TOLEDO	669	991.5	1017.3	45	31	37.6	- 1.0	58	11+	16	21	0	18	31	77	3.81	1.77	2.06	14	0	5.7	2	6.1	25	25	W	19	2	8	20	8.1	41
YOUNGSTOWN	1178	973.6	1017.1	44	32	38.0	- 1.3	59	1	15	21	0	15	33	83	2.67	- 0.14	0.98	18	0	6.0	3	5.1	24	24	28	19+	1	4	25	8.8	
OKLAHOMA																																
OKLAHOMA CITY	1285	972.9	1020.1	64	34	48.7	0.3	82	8	17	28	0	14	32	59	0.06	- 1.50	0.06	1	0	0.0	0	2.8	29	34	NW	18	17	8	5	3.3	71
TULSA	650	995.6	1020.3	62	34	48.1	0.5	80	17	18	28	0	13	34	63	0.32	- 1.96	0.18	5	1	0.0	0	1.9	24	36	S	16	13	12	5	4.0	70
OREGON																																
ASTORIA	8	1019.0	1019.6	54	39	46.5	0.2	71	1	28	30	0	4	41	83	5.77	- 5.43	2.12	13	0	0.0	0	1.9	11	26	18	4	4	8	18	7.4	
BURNS U	4151	877.8	1023.8	52	23	37.0	0.9	64	2	10	30+	0	29	25	69	0.46	- 0.70	0.29	4		0.9	1	1.5	32				11	7	12	5.3	
EUGENE	359	1007.5	1021.0	53	39	45.6	0.1	66	2+	28	30	0	4	42	91	2.74	- 2.88	1.62	8	0	0.0	0	1.3	17	32	16	5	0	9	21	8.5	
MEACHAM	4050	880.5	1022.4	46	31	38.6	4.2	61	14	24	24+	0	18			1.46	- 2.69	0.65	7		9.7	6			17	25	4	7	7	16	[illegible]	
MEDFORD	1298	973.6	1022.1	54	31	42.5	0.1	73	1	23	30+	0	19	36	86	0.49	- 2.11	0.49	2	0	T	T	0.5	18	22	13	7	7	6	17	7.0	
PENDLETON	1482	968.2	1022.9	53	34	43.2	1.9	72	4	23	25	0	9	34	77	0.36	- 1.04	0.36	1	0	T	0	1.7	23	43	30	4	4	8	18	7.4	
PORTLAND	21	1019.6	1021.0	54	40	47.2	2.1	70	1	28	28	0	4	41	81	3.18	- 2.15	1.87	8	0	0.0	0	3.0	13	29	S	5	5	3	22	7.6	37
SALEM	196	1013.5	1021.1	53	35	44.1	- 1.1	72	1	17	30	0	7	40	87	3.21	- 2.50	2.00	8	0	0.0	0	2.2	19	28	19	5	4	5	21	7.8	
SEXTON SUMMIT R	3836	886.6	1019.1	53	41	47.1	4.3	66	2	29	17+	0	3			1.39	- 2.99	1.20	6		0.5	T			50	19	4	12	4	14	5.4	
PACIFIC AREA																																
JOHNSTON	7	1012.2	1012.8	86	75	80.5	0.9	89	10	71	26	0	0	72	75	0.57	- 1.49	0.18	11	0	0.0	0	12.7	9	29	E	26	4	13	13	6.4	67
KOROR R	94	1005.4	1008.9	88	77	82.1	0.9	90	19+	73	23	4	0	76	85	9.06	- 3.87	1.77	17	4	0.0	0	1.4	27	24	NE	9	0	2	28	9.4	46
KWAJALEIN	8	1008.1	1009.0	88	78	83.0	1.7	90	11	75	25	1	0	75	77	8.46	- 3.67	2.50	21	2	0.0	0	10.8	8	29	7	24+	1	7	22	8.5	
MAJURO	10	1008.8	1009.0	86	78	82.0	1.5	88	18+	74	2	0	0	75	80	11.68	- 4.24	3.08	22	2	0.0	0	7.1	7	31	E	27	0	11	19	[illegible]	44
PAGO PAGO	12	1010.2	1010.2	85	75	80.1		89	18	72	30+	0	0	75	85	9.35		1.67	24	3	0.0	0	7.6	11	25	SE	5	2	7	21	8.0	
PONAPE R	123	1003.4	1008.8	88	71	79.5	- 0.4	91	22+	66	26+	9	0	75	85	16.20	- 0.65	4.28	25	0	0.0	0	3.1	12	17	NE	30+	0	11	19	[illegible]	52
TAGUAC GUAM R	361	997.3	1009.7	86	74	80.0	0.7	88	26+	69	1	0	0	75	86	10.10	- 0.19	1.94	29	5	0.0	0	8.3	9	15	E	19	0	15	15	7.7	51
TRUK MOEN ISLAND	5	1008.1	1008.5	87	77	81.9	1.1	89	23+	74	25+	0	0	76	83	16.00	3.64	5.58	25	1	0.0	0	4.7	8	16	N	25	0	1	29	7.7	59
WAKE	11	1012.9	1013.2	86	76	80.6	0.2	89	13+	69	17	0	0	71	76	2.92	- 0.16	1.15	15	0	0.0	0	16.4	7	34	NE	19+	9	16	5	4.9	61
YAP R	44	1006.4	1008.2	87	75	80.7	- 0.8	90	15	71	14	1	0	76	84	9.76	- 1.39	2.21	24	4	0.0	0	2.3	10	26	S	27	0	10	20	8.1	56
PENNSYLVANIA																																
ALLENTOWN	387	1002.4	1016.7	49	33	40.9	- 1.0	65	3	17	22	0	15	34	78	2.59	- 0.74	0.61	11	1	T	T	3.4	28	35	25	14	5	7	18	7.3	
ERIE	731	989.2	1016.4	44	33	38.3	- 2.9	57	1	18	15	0	14	31	76	2.99	- 0.37	0.67	20	2	11.4	6	6.6	22	31	18	19	1	4	25	8.9	
HARRISBURG	338	1004.1	1017.0	50	35	42.7	- 0.7	62	3+	21	22	0	14	33	70	3.29	0.34	0.87	12	1	2.1	1	3.5	28	32	NW	6	4	9	17	[illegible]	43
PHILADELPHIA	5	1015.2	1016.4	53	36	44.4	0.1	68	3	22	22+	0	13	33	67	1.37	- 1.43	0.71	11	1	0.2	T	3.4	31	31	NE	9	8	6	16	6.7	53
PITTSBURGH	1137	972.2	1017.2	47	32	39.2	- 1.6	63	1	14	21	0	17	30	72	2.44	0.20	0.90	15	0	7.9	6	5.1	25	45	29	19	2	5	23	8.4	21

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PENNSYLVANIA																																
SCRANTON	930	982.1	1016.8	46	33	39.2	- 0.4	60	4	15	22	0	14	33	80	3.77	0.83	1.32	16	2	2.7	1	2.2	24	34	S	19	2	6	22	8.3	23
WILLIAMSPORT	524	997.6	1017.2	50	33	41.8	0.7	62	2+	15	22	0	15	36	81	5.08	1.63	1.29	16	0	1.2	T	2.6	29	23	29	19+	2	7	21	8.3	
RHODE ISLAND																																
BLOCK ISLAND	110			51	41	45.8	0.6	63	3	23	22	0	4			8.06	4.35	3.96	14		T	T										
PROVIDENCE	51	1013.9	1016.1	50	35	42.4	- 0.6	64	3	16	22	0	14	35	75	6.35	2.24	1.66	15	1	T	T	2.5	32	28	4	10	7	8	15	6.9	41
SOUTH CAROLINA																																
CHARLESTON	40	1016.6	1018.7	65	42	53.4	- 2.5	78	2	27	16+	0	3	42	68	5.49	3.40	5.24	5	1	0.0	0	2.3	32	52Y	N	1	14	4	12	4.9	73
CHARLESTON U	9			63	48	55.5	- 3.1	75	2	29	15	0	1			6.98	5.06	6.65	6		0.0	0			54	N	1					
COLUMBIA	213	1010.5	1018.8	66	36	50.8	- 2.9	76	2	21	16	0	10	39	71	1.20	- 1.16	0.95	4	0	0.0	0	1.5	28	20	27	14+	14	8	8	4.5	69
GNVLE-SPARTANBURG	957	983.7	1018.8	62	36	48.8	- 2.5	72	12+	17	15	0	10	36	65	2.24	- 0.60	1.62	4	0	0.0	0	1.5	30	28	W	14	11	9	10	4.9	68
SOUTH DAKOTA																																
ABERDEEN	1296	969.2	1017.3	44	23	33.6	3.3	64	8	6	29	0	24	26	76	0.14	- 0.60	0.08	3	0	1.1	1	3.2	32	29	34	13	4	7	19	7.1	
HURON	1281	969.9	1017.6	45	24	34.8	3.6	68	7	6	19	0	25	25	71	0.09	- 0.59	0.05	3	0	1.4	1	3.0	29	33	NW	13	5	4	21	7.4	55
RAPID CITY	3162	905.9	1018.9	52	25	38.7	3.6	74	5	8	18	0	24	21	54	0.35	- 0.06	0.20	6	0	2.9	1	7.3	32	49	NW	13	9	9	12	6.0	54
SIOUX FALLS	1418	964.4	1017.5	44	23	33.4	0.8	68	7	- 1	18	0	26	26	75	0.34	- 0.66	0.24	4	0	2.9	3	3.9	29	33	32	13	6	9	15	6.7	
TENNESSEE																																
BRISTOL	1507	964.1	1019.3	53	29	41.4	- 4.5	65	18	13	15	0	22	33	74	1.86	- 0.65	0.54	12	0	1.0	T	2.3	27	25	28	19+	5	11	14	6.6	
CHATTANOOGA	665	994.2	1019.4	57	30	43.6	- 5.8	69	11	15	15	0	21	32	71	2.11	- 1.54	1.15	6	0	T	T	1.3	29	29	SE	19	12	9	9	5.0	59
KNOXVILLE	980	983.7	1019.2	57	34	45.5	- 3.2	69	18	16	15	0	9	34	67	2.56	- 0.68	1.32	9	0	T		2.1	29	29	W	19	9	7	14	6.0	55
MEMPHIS	258	1009.8	1020.2	60	38	49.0	- 1.1	75	8	23	29	0	7	38	67	4.19	- 0.19	2.58	8	2	T	T	2.0	25	35	NW	13	14	8	8	4.6	62
NASHVILLE	590	997.6	1019.6	57	36	46.5	- 2.0	73	11+	19	29+	0	12	36	69	1.83	- 1.45	1.17	8	0	0.3	T	2.6	25	29	SE	18	9	6	15	6.3	47
OAK RIDGE R	905			56	33	44.8	- 2.5	67	7	17	15	0	13			2.62	- 1.15	1.07	9		T	T			37Y		19	11	5	14	5.9	
TEXAS																																
ABILENE	1762	958.0	1020.3	66	41	53.4	0.4	82	8+	27	30	0	7	36	58	1.11	0.00	0.47	5	0	T	0	2.2	25	34	S	16	13	7	10	4.7	62
AMARILLO	3604	894.0	1019.1	61	32	46.7	0.7	78	7	16	19	0	17	27	53	0.34	- 0.32	0.30	2	0	T	T	3.8	29	38	SW	17	16	12	2	3.1	80
AUSTIN	597	998.3	1020.7	70	46	57.9	- 0.9	88	8	29	20	0	3	44	65	0.79	- 1.33	0.34	6	1	0.0	0	2.8	34	31	N	18	12	7	11	5.1	60
BROWNSVILLE	19	1018.6	1019.2	76	58	66.9	- 0.7	94	13	36	20	1	0	57	72	3.18	1.86	0.80	12	1	0.0	0	1.0	36	33	N	18+	5	9	16	7.1	40
CORPUS CHRISTI	41	1018.3	1019.8	73	53	62.9	- 1.2	91	12	29	20	1	3	53	74	5.09	3.37	2.58	10	2	0.0	0	3.7	6	40	N	18	8	4	18	6.3	48
DALLAS	481	1003.1	1020.5	68	45	56.1	1.2	84	8	30	28	0	2	39	58	1.47	- 1.23	0.57	9	0	0.0	0	1.4	27	32	N	18	16	4	10	4.3	69
DEL RIO	1026	984.1	1020.7	68	46	57.2	- 1.6	89	12	26	20	0	3	46	71	3.36	2.74	1.84	8	1	0.0	0	1.7	4	23	34	18	8	4	18	6.4	
EL PASO	3918	885.9	1019.1	65	40	52.5	1.3	79	10+	21	20	0	7	28	42	0.63	0.30	0.52	3	0	6.0	4	1.6	35	34	W	17+	15	8	7	4.1	79
FORT WORTH	537	1000.0	1020.6	68	42	55.1	0.3	83	17+	30	30+	0	6	41	65	1.22	- 1.24	0.41	8	0	0.0	0	2.3	27	29	33	18	16	5	9	4.2	
GALVESTON U	7			69	58	63.2	0.2	80	7	43	19	0	0			0.91	- 2.65	0.35	5		0.0	0			36	N	18					58
HOUSTON INTERCON	96	1016.9	1020.6	72	45	58.5	- 0.3	88	9+	25	15	0	5	48	75	2.13	- 1.77	1.83	4	1	0.0	0	1.0	1	22	13	16	10	9	11	5.3	59
LUBBOCK	3254	907.2	1019.9	64	33	48.6	0.7	79	7	18	19	0	14	30	56	0.77	0.23	0.74	3	1	3.0	T	2.8	29	26	4	27+	11	13	6	4.5	
MIDLAND	2851	920.4	1020.0	64	39	51.4	- 1.1	81	11	23	19	0	8	33	57	0.85	0.38	0.27	8	2	1.3	1	1.1	24	31	2	27	13	6	11	5.1	
PORT ARTHUR	16	1020.0	1020.6	72	47	59.7	0.0	86	7	27	15	0	4	50	75	1.52	- 1.94	1.42	3	0	0.0	0	1.3	3	38	SW	18	12	8	10	5.1	68
SAN ANGELO	1903	952.9	1020.4	67	42	54.4	- 0.4	85	8	24	20+	0	6	42	70	1.20	0.42	0.67	7	0	T	T	2.2	24	29	18	22	13	6	11	5.1	
SAN ANTONIO	788	992.6	1020.8	71	45	58.1	- 1.4	88	12+	26	20	0	5	45	66	1.02	- 0.35	0.73	5	0	0.0	0	3.0	36	32	N	18	10	7	13	5.8	49
VICTORIA	104	1016.3	1020.4	73	51	62.0	- 0.4	89	8+	31	20	0	1	51	74	3.05	0.69	2.05	6	2	0.0	0	1.8	3	44Y	N	18	8	7	15	6.1	
WACO	501	1002.7	1021.0	68	46	56.8	0.0	88	8	31	20	0	1	44	68	1.93	- 0.26	0.74	7	1	T	T	1.7	26	25	33	18	15	4	11	4.7	
WICHITA FALLS	994	982.7	1020.1	66	36	51.2	- 1.3	84	11+	22	28	0	9	37	66	0.54	- 0.88	0.28	4	0	T	0	3.4	26	31	19	22	14	9	7	4.3	
UTAH																																
MILFORD	5028	851.0		51	21	36.0	- 0.1	67	4	9	30+	0	28			0.63	0.11	0.28	4		1.4	1						16	8	6	3.6	
SALT LAKE CITY	4220	877.4	1024.6	50	29	39.5	2.8	69	5	15	18	0	22	27	67	0.92	- 0.38	0.68	3	0	5.6	2	3.2	16	31	SW	7	8	11	11	5.8	69
WENDOVER	4237	877.1	1025.5	46	28	37.4	- 0.2	66	5	15	28	0	20			0.34	0.05	0.19	4		T	T										
VERMONT																																
BURLINGTON	332	1003.4	1016.1	42	30	36.3	1.0	56	19+	3	22	0	15	32	82	4.98	2.36	1.42	19	1	10.5	7	2.1	21	34	N	5	2	1	27	9.0	36
VIRGINIA																																
LYNCHBURG	916			55	33	44.4	- 2.6	68	3	18	21+	0	14			1.24	- 1.34	0.65	8		T	T			27	SE	19	10	8	12	5.6	56
NORFOLK	22	1016.3	1017.4	57	41	49.1	- 2.3	75	3	26	22	0	5	37	65	2.97	- 0.08	1.26	10	1	0.0	0	1.8	30	36	NE	2	9	10	11	5.6	51
RICHMOND	164	1011.5	1017.7	58	36	46.8	- 1.7	74	3	20	22	0	14	36	71	1.87	- 1.17	0.72	7	0	0.0	0	1.3	30	25	W	19+	9	8	13	5.9	51

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
VIRGINIA	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h							%
ROANOKE	1149	975.3	1017.8	56	33	44.5	- 2.2	69	3+	17	15	0	13	30	59	1.40	- 1.30	0.92	8	0	T	T	4.7	29	30	30	6	13	6	11	5.3	
WALLOPS ISLAND	9			54	39	46.5		63	1	24	22+	0	9			2.78		1.15	10		0.0	0			61Y	E	2					
WASHINGTON																																
OLYMPIA	195	1012.9	1020.3	51	37	44.3	0.5	66	2	19	30	0	6	41	91	3.60	- 4.07	1.94	11	0	0.0	0	3.6	19	33	17	5	2	4	24	8.5	
QUILLAYUTE	179	1011.2	1018.7	54	38	45.6	1.0	65	1	26	30	0	6	42	91	8.40	- 4.92	1.94	23	2	0.1	0	2.9	13	29	SE	7+	1	7	22	8.5	33
SEATTLE TACOMA	400	1003.4	1019.9	51	42	46.6	2.7	62	1	30	30+	0	4	41	84	2.21	- 3.14	1.54	7	0	T	0	2.5	17	27	S	6	1	4	25	8.9	36
SPOKANE	2356	936.3	1022.1	44	28	36.3	0.6	56	4	16	30	0	23	30	81	0.37	- 1.87	0.28	4	0	T	T	3.1	16	28	SW	4	3	11	16	7.4	37
STAMPEDE PASS R	3958	881.8		38	30	33.9	2.5	58	14+	15	30	0	20			5.29	- 7.29	1.42	14		27.5	13						3	1	26	8.9	
WALLA WALLA U	949			52	37	44.5	2.2	71	4	27	30	0	8			0.61	- 1.11	0.55	4		T	T			30	NW	4	3	6	21	5.1	32
YAKIMA	1052	983.1	1022.6	51	29	39.8	2.4	64	1	17	26+	0	22	2	69	0.08	- 0.88	0.08	1	0	T	0	3.0	27	38	31	15	5	10	15	7.1	
WEST INDIES																																
SAN JUAN P.R.	13	1011.2	1013.6	84	73	78.7	0.5	88	8+	66	20	0	0	68	73	6.70	0.21	3.17	18	4	0.0	0	5.3	10	31	E	22	4	9	17	7.2	59
SWAN ISLAND	28			84	75	79.7	- 0.4	87	3	70	16	0	0			7.64	0.25	2.37	19		0.0	0						4	12	14	6.6	
WEST VIRGINIA																																
BECKLEY	2504	928.2	1018.9	46	30	38.0	- 4.2	61	18	9	15	0	19	30	73	2.45	- 0.55	0.77	14	0	6.5	5	4.7	26	38	17	19	3	9	18	7.6	
CHARLESTON	939	983.7	1018.4	51	31	41.3	- 4.0	68	18	17	21+	0	17	31	69	2.22	- 0.57	0.83	11	0	4.3	3	4.3	23	35	26	19	3	7	20	7.9	
ELKINS	1970	945.8		47	27	37.1	- 3.6	67	1	12	22	0	19			1.81	- 0.94	0.41	13		8.9	4						2	6	22	6.2	
HUNTINGTON	827	987.8	1018.4	51	33	42.1	- 3.4	69	18	19	21+	0	16	33	72	2.14	- 0.32	1.06	10	0	4.6	4	3.4	23	28	27	19	2	9	19	8.0	
PARKERSBURG U	615			50	34	42.0	- 2.8	65	19+	18	15	0	15			2.41	0.05	1.26	9		1.5	2			40	SW	19					24
WISCONSIN																																
GREEN BAY	682	989.5	1015.7	41	23	31.8	- 2.4	59	9	6	28+	0	25	24	72	0.43	- 1.48	0.21	6	0	1.7	2	4.4	28	26	S	24+	4	7	19	7.6	43
LA CROSSE	651	991.9	1016.8	44	26	35.2	1.0	67	7	10	20	0	22	28	78	0.58	- 1.36		7	0	T		3.1	26								
MADISON	858	984.1	1016.3	43	23	33.1	- 0.9	62	6	8	20	0	25	27	81	0.70	- 1.44	0.45	7	0	1.0	1	4.0	27	30	NW	19	7	4	19	7.3	39
MILWAUKEE	672	990.5	1016.4	42	27	34.3	- 1.5	55	9	14	20	0	23	28	78	1.14	- 1.04	0.68	10	0	0.7	T	5.9	27	29	NW	19	3	9	18	7.5	36
WYOMING																																
CASPER	5338	839.5	1021.1	46	23	34.4	0.8	63	7	0	18	0	26	22	63	0.96	0.25	0.41	6	0	12.0	6	11.2	24	30	21	7+	7	12	11	6.1	
CHEYENNE	6126	813.1	1020.3	48	24	36.4	2.2	64	5	6	27	0	22	16	49	0.23	- 0.39	0.15	6	1	1.8	1	11.0	30	42	W	8	7	13	10	5.5	61
LANDER	5563	831.4	1021.8	46	22	33.9	2.9	58	7+	10	27+	0	28	20	61	0.21	- 0.71	0.07	4	0	4.2	2	1.8	21	52	SW	7	7	12	11	6.2	69
SHERIDAN	3964	880.8	1021.0	47	21	34.2	0.8	72	5	4	17	0	25	22	64	0.99	0.19	0.58	7	0	7.8	7	3.4	29	28	W	12	5	12	13	6.5	62

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

V Sun below horizon November 19 - 30, inclusive.
X Sun below horizon November 24 - 30, inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s		M.p.s							%
ALABAMA																																
BIRMINGHAM	189	997.3	1020.1	17.8	2.8	10.1	-1.8	24.4	11	-6.1	15	0	12	3.3	68	68	-22	33	7	2	T	T	0.5	31	12.1	W	19+	13	10	7	4.6	67
HUNTSVILLE	190	996.6	1020.3	16.1	1.7	8.9	-1.6	25.0	7	-8.9	15	0	13	3.3	72	63	-30	31	9	1	T	T	0.6	30	15.6	31	14	12	8	10	4.8	
MOBILE	64	1011.9	1020.0	21.7	7.8	14.4	-0.5	27.8	11	-3.3	15	0	3	8.3	71	11	-74	8	4	1	0	0	1.3	1	10.3	36	19+	12	9	9	4.6	
MONTGOMERY	56	1012.9	1020.2	19.4	3.3	11.3	-1.0	26.1	11+	-6.1	15	0	9	3.9	68	19	-58	7	4	1	0	0	1.0	30	13.4	W	19	16	8	6	3.7	67
ALASKA												B																				
ANCHORAGE	35	994.2	999.4	-1.7	-7.8	-4.6	0.8	10.0	1	-21.7	17	0	27	-10.0	64	21	-5	10	10	0	66	25	1.6	2	10.3	15	28	8	4	18	7.3	42
ANNETTE	34	1003.1	1007.2	8.3	3.3	5.8	1.2	13.9	1	-3.3	16	0	3	3.3	84	632	260	89	28	0	T	T	4.0	15	19.7	14	1	0	4	26	9.1	
BARROW	9	1014.6	1015.2	-20.6	-26.1	-23.2	-5.1	-10.0	7	-32.8	30	0	30	-25.6	79	6	T	3	6	0	66	102	3.3	7	13.4	4	1	V	V	V		
BARTE. ISLAND	12	1011.9	1013.6	-17.8	-24.4	-21.3	-3.6	-7.8	3+	-36.1	16	0	30	-25.6	68	15	5	8	9	0	107	152	1.7	9	17.0	11	20	X	X	X		
BETHEL	38	996.6	1002.5	-8.9	-16.1	-12.5	-4.3	3.9	27	-24.4	15	0	30	-15.0	79	1	-26	1	2	0	109	51	3.7	2	13.4	4	17	4	2	24	8.1	
BETTLES	196	983.1	1010.2	-17.8	-25.0	-21.4		-3.9	27	-40.0	15	0	30	-24.4	74	17		5	12	0	465	254	2.7	36	8.9	2	28	9	6	15	6.1	
BIG DELTA	386	956.7	1006.6	-10.0	-18.3	-14.3		8.9	1	-40.0	17+	0	30	-17.2	78	7		3	5	0	142	127	3.1	13	17.4	22	29	7	6	17	6.8	
COLD BAY	29	995.3	998.7	3.3	-1.7	0.8	-0.5	8.9	5+	-6.7	10	0	22	-2.2	78	75	-21	27	18	0	114	51	2.1	31	20.6	27	7	2	3	25	8.5	
FAIRBANKS	133	988.8	1006.9	-12.2	-22.2	-17.1	-1.5	2.8	27	-40.6	16	0	30	-21.7	67	14	-2	6	9	0	290	229	1.1	1	10.3	26	10	6	5	19	7.4	
GULKANA	479	944.8	1006.1	-10.6	-20.0	-15.4		6.1	1	-41.7	18	0	30	-17.8	79	7		3	6	0	163		0.4	33	14.8	19	29	5	3	22	7.5	
HOMER	20			0.6	-5.6	-2.6		8.3	1	-17.2	16	0	25			97	28	30	16	0	224	102						7	2	21	7.3	
ILIAMNA	57			-2.8	-8.9	-5.9		7.2	1	-17.2	15	0	28			47		12	12	0	358	254						4	6	20	7.6	
JUNEAU	4	1003.7	1004.4	2.8	-2.2	0.2	-1.1	11.1	1	-16.1	17	0	18	0.0	96	221	67	52	28	0	462	203	3.4	11	21.5	12	2	0	2	28	9.5	14
KING SALMON	15	996.3	998.4	-3.9	-12.8	-8.3	-2.8	3.9	27+	-25.6	15	0	28	-11.7	72	47	10	18	11	0	409	127	2.1	1	15.6	9	27	3	5	22	8.2	
KOTZEBUE	3	1007.8	1008.4	-13.9	-20.0	-17.0	-3.3	-5.6	3	-29.4	19	0	30	-21.1	69	9	-1	2	12	0	196	152	2.9	3	17.0	27	9	12	3	15	5.6	
MC GRATH	105	991.5	1005.1	-13.3	-22.2	-17.6	-2.8	3.9	27	-37.8	17+	0	30	-22.2	67	11	-17	4	8	0	198	203	0.5	35	9.8	9	27	7	3	20	7.1	
NOME	4	1004.7	1005.5	-8.9	-17.2	-12.9	-4.3	0.0	4	-30.0	19	0	30	-17.8	63	5	-25	1	6	0	51	51	2.9	36	18.3	4	27	11	4	15	6.1	54
ST. PAUL ISLAND	7	999.3	1000.1	2.8	-2.2	0.3	-0.2	6.1	6+	-6.7	6	0	24	-2.2	81	49	-15	10	24	0	124	25	3.0	2	21.9	25	7	0	3	27	9.4	
SHEMYA	37	1001.7	1005.3	4.4	0.0	2.0	-0.1	8.3	3	-7.8	28	0	14	-1.7	76	66	-3	19	23	0	170	51	2.7	28	24.1	21	3	1	10	19	8.1	
SUMMIT	732	913.0	1004.7	-10.0	-15.0	-12.6		3.9	1	-28.9	17+	0	30	-15.6	77	43		18	10	0	462	483	5.2	4	15.6	7	13	5	2	23	7.8	
TALKEETNA	105	986.8	1000.5	-2.8	-11.1	-6.9	0.4	6.1	2+	-26.1	16	0	30	-11.7	69	22	-23	7	10	0	150	76	2.0	3	11.2	3	17	8	2	20	6.8	
UNALAKLEET	5	1003.7	1004.4	-8.9	-15.0	-11.9		0.0	28	-26.7	14	0	30	-18.3	58	12		5	7	0	470	381	4.9	8	18.3	8	12	7	2	21	7.3	
YAKUTAT	9	998.6	999.5	3.3	-2.8	0.2	-0.8	10.0	1	-11.1	12	0	26	-3.3	77	394	-13	58	27	1	213	76	2.9	11	17.4	13	25+	2	0	28	9.2	
ARIZONA																																
FLAGSTAFF	2135	790.0	1022.4	7.8	-5.6	1.1	-1.2	16.7	13	-11.7	22	0	29	-7.2	58	52	26	23	6	2	76	T	1.4	6	10.7	6	28	18	5	7	3.6	
PHOENIX	340	978.0	1017.0	23.3	10.0	16.7	2.2	27.8	1	3.3	23+	0	0	3.3	47	17	4	8	6	0	0	0	1.6	8	16.1Y	ENE	28	15	8	7	4.2	70
TUCSON	788	927.9	1016.4	21.1	8.3	14.8	0.3	26.1	6+	1.1	18	0	0	1.1	47	27	11	11	6	1	0	0	2.7	13	15.2	E	28	11	8	11	4.8	82
WINSLOW	1492	855.4	1022.8	13.3	-2.8	5.3	0.1	21.1	6+	-9.4	19+	0	24	-4.4	56	9	0	5	4	0	0	0	0.4	26	17.0	21	7	18	4	8	3.5	
YUMA	59	1009.5	1016.7	23.9	11.7	17.7	1.2	30.0	1	5.6	22	0	0	3.3	46	42	39	36	3	1	0	0	2.0	2	14.3	N	17	16	7	7	4.0	71
ARKANSAS																																
FORT SMITH	136	1003.4	1020.2	17.8	1.1	9.5	-0.5	25.0	10	-7.2	29	0	13	2.2	66	16	-65	9	6	1	T	0	0.6	32	13.0	NW	13	13	8	9	4.6	69
LITTLE ROCK	78	1010.5	1020.2	16.7	2.8	9.7	-0.1	22.8	11+	-6.7	15	0	8	3.3	68	100	-5	69	6	1	T	T	1.4	27	16.1	SE	18	14	6	10	4.6	66
CALIFORNIA																																
BAKERSFIELD	145	1001.0	1018.7	21.7	7.2	14.6	1.3	31.1	4	1.7	29	0	0	3.9	54	11	-2	11	1	0	0	0	0.6	5	11.6	14	8	17	6	7	3.7	
BISHOP	1252	877.8		18.9	-2.8	8.1	0.4	25.0	2+	-8.9	24	0	25			4	-9	4	1		0	0						18	5	7	3.3	
BLUE CANYON	1609			15.0	5.6	10.2	2.6	20.6	1	-2.8	17	0	5			91	-80	65	5		493	330			10.7	21	5	18	2	10	3.6	
EUREKA U	13			14.4	6.7	10.7	0.1	21.1	12	2.8	30+	0	0			89	-28	43	6		0	0			13.9	SE	7	12	5	13	5.2	63
FRESNO	100	1006.8	1018.8	20.0	3.3	11.7	-0.4	27.8	4+	-2.2	28	0	11	5.0	72	20	-4	19	2	0	0	0	0.2	4	7.2	E	6	14	10	6	3.7	82
LONG BEACH	10	1015.9	1017.2	25.0	11.7	18.2	2.0	32.2	1	4.4	29	1	0	6.7	56	36	10	34	3	0	0	0	0.4	1	9.4	9	29+	13	6	11	4.7	
LOS ANGELES	30	1012.9	1016.4	23.3	12.2	17.9	1.8	28.9	27	6.7	28	0	0	6.1	56	35	7	34	5	0	0	0	0.8	32	10.3Y	W	14	12	10	8	4.7	
LOS ANGELES U	82			23.9	12.8	18.4	1.4	30.6	2	8.3	28+	0	0			28	1	28	3		0	0			6.3	NE	28+	18	7	5	3.5	77
MT SHASTA R	1080	895.7	1021.4	13.3	-0.6	6.3	0.8	22.2	1	-6.1	29	0	18	-1.1	65	71	-29	43	5		T	T	0.6	1								
OAKLAND	2	1018.6	1018.8	17.2	8.3	12.8	0.2	22.2	1	4.4	30+	0	0	8.9	78	18	-26	15	3	0	0	0	0.4	19	8.9	6	8	15	8	7	3.7	
RED BLUFF	104	1006.4	1019.3	20.6	4.4	12.7	0.2	30.0	1	-1.7	29	0	5	3.3	61	16	-42	14	5	0	0	0	1.3	33	15.2	S	4	20	2	8	3.3	82
SACRAMENTO	5	1018.0	1018.9	19.4	5.0	12.2	0.6	27.2	1	-0.6	28	0	3	6.1	75	15	-22	15	2	0	0	0	0.1	2	11.2	N	17	18	5	7	3.4	85
SANDBERG R	1377	864.5		13.9	6.1	9.8	0.4	21.7	4	-0.6	18	0	2	-3.9	48	36	12	31	6		0	0			15.6	8	9+	15	3	12	4.6	
SAN DIEGO	4	1015.6	1016.5	22.8	12.8	17.8	1.3	28.9	11	8.9	23+	0	0	6.7	54	20	-3	12	6	0	0	0	0.7	31	10.7	W	6	14	6	10	4.4	74
SAN FRANCISCO	2	1018.3	1018.8	18.9	7.8	13.4	0.7	25.0	1	3.9	30	0	0	7.2	71	18	-22	16	3	0	0	0	0.4	23	12.5	28	16	15	9	6	3.9	
SAN FRANCISCO U	16			18.9	11.7	15.2	1.1	25.6	1	8.9	29+	0	0			11	-39	11	3		0	0			10.3	W	2					76
SANTA MARIA	72			23.3	6.1	14.7	1.3	31.1	1	1.1	21+	0	0			24	-2	24	3		0	0						15	4	11	4.6	
STOCKTON	7	1018.3	1019.4	19.4	4.4	11.8	0.1	26.1	3+	-1.7	30	0	6	5.0	69	15	-14	12	3	0	0	0	0.3	22	9.8	31	5	13	9	8	4.3	
COLORADO																																
ALAMOSA	2297	774.1		8.9	-11.1	-0.9	0.4	13.9	7+	-20.0	19	0	30			3	-5	2	2		43	T						22	3	5	2.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	M	Mb	Mb	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm.	M.p.s.		M.p.s							%
COLORADO																																
COLORADO SPRINGS	1873	813.1	1022.3	10.0	-4.4	2.8	-0.3	20.0	5	-13.3	18	0	26	-7.2	55	10	-T	6	2	0	142	76	2.1	2	13.4	35	26	15	7	8	4.2	
DENVER	1610	838.5	1020.0	11.7	-3.9	3.9	0.8	19.4	7	-11.1	18	0	26	-5.0	61	16	-2	10	6	0	130	51	1.6	19	13.9	NW	12	11	8	11	4.9	70
GRAND JUNCTION	1476	857.4	1024.2	10.6	-2.8	4.0	0.2	19.4	7	-7.8	19	0	23	-6.7	51	11	-3	9	5	1	13	T	1.1	12	16.5	NW	16	18	5	7	3.5	77
PUEBLO	1428	858.1	1020.1	16.1	-2.8	6.7	2.2	25.0	5	-12.8	19	0	23	-4.4	54	12	-1	7	2	0	71	76	0.5	36	14.8	W	16	15	9	6	3.5	81
CONNECTICUT																																
BRIDGEPORT	2	1015.6	1016.2	11.1	3.3	7.3	0.3	18.3	3	-5.6	22	0	13	2.2	71	97	-5	27	14	0	T	0	1.7	33	14.8	31	20	6	9	15	6.9	
HARTFORD	52	1009.1	1015.8	9.4	0.6	5.1	-0.1	17.8	3	-10.0	22	0	15	1.1	78	157	59	39	13	0	T	0	1.1	30	11.6	W	20+	3	8	19	7.8	43
DELAWARE																																
WILMINGTON	23	1014.2	1017.1	12.2	1.7	7.0	-0.4	21.1	3	-5.6	25+	0	14	1.7	72	45	-44	17	11	1	T	T	1.4	28	12.1	27	5	8	7	15	6.6	
DIST.OF COLUMBIA																																
WASH NATL AP	3	1015.2	1017.7	13.3	3.3	8.4	-0.3	22.8	3	-3.9	22	0	11	1.7	64	61	-11	25	8	1	T	T	1.6	30	15.2	NW	19+	9	5	16	6.2	43
FLORIDA																																
APALACHICOLA U	4			19.4	10.0	14.7	-1.6	25.0	9	-0.6	15	0	1			56	-9	33	8	1	0	0			11.6	N	19	15	7	8	4.0	64
DAYTONA BEACH	9	1016.9	1018.5	22.9	12.2	17.5	-1.0	28.3	1	1.7	15	0	0	11.7	70	50	-9	17	9	1	0	0	1.2	33	10.7	2	20	10	6	14	5.7	
FORT MYERS	5	1017.3	1017.7	23.9	13.9	19.1	-1.6	28.3	1	5.6	16+	0	0	13.9	75	6	-25	5	3	1	0	0	2.1	2	11.2	34	4	16	9	5	3.8	
JACKSONVILLE	7	1017.6	1018.8	20.6	8.9	14.8	-1.7	26.7	2	-1.7	15	0	2	10.0	77	116	73	138	9	1	0	0	1.5	31	12.1	NW	19+	13	5	12	4.9	55
KEY WEST	1	1015.9	1016.5	25.0	20.0	22.6	-0.8	28.9	1	14.4	15	0	0	17.8	75	46	-25	29	5	1	0	0	3.3	4	15.6	N	4	15	11	4	3.7	73
LAKELAND U	65			22.2	12.2	17.2	-2.2	27.2	2	0.6	15	0	0			24	-17	21	5		0	0						10	11	9	4.7	62
MIAMI	2	1016.3	1016.4	25.6	17.2	21.3	-1.1	30.6	1	9.4	16	0	0	15.0	70	26	-46	8	9	1	0	0	1.6	1	12.5	32	4	10	12	8	5.0	
ORLANDO	33	1013.9	1018.2	23.3	12.2	17.8	-1.1	28.3	1	0.6	15	0	0	12.2	74	22	-18	17	4	1	0	0	1.7	36	9.8	4	20	11	8	11	5.3	
PENSACOLA	34	1015.2	1019.4	20.6	8.9	14.7	-0.6	26.7	9	-1.1	15+	0	2	7.8	66	33	-50	20	4	1	0	0	1.3	1	11.6	35	19	12	10	8	4.8	
TALLAHASSEE	17	1016.9	1019.4	22.2	4.4	13.1	-2.0	28.3	18+	-5.6	15	0	8	7.8	77	49	-13	25	6	2	0	0	1.5	35	8.9	34	19	13	9	8	4.3	
TAMPA	6	1017.6	1017.9	23.3	11.1	17.2	-2.2	28.3	2	1.1	15	0	0	11.1	73	68	31	53	6	1	0	0	1.9	2	8.9	1	20	9	11	10	5.0	62
WEST PALM BEACH	5	1016.3	1016.8	24.4	15.0	19.8	-2.7	30.0	1	7.2	15	0	0	13.3	68	84	11	33	8	1	0	0	1.7	1	11.6	8	18+	10	12	8	5.0	
GEORGIA																																
ATHENS	244	989.2	1018.6	16.7	3.3	10.0	-0.8	23.3	7	-6.7	15	0	10	2.8	64	51	-23	32	5	1	T	T	1.3	29	10.3	31	14	15	6	9	4.6	
ATLANTA	308	982.1	1019.3	16.7	3.3	10.1	-0.6	23.3	11	-7.2	15	0	8	2.8	66	68	-7	37	7	2	T	T	1.8	31	11.6	W	19+	11	11	8	4.7	71
AUGUSTA	41	1013.2	1018.6	18.3	2.2	10.2	-2.1	23.3	11+	-5.6	16+	0	9	3.3	72	41	-14	35	4	1	0	0	1.1	27	10.3	28	19	15	4	11	4.5	
COLUMBUS	117	1005.4		18.9	3.3	11.1	-1.2	25.0	11	-6.7	15	0	9	4.4	68	20	-46	10	5	1	0	0	1.3	32	9.4	31	19+	15	9	6	4.3	
MACON	108	1006.4	1019.5	20.0	3.9	11.8	-1.2	26.1	11	-5.6	15	0	6	4.4	68	26	-36	23	5	0	T	0	1.3	31	11.2	NW	14	14	6	10	4.6	69
ROME	194			16.7	0.0	8.1	-1.4	22.8	18+	-10.0	15	0	15			34	-53	15	8		T	0										
SAVANNAH	14	1016.9	1018.6	18.9	5.6	12.2	-1.9	25.6	19	-3.9	16	0	4	6.7	73	97	45	128	6	0	0	0	1.0	31	11.6	W	14	13	4	13	5.1	69
HAWAII																																
LIHUE	31	1011.5	1016.5	27.2	21.7	24.2	0.6	28.3	15+	17.8	28	0	0	20.0	79	189	74	97	15	1	0	0	2.6	5	12.1	E	7	5	11	14	6.8	44
HONOLULU	2	1014.9	1015.5	30.0	21.7	25.9	1.6	32.2	3	18.9	28+	1	0	18.9	68	147	92	92	9	2	0	0	3.4	6	13.4	NE	5	10	13	7	5.1	59
KAHULUI	15	1012.9	1014.6	28.9	18.3	23.8	-0.1	31.7	2	15.0	28+	0	0			13	-26	7	6	0	0	0	3.0	6	13.4	NE	7+	16	5	9	4.7	72
HILO	8	1014.9	1016.1	27.8	18.3	22.9	0.1	30.0	30	16.1	27	0	0	18.9	80	161	-179	31	20	0	0	0	0.9	17	9.8	SE	30	4	10	16	7.2	40
IDAHO																																
BOISE	865	922.1	1024.5	10.0	-1.7	4.3	0.6	20.0	4	-8.3	28	0	21	-2.8	67	15	-15	12	4	0	8	T	1.3	14	13.4	W	16	9	10	11	5.7	
LEWISTON	431			8.9	1.1	4.9	0.6	14.4	2+	-3.9	30+	0	11			7	-24	6	5		T	T						0	9	21	8.5	
POCATELLO	1358	868.3	1024.8	8.3	-4.4	1.9	0.3	18.3	5	-12.2	28+	0	25	-5.6	62	22	-3	22	3	0	T	T	1.6	21	14.8	SW	16	9	10	11	5.8	62
ILLINOIS																																
CAIRO U	96			12.2	2.8	7.7	-1.2	22.2	7	-5.0	14	0	10			95	-3	48	8		64	51			10.7	S	17+	8	10	12	6.1	52
CHICAGO O HARE	201	992.2	1017.0	7.8	-0.6	3.5	0.1	15.6	6	-9.4	20	0	19	-1.1	73	28	-27	9	9	0	51	T	2.0	25	15.6	32	19	6	10	14	6.8	
CHICAGO MIDWAY	185	993.9	1017.0	7.8	0.0	3.8	-0.6	16.1	6	-8.9	20	0	16	-1.1	73	39	-17	16	9	0	97	25	2.5	24	13.4	NW	19	2	15	13	6.8	40
MOLINE	177	995.6	1017.7	8.9	-2.2	3.3	-0.7	19.4	6	-9.4	28+	0	23	-1.7	72	13	-36	10	3	0	38	25	1.9	26	13.0	NW	19	7	6	17	6.5	48
PEORIA	199	993.6	1018.2	8.3	-2.2	3.1	-1.2	17.8	6	-10.0	20	0	19	-2.2	71	20	-34	11	7	0	15	25	1.7	25	13.0	NW	19	7	6	17	6.7	47
ROCKFORD	221	989.2	1016.6	7.8	-2.2	2.6	-0.2	16.1	6	-11.1	20	0	21	-2.2	72	37	-23	26	7	0	15	T	1.7	27	11.2	27	12	7	6	17	6.9	
SPRINGFIELD	179	995.6	1018.2	9.4	-1.1	4.3	-1.2	20.0	6	-7.8	14	0	19	-0.6	72	29	-31	18	5	0	13	T	1.9	24	13.4	S	16	8	9	13	6.4	51
INDIANA																																
EVANSVILLE	116	1004.7	1019.3	10.6	0.6	5.3	-1.8	20.0	7	-6.7	15+	0	16	0.0	72	84	3	58	7	0	51	51	1.5	25	11.6	W	18	5	8	17	7.0	45
FORT WAYNE	241	986.8	1017.5	6.7	-1.1	2.7	-1.2	13.9	6	-9.4	20	0	20	-1.1	77	85	20	52	10	0	114	76	2.9	25	14.3	NW	20	2	6	22	7.9	33
INDIANAPOLIS	241	988.2	1018.1	7.8	-1.7	3.1	-1.9	16.1	7+	-10.6	20	0	19	-0.6	80	73	-6	46	7	0	64	25	1.7	24	13.0	SW	30	4	5	21	7.7	34
SOUTH BEND	236	988.2	1016.7	6.7	-1.1	2.9	-1.1	15.0	7	-7.2	16+	0	18	0.0	84	58	-9	24	11	0	267	178	2.4	23	10.3	30	19	2	9	19	7.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Q	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
IOWA	M.	Mb.	Mb.	C.	C.	C.	C.	°C.		C.				C.	%	Mm	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
BURLINGTON	211			9.4	- 2.8	3.3	- 0.8	19.4	7+	-11.7	26	0	18	0.6	76	5	- 42	4	4	0	10	T	1.9	27	10.7	36	27+	7	9	14	6.3	
DES MOINES	286	982.7	1018.4	10.0	- 2.2	3.9	1.1	22.2	6	-10.6	14	0	19	- 3.3	63	1	- 44	1	1	0	T	T	1.6	28	16.1	NW	13	6	8	16	6.6	55
DUBUQUE	322	977.0		6.7	- 4.4	1.2	- 0.3	16.7	7+	-14.4	28	0	23			15	- 51	11	8		23	25						8	3	19	6.8	
SIOUX CITY	334	977.3	1018.2	9.4	- 3.3	3.2	0.9	21.1	6+	-14.4	19	0	22	- 1.7	74	5	- 24	2	6	0	30	25	1.3	32	16.1	NW	13	8	7	15	6.4	60
WATERLOO	265	984.8	1017.6	6.7	- 5.0	0.9	- 0.6	18.3	6	-13.9	20	0	22	- 3.3	76	3	- 43	2	3	0	5	T	1.6	27	12.5	31	19	4	10	16	7.1	
KANSAS																																
CONCORDIA	448	964.8	1018.7	12.8	- 1.1	5.9	0.6	22.2	5	- 6.7	19+	0	18	- 0.6	70	3	- 22	2	4	0	T	T	2.0	27	16.1	N	13	15	6	9	4.1	70
DODGE CITY	787	927.2	1019.4	15.6	- 0.6	7.4	1.4	24.4	7	- 7.2	28+	0	17	- 2.2	59	2	- 14	1	4	0	T	T	1.9	30	17.0	N	26	17	7	6	3.5	83
GOODLAND	1114	890.3	1019.2	12.8	- 2.2	5.2	1.9	22.2	5	- 8.9	27+	0	19	- 3.9	59	8	- 5	4	4	0	64	51	2.9	28	13.4	33	12	16	5	9	4.2	
TOPEKA	267	986.8	1019.2	13.3	- 1.7	5.8	- 0.1	21.7	21+	- 9.4	28+	0	18	- 0.6	68	3	- 36	2	4	0	20	T	1.5	27	19.2	N	13	13	8	9	4.6	67
WICHITA	403	970.5	1019.3	14.4	- 0.6	6.9	0.1	21.1	8	-10.0	28	0	20	- 1.1	62	T	- 38	T	1	0	T	T	1.8	30	20.1	S	16	19	8	3	2.9	80
KENTUCKY																																
COVINGTON	265	986.5	1018.6	9.4	0.0	4.6	- 1.3	16.1	11+	- 7.8	15	0	18	- 0.6	70	93	17	35	11	0	28	T	2.1	25	10.3	25	30+	2	7	21	8.2	
LEXINGTON	294	983.1	1019.3	11.1	1.1	6.0	- 1.1	17.2	7	- 8.9	15	0	14	0.0	68	87	3	44	9	0	36	T	1.7	23	10.3	23	30	3	9	18	7.5	
LOUISVILLE	145	1001.0	1018.9	11.1	1.7	6.3	- 0.8	17.8	11+	- 6.7	15	0	13	0.0	68	78	- 3	38	9	0	18	25	1.3	25	15.6	W	14	3	8	19	7.8	41
LOUISIANA																																
BATON ROUGE	20	1017.6	1020.4	21.7	6.7	14.2	- 0.7	28.3	18+	- 1.7	15	0	3	7.8	72	13	- 91	10	3	0	0	0	0.8	35	10.3	34	14+	12	10	8	4.7	
LAKE CHARLES	3	1019.3	1020.3	21.1	6.7	13.9	- 1.4	28.9	9+	- 3.9	15	0	6	8.9	78	18	- 89	17	2	0	0	0	0.7	3	9.4	34	19+	11	10	9	4.7	
NEW ORLEANS	1	1019.6	1020.6	21.7	7.8	14.7	- 0.8	27.8	13+	- 1.7	15	0	2	8.9	72	44	- 41	23	6	1	0	0	1.3	36	13.4	31	13	11	9	10	4.7	
SHREVEPORT	77	1011.2	1020.4	19.4	6.1	12.6	- 0.6	28.9	11	- 3.9	15	0	5	6.7	71	191	84	151	6	5	0	0	0.7	28	10.3	33	14	15	6	9	4.5	71
MAINE																																
CARIBOU	190	993.6		5.6	- 2.2	1.6	2.6	17.2	5	-19.4	28	0	18			111	34	45	19		117	76						1	4	25	8.7	
PORTLAND	14	1013.9	1016.2	8.9	1.7	5.1	1.7	15.0	4	-10.0	22	0	17	1.7	78	217	111	50	16	1	T	T	0.4	4	16.1	S	5	5	8	17	7.3	38
MARYLAND																																
BALTIMORE	45	1011.9	1017.4	12.8	2.8	7.8	0.3	21.7	3	- 6.7	22	0	14	0.6	64	44	- 35	18	9	1	T	0	2.0	29	18.8	SW	14	10	3	17	6.1	48
MASSACHUSETTS																																
BLUE HILL OBS R	192			8.9	1.7	5.4	- 0.2	16.1	8	-10.0	22	0	13			218	103	51	17		0	0			17.9	S	20+					41
BOSTON	5	1014.9	1015.7	10.6	3.9	7.2	0.0	16.1	4+	- 5.6	22	0	6	2.8	76	208	108	63	15	1	T	T	0.8	29	15.2	SW	5	6	7	17	7.1	42
NANTUCKET	13	1015.6		11.1	4.4	7.8	0.1	16.1	3+	- 5.0	22	0	4			106	3	37	15		T	T			15.6	SW	15+	2	10	18	7.8	37
WORCESTER	301	978.7	1016.2	7.8	0.0	3.9	- 0.1	15.6	3	-11.1	22	0	15	- 0.6	76	173	65	31	17	0	8	T	1.2	29	12.5	29	21	5	10	15	7.2	
MICHIGAN																																
ALPENA	210	988.8	1014.7	5.6	- 2.8	1.2	- 0.2	12.2	8+	-15.6	27	0	21	- 1.7	81	42	- 19	18	10	0	147	76	1.6	26	9.8	W	12	3	8	19	8.0	29
DETROIT	189			7.2	1.1	4.3	- 0.3	13.9	6	- 7.8	21	0	13	- 0.6	71	58	2	36	9	0	76		2.6	26	11.6	28	12					
DETROIT M WAYNE CO	193	991.2	1015.7	7.2	- 0.6	3.3	- 0.8	14.4	6	-12.8	21	0	17	- 0.6	76	62	5	36	11	0	99	51	2.5	25	13.9	NW	30	2	7	21	8.1	29
FLINT	235	986.8	1015.4	6.1	- 1.1	2.7	- 0.7	13.9	11	-13.9	21	0	17	- 0.6	80	75	20	34	11	0	157	76	2.2	24	10.3	27	30	2	9	19	8.0	
GRAND RAPIDS	239	986.1	1015.9	5.6	- 3.3	0.8	- 2.1	13.9	6	-15.0	28	0	22	- 1.7	81	76	13	31	13	0	363	127	2.1	23	13.4	W	30	3	8	19	7.7	30
HOUGHTON LAKE	350	972.6	1015.5	4.4	- 3.3	0.8	- 0.4	13.9	8	-15.0	28+	0	24	- 1.7	84	56	- 4	19	19	1	447	254	1.7	26	9.8	28	12	3	5	22	8.0	
LANSING	256	983.4	1015.9	6.7	- 1.7	2.3	- 0.9	14.4	6	-15.0	28	0	19	0.0	85	59	3	30	9	0	216	102	2.5	24	15.2	NW	30	2	9	19	7.9	25
MARQUETTE U	206			5.0	- 1.7	1.4	0.4	16.1	7	-10.0	21	0	18			47	- 36	15	14		191	102			14.8	S	22	4	3	23	8.1	45
MUSKEGON	191	992.2	1015.7	6.1	- 1.1	2.5	- 1.7	15.0	7	- 8.3	27	0	18	- 1.1	78	67	- 7	16	14	0	523	178	1.8	26	13.0	30	19	5	5	20	7.6	
SAULT STE MARIE	220	986.1	1013.4	4.4	- 3.3	0.5	- 0.2	15.0	8+	-13.3	27	0	21	- 2.8	78	68	- 17	14	16	0	429	127	0.6	28	11.6	N	30+	3	6	21	7.7	34
MINNESOTA																																
DULUTH	435	962.8	1015.7	2.8	- 6.1	- 1.7	0.9	13.3	7+	-21.1	27	0	23	- 6.1	71	32	- 13	12	12	0	231	102	1.9	29	15.2	NW	19	4	9	17	7.6	27
INTERNATIONAL FALLS	359	970.5	1015.0	1.1	- 9.4	- 4.0	0.6	17.2	7	-26.1	27	0	27	- 5.6	84	26	- 11	10	11	0	325	203	1.3	28	10.3	17	24	4	6	20	7.9	
MINNEAPOLIS	254	985.4	1016.7	5.0	- 3.3	0.9	1.3	20.0	7	-16.7	20	0	19	- 2.8	78	17	- 19	9	8	0	97	51	1.3	29	12.1	SW	24	3	7	20	7.8	26
ROCHESTER	395	967.5	1016.5	5.6	- 3.9	0.9	1.2	18.3	7+	-13.9	20	0	21	- 3.9	72	18	- 22	12	7	1	15	T	2.1	27	12.5	31	13	5	4	21	7.8	
ST CLOUD	315	977.7	1016.7	3.9	- 5.0	- 0.4	1.0	18.3	7+	-17.8	20	0	22		72	10	- 24	6	6		112	76						4	8	18	7.5	
MISSISSIPPI																																
JACKSON	94	1008.5	1020.6	20.0	2.8	11.3	- 1.7	29.4	11	- 6.7	15	0	9	6.1	75	47	- 52	39	6	2	0	0	0.4	32	13.0	NW	14	11	10	9	4.9	54
MERIDIAN	88	1009.1	1020.5	20.0	2.8	11.3	- 1.0	28.3	11	- 5.0	30	0	12	5.0	72	57	- 22	39	4	2	0	0	0.6	29	11.2	33	14	11	12	7	4.6	
MISSOURI																																
COLUMBIA	268	986.1	1019.0	12.2	0.0	6.1	- 0.2	21.1	8+	- 9.4	14	0	18	0.0	71	15	- 43	11	5	2	T	T	1.4	25	12.5	S	17+	8	10	12	6.0	60
KANSAS CITY	226	991.2	1018.8	14.4	1.7	7.8	0.8	23.9	17	- 7.2	14	0	13	0.0	63	2	- 44	2	3	0	15	25	1.3	26	18.8	SE	16	12	9	9	4.9	64

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%
MISSOURI															
ST JOSEPH	247			14.4	-1.1	6.7	1.5	23.3	17	-7.8	28+	0	21	-1.1	65
ST LOUIS	163	998.3	1019.1	12.2	0.6	6.3	-0.4	21.7	6	-7.8	14	0	13	0.0	68
SPRINGFIELD	386	973.2	1019.5	13.9	-0.6	6.7	-0.5	23.3	7	-8.3	14	0	18	-0.6	64
MONTANA															
BILLINGS	1087	893.0	1019.4	9.4	-1.7	3.8	2.1	22.2	5	-10.6	14	0	20	-5.6	53
GLASGOW	696	934.3	1018.3	8.3	-5.6	1.4	3.5	19.4	5	-14.4	17	0	24	-5.6	65
GREAT FALLS	1116	889.6	1019.1	10.6	-1.7	4.5	3.2	17.2	3	-11.1	17	0	15	-5.6	54
HAVRE	788	924.1	1018.1	10.6	-5.0	2.7	4.1	18.9	3	-16.1	17	0	27	-6.7	57
HELENA	1167	883.8	1022.9	7.8	-6.1	0.8	1.1	15.0	14	-11.7	30	0	27	-6.1	66
KALISPELL	904	915.7	1023.2	5.6	-3.9	0.7	1.2	11.1	12	-11.7	27	0	27	-3.9	75
MILES CITY	801	923.8	1018.6	10.0	-3.9	3.1	2.7	22.2	5	-13.9	14	0	25	-5.0	61
MISSOULA	972	909.6	1024.8	5.6	-5.6	-0.1	0.7	11.7	12	-12.8	30	0	29	-2.8	88
NEBRASKA															
GRAND ISLAND	561	951.2	1018.9	11.7	-2.8	4.5	1.6	23.3	5	-8.9	19+	0	19	-2.2	69
LINCOLN U	351			11.7	0.0	5.9	1.1	21.7	6	-8.3	14	0	14		
NORFOLK	471			10.0	-2.8	3.8	1.6	22.2	6+	-10.0	19	0	21		
NORTH PLATTE	846	919.4	1019.5	12.8	-5.6	3.5	1.6	24.4	5	-11.1	27+	0	28	-3.9	68
OMAHA	298	982.1	1018.1	11.7	-1.7	5.0	1.2	22.8	7	-9.4	19	0	19	-1.7	67
SCOTTSBLUFF	1206	[illegible]81.8	1020.8	11.7	-4.4	3.5	1.4	21.1	6+	-12.8	14	0	25	-5.6	60
VALENTINE	789			11.7	-4.4	3.6	2.7	23.9	7	-17.8	18	0	25		
NEVADA															
ELKO	1539	849.3	1024.7	10.0	-7.8	1.3	0.1	18.3	4	-16.1	28	0	28	-8.9	55
ELY	1906	812.7	1023.8	10.0	-6.7	1.7	0.8	19.4	4	-13.9	28+	0	28	-7.2	62
LAS VEGAS	659	943.1	1020.5	19.4	4.4	11.9	0.6	25.6	5	-1.7	19	0	5	-4.4	37
RENO	1342	870.3	1022.8	14.4	-6.7	3.9	0.4	24.4	4	-12.2	30+	0	28	-7.8	48
WINNEMUCCA	1311	872.7	1024.5	13.3	-8.9	2.2	0.1	21.1	4	-17.2	29	0	28	-6.1	66
NEW HAMPSHIRE															
CONCORD	104	1003.4	1016.3	8.9	-1.1	3.8	0.7	16.1	8+	-14.4	22	0	18	0.6	78
MT WASHINGTON OBS	1909			-1.7	-8.9	-5.3	1.2	5.6	3	-23.9	22	0	28		
NEW JERSEY															
ATLANTIC CITY	20	1014.2	1016.5	11.1	2.2	6.6	-1.6	18.3	3	-7.8	22	0	14	2.8	78
ATLANTIC CITY U	3			12.2	5.6	8.8	-0.3	18.9	3	-3.3	22	0	3		
NEWARK	2	1015.2	1016.2	11.1	3.9	7.5	0.1	20.6	3	-4.4	22	0	9	1.1	65
TRENTON U	17			11.1	3.9	7.4	-0.2	20.6	3	-4.4	22	0	10		
NEW MEXICO															
ALBUQUERQUE	1619	841.9	1021.7	12.2	-1.7	5.2	-1.2	18.3	13+	-10.0	28	0	22	-6.1	49
CLAYTON	1515			13.9	-2.2	5.8	0.4	23.3	5	-11.7	28	0	20		
ROSWELL	1102			17.2	0.0	8.4	0.7	25.0	11+	-8.3	20	0	18		
NEW YORK															
ALBANY	84	1005.4	1016.3	8.3	0.0	4.3	0.3	16.7	8	-12.8	22	0	15	0.6	78
BINGHAMTON	485	956.0	1016.0	6.1	0.6	3.3	-0.1	13.9	19	-10.6	21	0	14	0.6	82
BUFFALO	215	989.5	1015.5	6.7	1.1	3.9	0.0	16.7	1	-7.8	21	0	16	1.1	82
J.F. KENNEDY	4	1015.6	1016.3	12.2	5.0	8.4	0.6	20.6	3	-2.8	22	0	8	2.8	68
NEW YORK U	40	1012.5	1015.9	11.1	5.0	8.0	-0.3	19.4	3	-3.3	22	0	5	2.8	73
NEW YORK LA GUARDIA	3	1014.9	1016.5	11.1	4.4	7.8	-0.7	18.9	3	-3.3	22	0	5	1.7	66
ROCHESTER	167	995.9	1016.7	7.8	1.1	4.5	0.0	17.2	1	-7.2	21	0	16	1.1	78
SYRACUSE	125	1000.7	1015.8	8.3	1.1	4.7	0.1	17.2	19	-7.8	22	0	13	0.0	72
NORTH CAROLINA															
ASHEVILLE	652	941.1	1018.3	13.9	-0.6	6.7	-0.3	21.7	11	-10.6	15	0	18	1.1	73
CAPE HATTERAS R	2	1017.3	1017.5	15.6	6.7	11.2	-2.3	23.9	3	-1.7	17+	0	2	6.7	73
CHARLOTTE	224	990.2	1018.2	15.6	2.2	8.7	-1.5	20.6	12+	-6.7	15	0	11	1.7	64
GREENSBORO	273	986.1	1018.3	15.0	1.7	8.3	-0.5	21.1	2	-7.2	16	0	13	0.6	60
RALEIGH	132	1001.7	1017.8	15.0	0.6	7.8	-2.2	23.3	3	-7.2	16	0	16	1.1	68
WILMINGTON	9	1016.6	1018.1	17.2	5.6	11.4	-1.6	25.0	3+	-2.2	16	0	5	5.6	73

State and Station	Precipitation: Total	Precipitation: Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSOURI																	
ST JOSEPH	1	-42		2		T		1.0	28	10.3	18	16+	11	10	9	4.7	
ST LOUIS	11	-54	6	3	1	T	T	1.4	24	13.0	W	19	6	10	14	6.3	54
SPRINGFIELD	26	-44	19	6	1	T	T	1.3	24	14.8	NW	13	13	8	9	4.9	68
MONTANA																	
BILLINGS	17	1	14	5	0	127	76	4.5	25	14.8	SW	14+	6	8	16	6.8	41
GLASGOW	T	-12	T	0	0	T	T	0.8	33	13.4	33	24	6	9	15	6.6	
GREAT FALLS	3	-16	3	1	0	28	25	4.8	23	14.3	SW	25+	6	6	18	7.0	54
HAVRE	T	-13	T	0	0	T	T	3.5	25	14.3	SW	20	8	5	17	6.5	59
HELENA	1	-13	1	2	0	T	T	1.8	26	16.5	W	24	5	11	14	6.6	58
KALISPELL	7	-30	3	7	0	20	25	0.6	21	8.0	15	16+	4	6	20	8.1	
MILES CITY	1	-10		3	0	T		1.7	28								
MISSOULA	11	-12	4	7	0	48	51	0.8	31	11.6	W	24	4	6	20	7.8	52
NEBRASKA																	
GRAND ISLAND	5	-14	2	7	0	38	25	2.3	29	14.8	32	14	12	5	13	5.7	
LINCOLN U	3	-29	1	6		5	T			17.9	N	13	11	7	12	5.6	59
NORFOLK	2	-21	1	3		20	25						9	5	16	6.2	
NORTH PLATTE	5	-8	2	3	0	20	25	2.0	31	15.2	NW	14	11	10	9	5.1	74
OMAHA	3	-29	1	5	0	13	T	1.2	31	14.3	NW	13	8	7	15	6.1	64
SCOTTSBLUFF	10	-2	4	5	0	25	T	3.0	31	16.1	32	13	7	11	12	5.9	
VALENTINE	3	-10	2	2		23	25			18.8	NW	13	9	8	13	6.0	62
NEVADA																	
ELKO	9	-14	7	3	0	T	T	0.3	24	7.6	26	17+	12	9	9	4.7	
ELY	20	5	14	6	1	74	25	2.0	20	15.2	W	16	14	8	8	4.3	84
LAS VEGAS	2	-6	1	2	0	0	0	0.7	28	14.8	N	17	21	3	6	2.8	83
RENO	1	-13	1	1	0	T	0	0.4	20	16.5	SW	4	19	3	8	3.5	86
WINNEMUCCA	4	-17	2	3	0	8	T	0.6	11	11.2	NW	16	16	5	9	4.4	84
NEW HAMPSHIRE																	
CONCORD	149	55	39	17	0	T	T	0.5	34	11.2	NW	24	3	10	17	7.6	38
MT WASHINGTON OBS	366	198	100	24	1	516	127			40.7Y	SE	6	1	4	25	9.1	18
NEW JERSEY																	
ATLANTIC CITY	109	16	44	12	1	T	0	1.5	29	12.5	31	20+	7	9	14	6.5	48
ATLANTIC CITY U	116	20	58	12						17.0	SW	14					
NEWARK	71	-14	28	12	0	T	T	1.6	28	11.2	21	14+	6	10	14	6.9	
TRENTON U	54	-26	16	11		5	T			13.0	S	19	7	10	13	6.5	45
NEW MEXICO																	
ALBUQUERQUE	T	-9	T	1	0	T	0	1.1	5	17.9	E	27+	17	5	8	3.6	81
CLAYTON	7	-2	7	1		46	T						18	6	6	3.1	
ROSWELL	T	-9	T	0		T	0			12.5	N	1					72
NEW YORK																	
ALBANY	141	73	43	16	0	81	76	0.6	27	12.5	NW	5	1	6	23	8.6	27
BINGHAMTON	94	30	21	19	0	246	102	1.3	25	16.1	SW	19	1	3	26	9.0	26
BUFFALO	104	12	21	22	1	561	178	2.3	25	14.3	S	19+	3	3	24	8.7	22
J.F. KENNEDY	63	-26	31	11	0	T	T	1.8	30	14.8	27	5	5	13	12	6.6	
NEW YORK U	91	5	36	12	0	T	0	1.0	31	12.1	NE	9					39
NEW YORK LA GUARDIA	78	-13	39	12	0	T	0	1.5	32	14.8	NE	9	5	12	13	6.9	
ROCHESTER	87	23	21	20	0	147	76	1.6	24	17.9	SW	19	1	4	25	8.7	19
SYRACUSE	116	42	26	16	1	246	203	0.9	23	17.0	W	19	1	3	26	9.2	22
NORTH CAROLINA																	
ASHEVILLE	49	-22	24	6	0	T	T	2.3	35	13.0	36	19	11	9	10	5.0	69
CAPE HATTERAS R	91	-12	37	11	0	0	0	1.9	33	20.1	SE	2	10	9	11	5.7	45
CHARLOTTE	29	-35	16	6	0	0	0	0.6	29	15.2	SW	14	13	9	8	4.9	64
GREENSBORO	36	-32	20	4	0	0	0	1.0	28	13.0	NW	14	9	10	11	5.4	58
RALEIGH	26	-45	13	6	0	0	0	1.0	29	15.6	32	19+	9	13	8	5.0	61
WILMINGTON	133	54	122	9	0	0	0	0.9	33	14.3	E	2	13	9	8	4.6	69

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
NORTH DAKOTA	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M p.s.		M.p.s							%
BISMARCK	502	956.3	1017.7	7.2	- 6.7	0.3	2.0	19.4	6	-13.9	18	0	29	- 6.1	65	2	- 13	2	1	0	10	T	2.1	32	21.0	NW	13	6	7	17	7.2	39
FARGO	273	982.7	1016.6	3.9	- 5.6	- 0.8	1.3	16.1	8	-16.7	20	0	25	- 4.4	80	4	- 18	3	6	0	48	51	1.4	30	16.5	NW	24	7	7	16	6.8	55
WILLISTON	579	947.5	1017.8	6.7	- 6.1	0.3	2.7	19.4	5	-17.8	18	0	29	- 5.6	71	1	- 14	1	1	0	T	T	2.2	30	18.8	NW	13	1	14	15	7.3	53
OHIO																																
AKRON	368	971.9	1017.2	7.8	0.0	3.9	- 0.9	14.4	18+	- 8.9	21	0	15	- 0.6	75	72	15	31	14	0	119	25	2.4	23	12.5	14	19	3	5	22	8.3	
CINCINNATI OBS	232			8.9	1.1	4.8	- 2.2	15.6	1	- 7.8	15	0	14			99	24	40	10		20	25			8.0	SW	30+					23
CLEVELAND	237	987.5	1017.0	7.8	1.7	4.6	- 0.6	13.9	19+	- 6.7	21+	0	12	0.0	73	73	6	18	20	0	168	76	2.7	22	13.4	SW	30	1	5	24	8.7	21
COLUMBUS	247	987.8	1018.4	8.3	0.0	4.1	- 1.1	15.6	1	- 7.8	21	0	18	0.0	77	98	35	44	12	0	46	T	1.7	23	16.1	SW	30	2	5	23	8.5	18
DAYTON	305	981.0	1018.0	8.3	0.6	4.2	- 1.2	15.0	6+	- 8.9	20+	0	14	- 0.6	74	80	12	34	11	0	58	25	2.2	23	13.9	SW	30	2	7	21	8.1	32
MANSFIELD	395			7.2	0.0	3.7	- 0.4	14.4	1	-10.0	21	0	15	- 0.6	76	83	14	36	14	0	94	25	3.2	24	13.4	20	30	1	4	25	8.5	
TOLEDO	204	991.5	1017.3	7.2	- 0.6	3.1	- 0.6	14.4	11+	- 8.9	21	0	18	- 0.6	77	97	45	52	14	0	145	51	2.7	25	11.2	W	19	2	8	20	8.1	31
YOUNGSTOWN	359	973.6	1017.1	6.7	0.0	3.3	- 0.7	15.0	1	- 9.4	21	0	15	0.6	83	68	- 4	25	18	0	152	76	2.3	24	10.7	28	19+	1	4	25	8.8	
OKLAHOMA																																
OKLAHOMA CITY	392	972.9	1020.1	17.8	1.1	9.3	0.2	27.8	8	- 8.3	28	0	14	0.0	59	2	- 38	2	1	0	0	0	1.3	29	15.2	NW	18	17	8	5	3.3	71
TULSA	198	995.6	1020.3	16.7	1.1	8.9	0.3	26.7	17	- 7.8	28	0	13	1.1	63	8	- 50	5	5	1	0	0	0.8	24	16.1	S	16	13	12	5	4.0	70
OREGON																																
ASTORIA	2	1019.0	1019.6	12.2	3.9	8.1	0.1	21.7	1	- 2.2	30	0	4	5.0	83	147	-138	54	13	0	0	0	0.8	11	11.6	18	4	4	8	18	7.4	
BURNS U	1265	877.8	1023.8	11.1	- 5.0	2.8	0.5	17.8	2	-12.2	30+	0	29	- 3.9	69	12	- 18	7	4		23	25	0.7	32				11	7	12	5.3	
EUGENE	109	1007.5	1021.0	11.7	3.9	7.6	0.1	18.9	2+	- 2.2	30	0	4	5.6	91	70	- 73	41	8	0	0	0	0.6	17	14.3	16	5	0	9	21	8.5	
MEACHAM	1234	880.5	1022.4	7.8	- 0.6	3.7	2.3	16.1	14	- 4.4	24+	0	18			37	- 68	17	7		246	152			7.6	25	4	7	7	16	6.5	
MEDFORD	396	973.6	1022.1	12.2	- 0.6	5.8	0.1	22.8	1	- 5.0	30+	0	19	2.2	86	12	- 54	12	2	0	T	T	0.2	18	9.8	13	7	7	6	17	7.0	
PENDLETON	452	968.2	1022.9	11.7	1.1	6.2	1.1	22.2	4	- 5.0	25	0	9	1.1	77	9	- 26	9	1	0	T	0	0.8	23	19.2	30	4	4	8	18	7.4	
PORTLAND	6	1019.6	1021.0	12.2	4.4	8.4	1.2	21.1	1	- 2.2	28	0	4	5.0	81	81	- 55	47	8	0	0	0	1.3	13	13.0	S	5	5	3	22	7.6	37
SALEM	60	1013.5	1021.1	11.7	1.7	6.7	- 0.6	22.2	1	- 8.3	30	0	7	4.4	87	82	- 64	51	8	0	0	0	1.0	19	12.5	19	5	4	5	21	7.8	
SEXTON SUMMIT R	1169	886.6	1019.1	11.7	5.0	8.4	2.4	18.9	2	- 1.7	17+	0	3			35	- 76	30	6		13	T			22.4	19	4	12	4	14	5.4	
PACIFIC AREA																																
JOHNSTON	2	1012.2	1012.8	30.0	23.9	26.9	0.5	31.7	10	21.7	26	0	0	22.2	75	14	- 38	5	11	0	0	0	5.7	9	13.0	E	26	4	13	13	6.4	67
PAGO PAGO	4	1010.2	1010.2	29.4	23.9	26.7		31.7	18	22.2	30+	0	0	23.9	85	237		42	24	3	0	0	3.4	11	11.2	SE	5	2	7	21	8.0	
TAGUAC GUAM R	110	997.3	1009.7	30.0	23.3	26.7	0.4	31.1	26+	20.6	1	0	0	23.9	86	257	- 5	49	29	5	0	0	3.7	9	11.2	E	19	0	15	15	7.7	51
WAKE	3	1012.9	1013.2	30.0	24.4	27.0	0.1	31.7	13+	20.6	17	0	0	21.7	76	74	- 4	29	15	0	0	0	7.3	7	15.2	NE	19+	9	16	5	4.9	61
KOROR R	29	1005.4	1008.9	31.1	25.0	27.8	0.5	32.2	19+	22.8	23	4	0	24.4	85	230	- 98	45	17	4	0	0	0.6	27	10.7	NE	9	0	2	28	9.4	46
KWAJALEIN	2	1008.1	1009.0	31.1	25.6	28.3	0.9	32.2	11	23.9	25	1	0	23.9	77	215	- 93	64	21	2	0	0	4.8	8	13.0	7	24+	1	7	22	8.5	
MAJURO	3	1008.8	1009.0	30.0	25.6	27.8	0.8	31.1	18+	23.3	2	0	0	23.9	80	297	-108	78	22	2	0	0	3.2	7	13.9	E	27	0	11	19	8.2	44
PONAPE R	37	1003.4	1008.8	31.1	21.7	26.4	- 0.2	32.8	22+	18.9	26+	9	0	23.9	85	411	- 17	109	25	0	0	0	1.4	12	7.6	NE	30+	0	11	19	8.3	52
TRUK MOEN ISLAND	2	1008.1	1008.5	30.6	25.0	27.7	0.6	31.7	23+	23.3	25+	0	0	24.4	83	406	92	142	25	1	0	0	2.1	8	11.6	N	25	0	1	29	9.7	59
YAP R	13	1006.4	1008.2	30.6	23.9	27.1	- 0.4	32.2	15	21.7	14	1	0	24.4	84	248	- 35	56	24	4	0	0	1.0	10	11.6	S	27	0	10	20	8.1	50
PENNSYLVANIA																																
ALLENTOWN	118	1002.4	1016.7	9.4	0.6	4.9	- 0.6	18.3	3	- 8.3	22	0	15	1.1	78	66	- 19	15	11	1	T	T	1.5	28	15.6	25	14	5	7	18	7.3	
ERIE	223	989.2	1016.4	6.7	0.6	3.5	- 1.6	13.9	1	- 7.8	15	0	14	- 0.6	76	76	- 9	17	20	2	290	152	3.0	22	13.9	18	19	1	4	25	8.9	
HARRISBURG	103	1004.1	1017.0	10.0	1.7	5.9	- 0.4	16.7	3+	- 6.1	22	0	14	0.6	70	84	9	22	12	1	53	25	1.6	28	14.3	NW	6	4	9	17	7.5	43
PHILADELPHIA	2	1015.2	1016.4	11.7	2.2	6.9	0.1	20.0	3	- 5.6	22+	0	13	0.6	67	50	- 36	18	11	1	5	T	1.5	31	13.9	NE	9	8	6	16	6.7	53
PITTSBURGH	347	972.2	1017.2	8.3	0.0	4.0	- 0.9	17.2	1	-10.0	21	0	17	- 1.1	72	62	5	23	15	0	201	152	2.3	25	20.1	29	19	2	5	23	8.4	21
SCRANTON	283	982.1	1016.8	7.8	0.6	4.0	- 0.2	15.6	4	- 9.4	22	0	14	0.6	80	96	21	34	16	2	69	25	1.0	24	15.2	S	19	2	6	22	8.3	23
WILLIAMSPORT	160	997.6	1017.2	10.0	0.6	5.4	0.4	16.7	2+	- 9.4	22	0	15	2.2	81	129	41	33	16	0	30	T	1.2	29	10.3	29	19+	2	7	21	8.3	
RHODE ISLAND																																
BLOCK ISLAND	34			10.6	5.0	7.7	0.3	17.2	3	- 5.0	22	0	4			205	110	101	14		T	T										
PROVIDENCE	16	1013.9	1016.1	10.0	1.7	5.8	- 0.3	17.8	3	- 8.9	22	0	14	1.7	75	161	57	42	15	1	T	T	1.1	32	12.5	4	10	7	8	15	6.9	41
SOUTH CAROLINA																																
CHARLESTON	12	1016.6	1018.7	18.3	5.6	11.9	- 1.4	25.6	2	- 2.8	16+	0	3	5.6	68	139	86	133	5	1	0	0	1.0	32	23.2Y	N	1	14	4	12	4.9	73
CHARLESTON U	3			17.2	8.9	13.1	- 1.7	23.9	2	- 1.7	15	0	1			177	129	169	6		0	0			24.1	N	1					
COLUMBIA	65	1010.5	1018.8	18.9	2.2	10.4	- 1.6	24.4	2	- 6.1	16	0	10	3.9	71	30	- 29	24	4	0	0	0	0.7	28	8.9	27	14+	14	8	8	4.5	69
GNVLE-SPARTANBURG	292	983.7	1018.8	16.7	2.2	9.3	- 1.4	22.2	12+	- 8.3	15	0	10	2.2	65	57	- 15	41	4	0	0	0	0.7	30	12.5	W	14	11	9	10	4.9	68
SOUTH DAKOTA																																
ABERDEEN	395	969.2	1017.3	6.7	- 5.0	0.9	1.8	17.8	8	-14.4	29	0	24	- 3.3	76	4	- 15	2	3	0	28	25	1.4	32	13.0	34	13	4	7	19	7.1	
HURON	390	969.9	1017.6	7.2	- 4.4	1.6	2.0	20.0	7	-14.4	19	0	25	- 3.9	71	2	- 15	1	3	0	36	25	1.3	29	14.8	NW	13	5	4	21	7.4	55

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb.	C.	C.	C	C	C		C.				C.	%	Mm	Mm.	Mm			Mm	Mm	M.p.s		M.p.s							%
SOUTH DAKOTA																																
RAPID CITY	964	905.9	1018.9	11.1	-3.9	3.7	2.0	23.3	5	-13.3	18	0	24	-6.1	54	9	-2	5	6	0	74	25	3.3	32	21.9	NW	13	9	9	12	6.0	54
SIOUX FALLS	432	964.4	1017.5	6.7	-5.0	0.8	0.4	20.0	7	-18.3	18	0	26	-3.3	75	9	-17	6	4	0	74	76	1.7	29	14.8	32	13	6	9	15	6.7	
TENNESSEE																																
BRISTOL	459	964.1	1019.3	11.7	-1.7	5.2	-2.5	18.3	18	-10.6	15	0	22	0.6	74	47	-17	14	12	0	25	T	1.0	27	11.2	28	19+	5	11	14	6.6	
CHATTANOOGA	203	994.2	1019.4	13.9	-1.1	6.4	-3.2	20.6	11	-9.4	15	0	21	0.0	71	54	-39	29	6	0	T	T	0.6	29	13.0	SE	19	12	9	9	5.0	59
KNOXVILLE	299	983.7	1019.2	13.9	1.1	7.5	-1.8	20.6	18	-8.9	15	0	9	1.1	67	65	-17	34	9	0	T	T	0.9	29	13.0	W	19	9	7	14	6.0	55
MEMPHIS	79	1009.8	1020.2	15.6	3.3	9.4	-0.6	23.9	8	-5.0	29	0	7	3.3	67	106	-5	66	8	2	T	T	0.9	25	15.6	NW	13	14	8	8	4.6	62
NASHVILLE	180	997.6	1019.6	13.9	2.2	8.1	-1.1	22.8	11+	-7.2	29+	0	12	2.2	69	46	-37	30	8	0	8	T	1.2	25	13.0	SE	18	9	6	15	6.3	47
OAK RIDGE R	276			13.3	0.6	7.1	-1.4	19.4	7	-8.3	15	0	13			67	-29	27	9		T	T			16.5Y		19	11	5	14	5.9	
TEXAS																																
ABILENE	537	958.0	1020.3	18.9	5.0	11.9	0.2	27.8	8+	-2.8	30	0	7	2.2	58	28	0	12	5	0	T	0	1.0	25	15.2	S	16	13	7	10	4.7	62
AMARILLO	1098	894.0	1019.1	16.1	0.0	8.2	0.4	25.6	7	-8.9	19	0	17	-2.8	53	9	-8	8	2	0	T	T	1.7	29	17.0	SW	17	16	12	2	3.1	80
AUSTIN	182	998.3	1020.7	21.1	7.8	14.4	-0.5	31.1	8	-1.7	20	0	3	6.7	65	20	-34	9	6	1	0	0	1.3	34	13.9	N	18	12	7	11	5.1	60
BROWNSVILLE	6	1018.6	1019.2	24.4	14.4	19.4	-0.4	34.4	13	2.2	20	1	0	13.9	72	81	47	20	12	1	0	0	0.4	36	14.8	N	18+	5	9	16	7.1	40
CORPUS CHRISTI	12	1018.3	1019.8	22.8	11.7	17.2	-0.7	32.8	12	-1.7	20	1	3	11.7	74	129	86	66	10	2	0	0	1.7	6	17.9	N	18	8	4	18	6.3	48
DALLAS	147	1003.1	1020.5	20.0	7.2	13.4	0.7	28.9	8	-1.1	28	0	2	3.9	58	37	-31	14	9	0	0	0	0.6	27	14.3	N	18	16	4	10	4.3	69
DEL RIO	313	984.1	1020.7	20.0	7.8	14.0	-0.9	31.7	12	-3.3	20	0	3	7.8	71	85	70	47	8	1	0	0	0.8	4	10.3	34	18	8	4	18	6.4	
EL PASO	1194	885.9	1019.1	18.3	4.4	11.4	0.7	26.1	10+	-6.1	20	0	7	-2.2	42	16	8	13	3	0	152	102	0.7	35	15.2	W	17+	15	8	7	4.1	79
FORT WORTH	164	1000.0	1020.6	20.0	5.6	12.6	0.2	28.3	17+	-1.1	30+	0	6	5.0	65	31	-31	10	8	0	0	0	1.0	27	13.0	33	18	16	5	9	4.2	
GALVESTON U	2			20.6	14.4	17.3	0.1	26.7	7	6.1	19	0	0			23	-67	9	5		0	0			16.1	N	18					58
HOUSTON INTERCON	29	1016.9	1020.6	22.2	7.2	14.7	-0.2	31.1	9+	-3.9	15	0	5	8.9	75	54	-45	46	4	1	0	0	0.4	1	9.8	13	16	10	9	11	5.3	59
LUBBOCK	992	907.2	1019.9	17.3	0.6	9.2	0.4	26.1	7	-7.8	19	0	14	-1.1	56	20	6	19	3	1	76	T	1.3	29	11.6	4	27+	11	13	6	4.5	
MIDLAND	869	920.4	1020.0	17.8	3.9	10.8	-0.6	27.2	11	-5.0	19	0	8	0.6	57	22	10	7	8	2	33	25	0.5	24	13.9	2	27	13	6	11	5.1	
PORT ARTHUR	5	1020.0	1020.6	22.2	8.3	15.4	0.0	30.0	7	-2.8	15	0	4	10.0	75	39	-49	36	3	0	0	0	0.6	3	17.0	SW	18	12	8	10	5.1	68
SAN ANGELO	580	952.9	1020.4	19.4	5.6	12.4	-0.2	29.4	8	-4.4	20+	0	6	5.6	70	30	11	17	7	0	T	T	1.0	24	13.0	18	22	13	6	11	5.1	
SAN ANTONIO	240	992.6	1020.8	21.7	7.2	14.5	-0.8	31.1	12+	-3.3	20	0	5	7.2	66	26	-9	19	5	0	0	0	1.3	36	14.3	N	18	10	7	13	5.8	49
VICTORIA	32	1016.3	1020.4	22.8	10.6	16.7	-0.2	31.7	8+	-0.6	20	0	1	10.6	74	77	18	52	6	2	0	0	0.8	3	19.7Y	N	18	8	7	15	6.1	
WACO	153	1002.7	1021.0	20.0	7.8	13.8	0.0	31.1	8	-0.6	20	0	1	6.7	68	49	-7	19	7	1	T	T	0.8	26	11.2	33	18	15	4	11	4.7	
WICHITA FALLS	303	982.7	1020.1	18.9	2.2	10.7	-0.7	28.9	11+	-5.6	28	0	9	2.8	66	14	-22	7	4	0	T	0	1.5	26	13.9	19	22	14	9	7	4.3	
UTAH																																
MILFORD	1533	851.0		10.6	-6.1	2.2	-0.1	19.4	4	-12.8	30+	0	28			16	3	7	4		36	25						16	8	6	3.6	
SALT LAKE CITY	1286	877.4	1024.6	10.0	-1.7	4.2	1.6	20.6	5	-9.4	18	0	22	-2.8	67	23	-10	17	3	0	142	51	1.4	16	13.9	SW	7	8	11	11	5.8	69
WENDOVER	1291	877.1	1025.5	7.8	-2.2	3.0	-0.1	18.9	5	-9.4	28	0	20			9	1	5	4		T	T										
VERMONT																																
BURLINGTON	101	1003.4	1016.1	5.6	-1.1	2.4	0.6	13.3	19+	-16.1	22	0	15	0.0	82	126	60	36	19	1	267	178	0.9	21	15.2	N	5	2	1	27	9.0	36
VIRGINIA																																
LYNCHBURG	279			12.8	0.6	6.9	-1.4	20.0	3	-7.8	21+	0	14			31	-34	17	8		T	T			12.1	SE	19	10	8	12	5.6	56
NORFOLK	7	1016.3	1017.4	13.9	5.0	9.5	-1.3	23.9	3	-3.3	22	0	5	2.8	65	75	-2	32	10	1	0	0	0.8	30	16.1	NE	[illegible]	[illegible]	10	11	5.6	51
RICHMOND	50	1011.5	1017.7	14.4	2.2	8.2	-0.[illegible]	23.3	3	-6.7	22	0	14	2.2	71	47	-30	18	7	0	0	0	0.6	30	11.2	W	19+	9	8	13	5.9	51
ROANOKE	350	975.3	1017.8	13.3	0.6	6.9	-1.2	20.6	3+	-8.3	15	0	13	-1.1	59	36	-33	23	8	0	T	T	[illegible]	29	13.4	30	6	13	6	11	5.3	
WALLOPS ISLAND	3			12.2	3.9	8.1		17.2	1	-4.4	22+	0	9			71		29	10		0	0			27.3Y	E	2					
WASHINGTON																																
OLYMPIA	59	1012.9	1020.3	10.6	2.8	6.8	0.3	18.9	2	-7.2	30	0	6	5.0	91	91	-103	49	11	0	0	0	1.6	19	14.8	17	5	2	4	24	8.5	
QUILLAYUTE	55	1011.2	1018.7	12.2	3.3	7.6	0.6	18.3	1	-3.3	30	0	6	5.6	91	213	-125	49	23	2	T	0	1.3	13	13.0	SE	7+	1	7	22	8.5	33
SEATTLE TACOMA	122	1003.4	1019.9	10.6	5.6	8.1	1.5	16.7	1	-1.1	30+	0	4	5.0	84	56	-80	39	7	0	T	0	1.1	17	12.1	S	6	1	4	25	8.9	36
SPOKANE	718	936.3	1022.1	6.7	-2.2	2.4	0.3	13.3	4	-8.9	30	0	23	-1.1	81	9	-47	7	4	0	T	T	1.4	16	12.5	SW	4	3	11	16	7.4	37
STAMPEDE PASS R	1206	881.8		3.3	-1.1	1.1	1.4	14.4	14+	-9.4	30	0	20			134	-185	36	14		699	330						3	1	26	8.9	
WALLA WALLA U	289			11.1	2.8	6.9	1.2	21.7	4	-2.8	30	0	8			15	-28	14	4		T	T			13.4	NW	4	3	6	21	8.1	32
YAKIMA	321	983.1	1022.6	10.6	-1.7	4.3	1.3	17.8	1	-8.3	26+	0	22	-1.7	69	2	-22	2	1	0	T	0	1.3	27	17.0	31	15	5	10	15	[illegible]	
WEST INDIES																																
SAN JUAN P.R.	4	1011.2	1013.6	28.9	22.8	25.9	0.3	31.1	8+	18.9	20	0	0	20.0	73	170	5	81	18	4	0	0	2.4	10	13.9	E	22	4	9	17	7.2	59
SWAN ISLAND	9			28.9	23.9	26.5	-0.2	30.6	3	21.1	16	0	0			194	6	60	18		0	0						4	12	14	6.6	
WEST VIRGINIA																																
BECKLEY	763	928.2	1018.9	7.8	-1.1	3.3	-2.3	16.1	18	-12.8	15	0	19	-1.1	73	62	-14	20	14	0	165	127	2.1	26	17.0	17	19	3	9	18	7.6	
CHARLESTON	286	983.7	1018.4	10.5	-0.6	5.2	-2.2	20.0	18	-8.3	21+	0	17	-0.6	69	56	-14	21	11	0	109	76	1.9	23	15.6	26	19	3	7	20	7.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm	Mm			Mm.	Mm.	M.p.s.		M.p.s							%
WEST VIRGINIA																																
ELKINS	600	945.8		8.3	- 2.8	2.8	- 2.0	19.4	1	-11.1	22	0	19			46	- 24	10	13		226	102						2	6	22	8.2	
HUNTINGTON	252	987.8	1018.4	10.6	0.6	5.6	- 1.9	20.6	18	- 7.2	21+	0	16	0.6	72	54	- 8	27	10	0	117	102	1.5	23	12.5	27	19	2	9	19	8.0	
PARKERSBURG U	187			10.0	1.1	5.6	- 1.6	18.3	19+	- 7.8	15	0	15			61	1	32	9		38	51			17.9	SW	19					24
WISCONSIN																																
GREEN BAY	208	989.5	1015.7	5.0	- 5.0	- 0.1	- 1.3	15.0	9	-14.4	28+	0	25	- 4.4	72	11	- 38	5	6	0	43	51	2.0	28	11.6	S	24+	4	7	19	7.6	43
LA CROSSE	198	991.9	1016.8	6.7	- 3.3	1.8	0.6	19.4	7	-12.2	20	0	22	- 2.2	78	15	- 35		7	0	T		1.4	26								
MADISON	262	984.1	1016.3	6.1	- 5.0	0.6	- 0.5	16.7	6	-13.3	20	0	25	- 2.8	81	18	- 37	11	7	0	25	25	1.8	27	13.4	NW	19	7	4	19	7.3	39
MILWAUKEE	205	990.5	1016.4	5.6	- 2.8	1.3	- 0.8	12.8	9	-10.0	20	0	23	- 2.2	78	29	- 26	17	10	0	18	T	2.6	27	13.0	NW	19	3	9	18	7.5	36
WYOMING																																
CASPER	1627	839.5	1021.1	7.8	- 5.0	1.3	0.4	17.2	7	-17.8	18	0	26	- 5.6	63	24	6	10	6	0	305	152	5.0	24	13.4	21	7+	7	12	11	6.1	
CHEYENNE	1867	813.1	1020.3	8.9	- 4.4	2.4	1.2	17.8	5	-14.4	27	0	22	- 8.9	49	6	- 10	4	6	1	46	25	4.9	30	18.8	W	8	7	13	10	5.5	61
LANDER	1696	831.4	1021.8	7.8	- 5.6	1.1	1.6	14.4	7+	-12.2	27+	0	28	- 6.7	61	5	- 18	2	4	0	107	51	0.8	21	23.2	SW	7	7	12	11	6.2	69
SHERIDAN	1208	880.8	1021.0	8.3	- 6.1	1.2	0.4	22.2	5	-15.6	17	0	25	- 5.6	64	25	5	15	7	0	198	178	1.5	29	12.5	W	12	5	12	13	6.5	62

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

V Sun below horizon November 19 - 30, inclusive.
X Sun below horizon November 24 - 30, inclusive.

See footnotes at end of table

HEATING DEGREE DAYS

(Base 65°F.)

NOVEMBER 1969

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
BIRMINGHAM	447	[illegible]	[illegible]
HUNTSVILLE	[illegible]	653	[illegible]
MOBILE	[illegible]	[illegible]	[illegible]
MONTGOMERY	[illegible]	[illegible]	398
ALASKA			
ANCHORAGE	1235	2943	3192
ANNETTE	[illegible]	[illegible]	[illegible]
BARROW	[illegible]	6771	[illegible]
BARTER ISLAND	[illegible]	6300	[illegible]
BETHEL	[illegible]	3925	[illegible]
BETTLES	[illegible]	4724	
BIG DELTA	[illegible]	[illegible]	
COLD BAY	[illegible]	[illegible]	3114
FAIRBANKS	1914	3978	4181
GULKANA	1824	4254	
HOMER	1123	[illegible]	
ILIAMNA	[illegible]	[illegible]	
JUNEAU	[illegible]	[illegible]	2768
KING SALMON	1435	[illegible]	[illegible]
KOTZEBUE	1909	[illegible]	[illegible]
MC GRATH	1939	4260	4154
NOME	1684	4263	4219
ST. PAUL ISLAND	[illegible]	3284	3581
SHEMYA	[illegible]	3045	[illegible]
SUMMIT	1669	4382	
TALKEETNA	1358	[illegible]	[illegible]
UNALAKLEET	1630	4035	
YAKUTAT	973	3101	2811
ARIZONA			
FLAGSTAFF	926	1937	[illegible]
PHOENIX	95	[illegible]	[illegible]
TUCSON	188	243	[illegible]
WINSLOW	697	1103	[illegible]
YUMA	[illegible]	[illegible]	148
ARKANSAS			
FORT SMITH	[illegible]	[illegible]	[illegible]
LITTLE ROCK	[illegible]	[illegible]	[illegible]
CALIFORNIA			
BAKERSFIELD	207	252	319
BISHOP	549	939	866
BLUE CANYON	[illegible]	1003	1130
EUREKA	[illegible]	[illegible]	[illegible]
FRESNO	349	515	417
LONG BEACH	56	79	[illegible]
LOS ANGELES	59	[illegible]	292
LOS ANGELES [illegible]	52	74	[illegible]
MT SHASTA R	[illegible]	1351	[illegible]
OAKLAND	[illegible]	615	584
RED BLUFF	[illegible]	433	371
SACRAMENTO	323	[illegible]	[illegible]
SANDBERG R	455	[illegible]	[illegible]
SAN DIEGO	44	[illegible]	181
SAN FRANCISCO	261	[illegible]	668
SAN FRANCISCO [illegible]	166	[illegible]	817
SANTA MARIA	[illegible]	[illegible]	704
STOCKTON	349	498	437
COLORADO			
ALAMOSA	1036	[illegible]	2147
COLORADO SPRINGS	[illegible]	[illegible]	1447
DENVER	769	1628	1379
GRAND JUNCTION	764	1329	1129
PUEBLO	626	1098	1130
CONNECTICUT			
BRIDGEPORT	593	1011	988
HARTFORD	[illegible]	1247	1188
DELAWARE			
WILMINGTON	606	935	909
DIST.OF COLUMBIA			
WASH NAT'L AP	525	769	769
FLORIDA			
APALACHICOLA U	207	209	169
DAYTONA BEACH	105	105	75
FORT MYERS	53	53	24
JACKSONVILLE	201	201	[illegible]
KEY WEST	[illegible]	0	[illegible]
LAKELAND U	111	111	57
MIAMI	21	21	[illegible]
ORLANDO	93	93	72
PENSACOLA	210	[illegible]	214
TALLAHASSEE	286	[illegible]	226
TAMPA	[illegible]	111	60
WEST PALM BEACH	41	41	6
GEORGIA			
ATHENS	447	572	[illegible]
ATLANTA	[illegible]	[illegible]	[illegible]
AUGUSTA	432	514	411
COLUMBUS	387	[illegible]	[illegible]
MACON	[illegible]	399	368
ROME	543	734	659
SAVANNAH	[illegible]	370	293
IDAHO			
BOISE	751	1443	[illegible]
LEWISTON	719	1340	[illegible]
POCATELLO	878	1709	1565
ILLINOIS			
CAIRO U	567	778	713
CHICAGO O HARE	794	1296	1317
CHICAGO MIDWAY	777	1225	[illegible]
MOLINE	[illegible]	1330	1217
PEORIA	818	1338	1178
ROCKFORD	845	1451	[illegible]
SPRINGFIELD	748	1177	1059
INDIANA			
EVANSVILLE	693	1027	892
FORT WAYNE	839	[illegible]	1275
INDIANAPOLIS	816	1259	[illegible]
SOUTH BEND	826	[illegible]	[illegible]
IOWA			
BURLINGTON	804	1330	1183
DES MOINES	773	1296	[illegible]
DUBUQUE	916	1618	1555
SIOUX CITY	813	1441	1353
WATERLOO	935	1693	[illegible]
KANSAS			
CONCORDIA	664	1126	1038
DODGE CITY	578	[illegible]	[illegible]
GOODLAND	701	[illegible]	1278
TOPEKA	666	1091	[illegible]
WICHITA	610	[illegible]	[illegible]
KENTUCKY			
COVINGTON	737	1112	1035
LEXINGTON	[illegible]	[illegible]	902
LOUISVILLE	645	969	911
LOUISIANA			
BATON ROUGE	240	275	247
LAKE CHARLES	260	284	229
NEW ORLEANS	[illegible]	243	211
SHREVEPORT	314	400	344
MAINE			
CARIBOU	[illegible]	[illegible]	2255
PORTLAND	[illegible]	1420	1575
MARYLAND			
BALTIMORE	[illegible]	[illegible]	897
MASSACHUSETTS			
BLUE HILL OBS R	692	1280	1201
BOSTON	595	1033	988
NANTUCKET	560	1053	1032
WORCESTER	773	[illegible]	1411
MICHIGAN			
ALPENA	916	[illegible]	[illegible]
DETROIT	748	1234	1185
DETROIT M WAYNE CO	804	1315	1298
FLINT	836	1491	1397
GRAND RAPIDS	[illegible]	[illegible]	[illegible]
HOUGHTON LAKE	939	1856	1867
LANSING	[illegible]	1454	1410
MARQUETTE [illegible]	905	1856	1843
MUSKEGON	850	1470	[illegible]
SAULT STE MARIE	[illegible]	2079	2011
MINNESOTA			
DULUTH	1075	2198	2273
INTERNATIONAL FALLS	1200	2460	2483
MINNEAPOLIS	933	1649	1761
ROCHESTER	934	1747	1724
ST CLOUD	1004	1883	1914
MISSISSIPPI			
JACKSON	372	467	361
MERIDIAN	374	470	420
MISSOURI			
COLUMBIA	[illegible]	1050	956
KANSAS CITY	[illegible]	[illegible]	871
ST JOSEPH	623	1010	1059
ST LOUIS	644	984	938
SPRINGFIELD	620	982	[illegible]
MONTANA			
BILLINGS	[illegible]	1683	[illegible]
GLASGOW	908	1911	[illegible]
GREAT FALLS	743	[illegible]	1803
HAVRE	842	1850	2047
HELENA	[illegible]	2032	1987
KALISPELL	[illegible]	2222	2144
MILES CITY	[illegible]	1645	1660
MISSOULA	991	2131	[illegible]
NEBRASKA			
GRAND ISLAND	[illegible]	[illegible]	[illegible]
LINCOLN U	664	1145	1108
NORFOLK	[illegible]	1435	1390
NORTH PLATTE	795	1557	1454
OMAHA	[illegible]	[illegible]	1205
SCOTTSBLUFF	793	1560	1473
VALENTINE	[illegible]	[illegible]	1621
NEVADA			
ELKO	916	1804	1753
ELY	892	1809	1836
LAS VEGAS	[illegible]	[illegible]	[illegible]
RENO	772	1473	1625
WINNEMUCCA	862	[illegible]	1656
NEW HAMPSHIRE			
CONCORD	777	1608	1560
MT WASHINGTON OBS	1269	4044	4147
NEW JERSEY			
ATLANTIC CITY	[illegible]	1110	939
ATLANTIC CITY U	509	756	766
NEWARK	575	908	903
TRENTON	580	[illegible]	897
NEW MEXICO			
ALBUQUERQUE	701	1050	883
CLAYTON	668	1226	[illegible]
ROSWELL	529	786	[illegible]
NEW YORK			
ALBANY	749	1412	1374
BINGHAMTON	808	[illegible]	1569
BUFFALO	769	1378	1414
J.F. KENNEDY	526	[illegible]	848
NEW YORK U	551	819	803
NEW YORK LA GUARDIA	562	883	778
ROCHESTER	737	[illegible]	[illegible]
SYRACUSE	730	1331	[illegible]
NORTH CAROLINA			
ASHEVILLE	623	970	981
CAPE HATTERAS R	390	442	[illegible]
CHARLOTTE	511	713	568
GREENSBORO	[illegible]	777	738
RALEIGH	[illegible]	[illegible]	635
WILMINGTON	376	[illegible]	365
NORTH DAKOTA			
BISMARCK	967	1873	[illegible]
FARGO	1028	[illegible]	1965
WILLISTON	966	[illegible]	[illegible]
OHIO			
AKRON	[illegible]	1309	1212
CINCINNATI OBS	723	1073	914
CLEVELAND	736	1271	[illegible]
COLUMBUS	763	1231	1151
DAYTON	755	1141	1090
MANSFIELD	[illegible]	1220	1310
TOLEDO	818	1400	1331
YOUNGSTOWN	803	1440	1328
OKLAHOMA			
OKLAHOMA CITY	[illegible]	755	677
TULSA	498	739	[illegible]
OREGON			
ASTORIA	[illegible]	1581	[illegible]
BURNS U	836	1782	1641
EUGENE	[illegible]	1211	1148
MEACHAM	785	[illegible]	1994
MEDFORD	670	1218	1128
PENDLETON	646	1216	1172
PORTLAND	526	1007	1099
SALEM	[illegible]	1332	[illegible]
SEXTON SUMMIT R	531	[illegible]	1442
PENNSYLVANIA			
ALLENTOWN	717	1270	1136
ERIE	796	1467	[illegible]
HARRISBURG	662	1103	[illegible]
PHILADELPHIA	611	981	972
PITTSBURGH	770	1288	1215
PITTSBURGH U	709	1115	[illegible]
SCRANTON	765	1360	1347
WILLIAMSPORT	690	1215	1212
RHODE ISLAND			
BLOCK ISLAND	568	969	995
PROVIDENCE	673	1163	1144
SOUTH CAROLINA			
CHARLESTON	349	400	341
CHARLESTON U	283	[illegible]	244
COLUMBIA	419	507	429
GNVLE-SPARTANBURG	[illegible]	[illegible]	[illegible]
SOUTH DAKOTA			
ABERDEEN	935	1760	1807
HURON	899	[illegible]	1708
RAPID CITY	781	[illegible]	1577
SIOUX FALLS	[illegible]	1730	1646
TENNESSEE			
BRISTOL	[illegible]	[illegible]	860
CHATTANOOGA	[illegible]	919	629
KNOXVILLE	[illegible]	790	[illegible]
MEMPHIS	[illegible]	624	595
NASHVILLE	551	[illegible]	683
OAK RIDGE R	602	851	762
TEXAS			
ABILENE	350	[illegible]	[illegible]
AMARILLO	543	[illegible]	[illegible]
AUSTIN	253	[illegible]	256
BROWNSVILLE	92	[illegible]	[illegible]
CORPUS CHRISTI	160	[illegible]	[illegible]
DALLAS	[illegible]	[illegible]	[illegible]
DEL RIO	273	[illegible]	249
EL PASO	371	[illegible]	[illegible]
FORT WORTH	306	[illegible]	[illegible]
GALVESTON	127	[illegible]	[illegible]
HOUSTON	238	[illegible]	[illegible]
LUBBOCK	[illegible]	801	[illegible]
MIDLAND	405	621	468
PORT ARTHUR	212	[illegible]	[illegible]
SAN ANGELO	335	[illegible]	386
SAN ANTONIO	253	[illegible]	[illegible]
VICTORIA	[illegible]	[illegible]	[illegible]
WACO	[illegible]	[illegible]	313
WICHITA FALLS	411	647	480
UTAH			
MILFORD	863	1532	[illegible]
SALT LAKE CITY	759	1307	1349
WENDOVER	[illegible]	[illegible]	[illegible]
VERMONT			
BURLINGTON	856	[illegible]	1730
VIRGINIA			
LYNCHBURG	612	964	814
NORFOLK	469	[illegible]	544
RICHMOND	541	807	[illegible]
ROANOKE	607	[illegible]	829
WALLOPS ISLAND	548	[illegible]	
WASHINGTON			
OLYMPIA	[illegible]	1575	[illegible]
QUILLAYUTE	574	1751	[illegible]
SEATTLE TACOMA	[illegible]	[illegible]	[illegible]
SPOKANE	855	[illegible]	1574
STAMPEDE PASS	927	[illegible]	[illegible]
WALLA WALLA U	607	1102	1078
YAKIMA	[illegible]	1501	1434
WEST VIRGINIA			
BECKLEY	804	1374	1197
CHARLESTON	703	[illegible]	908
ELKINS	[illegible]	1458	1298
HUNTINGTON	681	1073	[illegible]
PARKERSBURG	681	[illegible]	930
WISCONSIN			
GREEN BAY	991	1882	1660
LA CROSSE	886	[illegible]	1545
MADISON	951	1754	[illegible]
MILWAUKEE	913	1634	1611
WYOMING			
CASPER	914	[illegible]	[illegible]
CHEYENNE	854	[illegible]	[illegible]
LANDER	928	[illegible]	[illegible]
SHERIDAN	918	1906	1762

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

(Base 65°F.)

NOVEMBER 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	2	1734	
HUNTSVILLE	0	1914	
MOBILE	17	2672	
MONTGOMERY	4	2101	
ALASKA			
ANCHORAGE	0	8	
ANNETTE	0	56	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	2	
BETTLES	0	49	
BIG DELTA	0	58	
COLD BAY	0	0	
FAIRBANKS	0	85	
GULKANA	0	11	
HOMER	0	0	
ILIAMNA	0	3	
JUNEAU	0	7	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	9	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	1	
TALKEETNA	0	12	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	113	
PHOENIX	16	3768	
TUCSON	1	2866	
WINSLOW	0	1403	
YUMA	38	4143	
ARKANSAS			
FORT SMITH	4	2047	
LITTLE ROCK	0	1991	
CALIFORNIA			
BAKERSFIELD	13	2610	
BISHOP	0	1096	
BLUE CANYON	0	474	
EUREKA U	0	0	
FRESNO	0	1769	
LONG BEACH	56	1019	
LOS ANGELES	45	581	
LOS ANGELES U	65	1269	
MT SHASTA R	0	314	
OAKLAND	0	56	
RED BLUFF	3	2076	
SACRAMENTO	0	1306	
SANDBERG R	0	872	
SAN DIEGO	26	673	
SAN FRANCISCO	0	57	
SAN FRANCISCO U	3	44	
SANTA MARIA	4	37	
STOCKTON	0	1491	
COLORADO			
ALAMOSA	0	117	
COLORADO SPRINGS	0	449	
DENVER	0	721	
GRAND JUNCTION	0	1329	
PUEBLO	0	1292	
CONNECTICUT			
BRIDGEPORT	0	725	
HARTFORD	0	725	
DELAWARE			
WILMINGTON	0	1162	
DIST.OF COLUMBIA			
WASH NATL AP	1	1580	
FLORIDA			
APALACHICOLA U	16	2568	
DAYTONA BEACH	66	2912	
FORT MYERS	96	3419	
JACKSONVILLE	16	2809	
KEY WEST	234	4347	
LAKELAND U	59	3078	
MIAMI	191	4054	
ORLANDO	68	3323	
PENSACOLA	19	2496	
TALLAHASSEE	10	2563	
TAMPA	55	3091	
WEST PALM BEACH	128	3435	
GEORGIA			
ATHENS	0	1756	
ATLANTA	0	1663	
AUGUSTA	1	1853	
COLUMBUS	1	2061	
MACON	2	2007	
ROME	0	1634	
SAVANNAH	8	2246	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
HAWAII			
HILO	253	3090	
HONOLULU	419	4245	
KAHULUI	302	3545	
LIHUE	325	3410	
IDAHO			
BOISE	0	735	
LEWISTON	0	765	
POCATELLO	0	435	
ILLINOIS			
CAIRO U	0	1823	
CHICAGO O HARE	0	830	
CHICAGO MIDWAY	0	1001	
MOLINE	0	931	
PEORIA	0	893	
ROCKFORD	0	671	
SPRINGFIELD	0	1162	
INDIANA			
EVANSVILLE	0	1336	
FORT WAYNE	0	870	
INDIANAPOLIS	0	975	
SOUTH BEND	0	757	
IOWA			
BURLINGTON	0	913	
DES MOINES	0	989	
DUBUQUE	0	633	
SIOUX CITY	0	849	
WATERLOO	0	575	
KANSAS			
CONCORDIA	0	1183	
DODGE CITY	0	1519	
GOODLAND	0	975	
TOPEKA	0	1233	
WICHITA			
KENTUCKY	0	1558	
COVINGTON	0	1162	
LEXINGTON	0	1268	
LOUISVILLE			
LOUISIANA	0	1307	
BATON ROUGE	26	2662	
LAKE CHARLES	30	2561	
NEW ORLEANS	34	2525	
SHREVEPORT	11	2652	
MAINE			
CARIBOU	0	159	
PORTLAND	0	447	
MARYLAND			
BALTIMORE	0	1371	
MASSACHUSETTS			
BLUE HILL OBS R	0	563	
BOSTON	0	746	
NANTUCKET	0	360	
WORCESTER	0	488	
MICHIGAN			
ALPENA	0	295	
DETROIT	0	757	
DETROIT M WAYNE CO	0	741	
FLINT	0	458	
GRAND RAPIDS	0	590	
HOUGHTON LAKE	0	310	
LANSING	0	663	
MARQUETTE U	0	412	
MUSKEGON	0	565	
SAULT STE MARIE	0	164	
MINNESOTA			
DULUTH	0	242	
INTERNATIONAL FALLS	0	237	
MINNEAPOLIS	0	788	
ROCHESTER	0	420	
ST CLOUD	0	553	
MISSISSIPPI			
JACKSON	3	2267	
MERIDIAN	2	2011	
MISSOURI			
COLUMBIA	0	1368	
KANSAS CITY	0	1534	
ST JOSEPH	0	1556	
ST LOUIS	0	1440	
SPRINGFIELD	0	1382	
MONTANA			
BILLINGS	0	541	
GLASGOW	0	463	
GREAT FALLS	0	487	
HAVRE			
HELENA	0	345	
KALISPELL	0	94	
MILES CITY	0	822	
MISSOULA	0	220	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
NEBRASKA			
GRAND ISLAND	0	1019	
LINCOLN U	0	1255	
NORFOLK	0	869	
NORTH PLATTE	0	730	
OMAHA	0	1138	
SCOTTSBLUFF	0	816	
VALENTINE	0	889	
NEVADA			
ELKO	0	465	
ELY	0	312	
LAS VEGAS	0	3175	
RENO	0	385	
WINNEMUCCA	0	456	
NEW HAMPSHIRE			
CONCORD	0	363	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	0	945	
ATLANTIC CITY U	0	1060	
NEWARK	0	1169	
TRENTON U	0	1091	
NEW MEXICO			
ALBUQUERQUE	0	1481	
CLAYTON	0	820	
ROSWELL	0	1910	
NEW YORK			
ALBANY	0	556	
BINGHAMTON	0	384	
BUFFALO	0	568	
J.F. KENNEDY	0	1117	
NEW YORK U	0	1234	
NEW YORK LA GUARDIA	0	1002	
ROCHESTER	0	646	
SYRACUSE	0	624	
NORTH CAROLINA			
ASHEVILLE	0	997	
CAPE HATTERAS R	8	1612	
CHARLOTTE	0	1565	
GREENSBORO	0	1499	
RALEIGH	0	1264	
WILMINGTON	10	1801	
NORTH DAKOTA			
BISMARCK	0	571	
FARGO	0	483	
WILLISTON	0	464	
OHIO			
AKRON	0	632	
CINCINNATI OBS	0	1165	
CLEVELAND	0	725	
COLUMBUS	0	800	
DAYTON	0	945	
MANSFIELD	0	889	
TOLEDO	0	656	
YOUNGSTOWN	0	524	
OKLAHOMA			
OKLAHOMA CITY	0	1844	
TULSA	0	2062	
OREGON			
ASTORIA	0	5	
BURNS U	0	331	
EUGENE	0	214	
MEACHAM	0	122	
MEDFORD	0	662	
PENDLETON	0	719	
PORTLAND	0	297	
SALEM	0	183	
SEXTON SUMMIT R	0	186	
PACIFIC AREA			
JOHNSTON	475	4889	
KOROR R	521	5673	
KWAJALEIN	542	5848	
MAJURO	515	5495	
PAGO PAGO	458	5109	
PONAPE R	444	5111	
TAGUAC GUAM R	454	4758	
TRUK MOEN ISLAND	511	5467	
WAKE	472	5443	
YAP R	480	5325	
PENNSYLVANIA			
ALLENTOWN	0	791	
ERIE	0	496	
HARRISBURG	0	1027	
PHILADELPHIA	0	1128	
PITTSBURGH	0	707	
SCRANTON	0	627	
WILLIAMSPORT	0	729	
RHODE ISLAND			
BLOCK ISLAND	0	468	
PROVIDENCE	0	761	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
SOUTH CAROLINA			
CHARLESTON	6	2058	
CHARLESTON U	6	2249	
COLUMBIA	1	1992	
GNVLE-SPARTANBURG	0	1509	
SOUTH DAKOTA			
ABERDEEN	0	575	
HURON	0	556	
RAPID CITY	0	600	
SIOUX FALLS	0	681	
TENNESSEE			
BRISTOL	0	1046	
CHATTANOOGA	0	1322	
KNOXVILLE	0	1346	
MEMPHIS	0	2120	
NASHVILLE	0	1811	
OAK RIDGE R	0	1364	
TEXAS			
ABILENE	12	2482	
AMARILLO	0	1713	
AUSTIN	46	2892	
BROWNSVILLE	156	3984	
CORPUS CHRISTI	103	3334	
DALLAS	25	2945	
DEL RIO	46	3235	
EL PASO	2	2626	
FORT WORTH	17	2596	
GALVESTON U	81	3063	
HOUSTON INTERCON	48	2859	
LUBBOCK	0	1823	
MIDLAND	5	2182	
PORT ARTHUR	60	2870	
SAN ANGELO	23	2612	
SAN ANTONIO	53	2967	
VICTORIA	89	3242	
WACO	40	3217	
WICHITA FALLS	3	2436	
UTAH			
MILFORD	0	835	
SALT LAKE CITY	0	1050	
WENDOVER	0	1294	
VERMONT			
BURLINGTON	0	420	
VIRGINIA			
LYNCHBURG	0	1053	
NORFOLK	0	1587	
RICHMOND	0	1350	
ROANOKE	0	1091	
WALLOPS ISLAND	0	1178	
WASHINGTON			
OLYMPIA	0	85	
QUILLAYUTE	0	21	
SEATTLE TACOMA	0	171	
SPOKANE	0	379	
STAMPEDE PASS R	0	36	
WALLA WALLA U	0	880	
YAKIMA	0	424	
WEST INDIES			
SAN JUAN P.R.	417	4893	
SWAN ISLAND	450	5558	
WEST VIRGINIA			
BECKLEY	0	539	
CHARLESTON	0	1048	
ELKINS	0	459	
HUNTINGTON	0	1198	
PARKERSBURG U	0	1062	
WISCONSIN			
GREEN BAY	0	403	
LA CROSSE	0	717	
MADISON	0	460	
MILWAUKEE	0	449	
WYOMING			
CASPER	0	491	
CHEYENNE	0	431	
LANDER	0	538	
SHERIDAN	0	355	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROPERTY	† DAMAGE CROPS
Alabama *																													
Alaska										0	0	4	0													0	0	6	0
Arizona *																													
Arkansas						0	0	2	0																				
California *																													
Colorado *																													
Connecticut										0	0	4	0									?	?	5	0	0	0	1	0
Delaware *																													
Florida	3	2	0	3	5									0	0	4	0									0	0	1	3
Georgia																										0	2	°5	C
Hawaii										0	0	4	0																
Idaho *																													
Illinois *																													
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky *																													
Louisiana										0	0	3	0	0	0	5	0									0	0	4	0
Maine										1	0	5	0													0	0	4	0
Maryland										0	0	4	0																
Massachusetts										0	0	5	0	0	0	3	0									0	0	5	0
Michigan *																													
Minnesota *																													
Mississippi																										0	0	?	0
Missouri *																													
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire										0	0	4	0																
New Jersey *																													
New Mexico *																													
New York											2	5								5									
North Carolina										1	0	5	4													0	0	3	3
North Dakota *																													
Ohio												4																	
Oklahoma						0	0	?	0																				
Oregon *																													
Pacific Area *																													
Pennsylvania	1	1			4							4	3			4	3			3									
Puerto Rico																										4	0	°6	C
Rhode Island										0	0	5	0													0	0	4	0
South Carolina										0	2	5	2													1	0	0	0
South Dakota *																													
Tennessee																		0	0	4	0								
Texas	1	1	0	0	3					0	0	5	0													0	0	4	0
Utah *																													
Vermont										0	0	4	0																
U. S. Virgin Is.																										0	0	4	0
Virginia *																													
Washington *																													
West Virginia *																													
Wisconsin *																													
Wyoming *																													

° Includes crop damage
C Crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

NOVEMBER 1969

Elmer R. Nelson, Office of Hydrology

Extensive flooding resulted along 17 rivers in Puerto Rico on Nov. 9 from heavy rainfall ranging up to 6 to 8 inches over the southeastern portion. At least 20 towns or cities were damaged. The Weather Bureau issued flood warnings for the 17 rivers. Preliminary damage estimates were placed at $2 million. There were three deaths by drowning. The Civil Defense reported 13 houses destroyed and 123 houses and over 33 roads damaged. The heaviest damage occurred in the Fajardo area where over 500 families were affected.

Damages from flooding in continental United States during November were minor.

ST. LAWRENCE DRAINAGE

Lake Erie.--Minor flooding occurred on the St. Marys River at Decatur, Ind., and on the Maumee River at Fort Wayne, Ind., on the 19th-21st. The higher crest occurred on the St. Marys at Decatur and was nearly 2 ft. above flood stage. No flood damage was reported.

ATLANTIC SLOPE DRAINAGE

Moderate to heavy rain on the 7-8th caused the Susquehanna River to reach bankfull stage at Bainbridge, N. Y., on the 9th. No damage resulted from the rise.

The Satilla River near Atkinson, Ga., crested 0.7 foot above flood stage on the 8th. It was out of its banks from the 6th to the 11th. No damage resulted from the minor overflow.

MISSISSIPPI SYSTEM

Missouri Basin.--Heavy rains during the last 3 days of October caused the Grand River at Sumner, Mo., to rise nearly 2 ft. above flood stage. No reports of flood damage were received.

Ohio Basin.--Moderate rain on the 18-19th caused a minor overflow on the Scioto River at La Rue, Ohio, on the 20th. No flood damage was reported.

This same storm caused heavier and more widespread flooding in the Wabash Basin in Indiana. Eagle Creek at Zionsville, Ind., crested 2.5 ft. above flood stage on the 19th. The lower White River in the reach from Spencer to Edwardsport, Ind., crested about 2 ft. above flood stage. Crests on the Wabash River in the reach from Lafayette to Terre Haute, Ind., ranged from 3.7 ft. to 0.7 foot above flood stage. Although a small amount of corn remained in some fields, flood damage surveys did not indicate any damage.

White Basin.--Minor flooding developed on the Cache River in eastern Arkansas on the 24th. The overflow resulted from rainfall averaging 2 inches on the 16-17th. It crested at Patterson on the 27th, 1.5 ft. above flood stage. It receded within its banks on Dec. 4. No appreciable damage resulted from the overflow since only low-lying farmland and pastureland along the river were flooded.

Red Basin.--The Sulphur River at Hagansport in northeast Texas rose nearly 6 ft. above flood stage on Oct. 31. It receded within its banks on Nov. 1. No damage resulted from the flooding.

WEST GULF OF MEXICO DRAINAGE

Heavy rains on Oct. 27 caused moderate flooding on Turkey Creek at Crystal City, Tex., from Oct. 28 to Nov. 2. A moderate rise moved down the Nueces River below Turkey Creek, causing bankfull stages and minor flooding until the middle of November. Lake Corpus Christi continued at capacity level of 94 ft. or up to about a tenth of a foot higher through Nov. 14. It rose to slightly above 94 ft. again on the 27th and continued through the end of the month. Bankfull stages with minor flooding continued below the dam to Nueces Bay through Nov. 15.

Heavy rains of 2 to 4 inches in the Corpus Christi area on the night of Nov. 26 caused considerable flooding of streets and roads through the night.

PACIFIC SLOPE DRAINAGE

Minor flooding occurred on the Nooksack River at Deming, Wash., on the 4th. This brief overflow resulted from heavy rainfall totalling about 3 inches in association with a Pacific front moving through western Washington. No damage resulted from the rapid rise.

FLOOD STAGE DATA

(All dates in November unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Lake Erie					
St. Marys: Decatur, Ind.	15	19	21	16.8	20
Maumee: Fort Wayne, Ind.	15	19	20	15.4	19
ATLANTIC SLOPE DRAINAGE					
Susquehanna: Bainbridge, N. Y.	13	9	9	E13.0	9
Satilla: Atkinson (nr), Ga.	13	6	11	13.7	8
MISSISSIPPI SYSTEM					
Missouri Basin					
Grand: Sumner, Mo.	26	1	1	27.9	1
Ohio Basin					
Scioto: LaRue, Ohio	10	20	20	#10.05	20
Eagle Creek: Zionsville, Ind.	T 7	19	19	#9.5	19
White: Anderson, Ind.	10	20	20	10.4	20
Spencer, Ind.	14	20	23	16.05	22
Elliston, Ind.	18	20	24	20.0	22
Edwardsport, Ind.	15	21	26	16.9	24
Wabash: Bluffton, Ind.	10	20	20	E11.0	20
Lafayette, Ind.	11	20	25	#14.7	20
Covington, Ind.	16	20	25	17.6	22

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft	
Wabash: Montezuma, Ind.	11	20	22	#16.4	22
Terre Haute, Ind.	14	21	25	14.7	23-24
White Basin					
Cache: Patterson, Ark.	7	24	Dec. 4	8.5	27
Red Basin					
Sulphur: Hagansport, Tex.	38	Oct. 31	1	43.7	Oct. 31
WEST GULF OF MEXICO DRAINAGE					
Turkey Creek: Crystal City, Tex.	8	Oct. 28	2	10.9	Oct. 30
Nueces: Tilden (nr), Tex.	14	Oct. 31	12	17.4	1
Mathis (nr), Tex.	15	3	7	18.0	5
		10	11	15.6	10
		14	14	15.2	14
Calallen, Tex.	7	5	8	7.3	[illegible]
		11	13	7.1	12
		15	15	7.0	15
PACIFIC SLOPE DRAINAGE					
Nooksack: Deming, Wash.	12	4	4	13.05	4

* Provisional
\# Highest stage observed
E Estimated
T Tentative

RAWINSONDE DATA

Average monthly values

NOVEMBER 1969

ALBANY, N. Y. — 1006 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	86	2.5	.4	29	.0
1000	30	137			22	1.0
950	30	552	1.9	-1.0	27	1.8
900	30	987	-.1	-3.5	28	3.1
850	30	1,445	-1.6	-6.3	27	3.8
800	30	1,926	-3.8	-9.5	25	4.9
750	30	2,434	-5.8	-12.7	25	6.4
700	30	2,974	-8.1	-16.1	24	7.6
650	30	3,544	-10.8	-20.8	24	9.8
600	30	4,159	-14.1	-24.8	24	10.8
550	30	4,812	-17.8	-27.5	24	12.6
500	30	5,523	-22.0	-31.4	24	13.1
450	30	6,285	-26.9	-36.7	23	14.8
400	30	7,131	-32.5	-41.7	23	16.0
350	30	8,059	-39.2	-46.5	24	15.8
300	30	9,099	-46.0		24	18.0
250	30	10,295	-52.2		26	17.4
200	30	11,728	-55.0		26	18.3
175	30	12,581	-55.1		26	16.4
150	30	13,562	-56.5		26	16.6
125	30	14,715	-57.7		25	15.6
100	30	16,120	-58.2		25	14.0
80	30	17,524	-58.4		25	10.9
70	30	18,363	-58.6		25	10.5
60	30	19,333	-58.3		25	10.3
50	29	20,477	-58.8		25	10.5
40	29	21,879	-58.5		26	11.6
30	29	23,684	-59.2		26	12.8
25	29	24,828	-58.8		27	14.3
20	29	26,231	-58.1		27	16.4
15	26	28,061	-56.4		27	19.3
10	19	30,662	-52.0		25	26.0
7	5	33,071	-45.7			

ALBUQUERQUE, N. MEX. — 842 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	1,619	.4	-6.0	04	1.8
1000	29	214				
950	29	633				
900	29	1,077				
850	29	1,541				
800	29	2,032	3.5	-8.8	35	2.0
750	29	2,552	1.1	-11.4	30	2.8
700	29	3,106	-1.7	-14.9	29	5.3
650	29	3,689	-4.5	-19.1	29	6.4
600	29	4,319	-7.9	-23.9	29	8.0
550	29	4,986	-11.7	-28.5	28	9.8
500	29	5,715	-16.4	-32.0	28	11.6
450	29	6,496	-22.0	-36.9	28	13.0
400	29	7,357	-28.3	-43.0	28	13.9
350	29	8,300	-35.4	-48.5	28	15.5
300	29	9,357	-42.8		28	18.5
250	29	10,564	-51.0		27	22.7
200	29	11,993	-57.7		27	24.3
175	29	12,831	-59.9		27	24.5
150	29	13,788	-62.2		27	23.5
125	29	14,910	-64.3		27	22.0
100	29	16,270	-65.6		27	18.0
80	29	17,630	-63.9		28	13.0
70	29	18,450	-62.5		28	10.6
60	28	19,405	-61.6		29	6.2
50	27	20,533	-60.4		28	6.6
40	27	21,931	-57.7		28	6.8
30	26	23,753	-56.8		27	7.2
25	26	24,913	-54.9		27	10.4
20	26	26,347	-52.9		27	12.7
15	22	28,213	-51.2		26	16.3
10	12	30,864	-48.9			

AMARILLO, TEXAS — 894 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,095	2.3	-4.5	28	2.6
1000	30	180				
950	30	603				
900	30	1,048				
850	30	1,510	6.8	-5.0	29	5.9
800	30	2,007	5.4	-8.6	30	6.8
750	30	2,527	2.7	-11.2	29	7.1
700	30	3,088	-.6	-13.7	28	7.5
650	30	3,670	-4.0	-16.0	28	9.1
600	30	4,303	-7.9	-22.7	28	11.0
550	30	4,968	-12.2	-26.9	28	12.2
500	30	5,698	-16.6	-31.6	28	14.3
450	30	6,475	-22.1	-36.1	28	14.8
400	30	7,338	-28.8	-40.5	28	17.2
350	30	8,280	-35.9	-45.9	27	19.1
300	30	9,334	-43.2	-49.7	27	22.6
250	30	10,541	-50.9		27	27.5
200	30	11,970	-57.4		27	28.5
175	30	12,809	-59.9		27	28.6
150	30	13,766	-62.0		27	28.7
125	30	14,889	-63.7		27	25.4
100	30	16,255	-64.6		27	20.7
80	28	17,612	-63.7		28	14.3
70	28	18,432	-62.9		27	11.9
60	28	19,385	-61.3		28	8.6
50	27	20,520	-59.9		27	7.9
40	27	21,920	-58.1		27	7.9
30	25	23,744	-56.1		27	10.0
25	25	24,907	-54.5		26	11.4
20	21	26,351	-53.0		27	14.2
15	18	28,216	-51.9		27	16.9
10	8	30,902	-48.7			

* ANCHORAGE, ALASKA — 994 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	45	-4.5	-10.1	36	1.5
1000	30	-4				
950	30	405	-4.3	-11.1	02	4.5
900	30	826	-4.3	-11.7	04	3.7
850	30	1,275	-6.4	-12.7	10	3.4
800	30	1,747	-9.2	-14.0	13	3.9
750	30	2,245	-12.0	-17.8	14	3.3
700	30	2,769	-15.1	-21.3	18	3.0
650	30	3,325	-18.5	-25.6	19	3.3
600	30	3,918	-22.1	-29.7	22	3.7
550	30	4,551	-26.2	-34.8	23	4.7
500	30	5,236	-31.1	-39.4	24	5.6
450	30	5,972	-36.2	-43.4	24	7.5
400	30	6,784	-41.7	-45.6	24	10.5
350	30	7,678	-47.2		24	12.6
300	30	8,685	-52.2		25	14.1
250	30	9,857	-53.6		25	14.7
200	30	11,297	-51.5		25	15.3
175	30	12,164	-51.2		25	15.2
150	29	13,170	-50.7		25	15.1
125	29	14,357	-50.7		25	14.6
100	29	15,809	-51.3		25	13.1
80	29	17,259	-51.3		26	14.6
70	29	18,126	-51.7		26	15.0
60	29	19,124	-52.5		26	15.2
50	29	20,301	-53.0		27	15.3
40	27	21,738	-53.5		28	17.0
30	27	23,586	-54.4		28	20.2
25	27	24,753	-54.9		29	22.2
20	24	26,177	-55.8		29	23.2
15	16	28,016	-56.6		30	27.6
10	9	30,597	-58.1			

* ANNETTE, ALASKA — 1003 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	37	5.7	3.7	14	4.8
1000	30	60			15	6.4
950	30	478	4.3	2.2	17	10.1
900	30	919	1.8	-.3	18	11.8
850	30	1,378	-.5	-3.4	20	11.6
800	30	1,861	-3.1	-7.0	21	12.7
750	30	2,369	-5.9	-11.0	22	13.4
700	30	2,908	-8.9	-14.3	22	12.8
650	30	3,472	-12.3	-18.3	23	13.6
600	30	4,086	-16.1	-23.0	24	14.6
550	30	4,731	-20.1	-26.4	24	15.1
500	30	5,438	-24.3	-29.3	25	18.1
450	30	6,193	-29.5	-33.5	25	19.1
400	29	7,037	-35.1	-37.4	26	21.0
350	29	7,957	-41.3	-40.8	27	22.9
300	29	8,989	-47.9		27	23.0
250	27	10,155	-53.8		27	24.9
200	27	11,579	-55.9		27	20.0
175	27	12,429	-55.7		27	18.3
150	27	13,413	-54.8		27	17.1
125	26	14,576	-54.1		27	16.0
100	26	16,005	-55.0		27	14.0
80	26	17,431	-55.0		28	13.7
70	26	18,283	-55.4		28	12.4
60	26	19,264	-55.8		29	11.2
50	26	20,423	-56.4		29	11.6
40	25	21,842	-56.7		29	10.4
30	24	23,665	-57.6		31	11.9
25	22	24,819	-57.8		31	14.2
20	22	26,225	-58.3		31	15.0
15	18	28,048	-58.5		31	17.8
10	12	30,624	-57.4			
7	7	32,984	-54.9			

ATHENS, GEORGIA — 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	246	3.8	.0	28	1.0
1000	30	157				
950	30	580	8.7	.8	29	2.3
900	30	1,026	7.0	-1.9	29	4.2
850	30	1,495	5.1	-5.7	29	5.7
800	30	1,989	3.4	-8.3	28	7.8
750	30	2,510	1.5	-13.3	28	9.3
700	30	3,065	-1.1	-15.8	28	11.2
650	30	3,652	-3.8	-20.1	28	13.7
600	30	4,281	-7.6	-22.8	28	15.4
550	30	4,949	-11.6	-26.8	28	17.4
500	30	5,677	-16.3	-31.6	27	20.2
450	30	6,455	-21.7	-35.8	27	22.0
400	30	7,319	-28.0	-40.0	27	23.0
350	30	8,263	-35.4	-45.3	27	26.1
300	30	9,318	-43.2		27	27.8
250	30	10,525	-50.9		27	32.6
200	30	11,956	-57.0		28	35.8
175	30	12,798	-59.1		27	33.6
150	30	13,759	-61.4		27	32.1
125	29	14,889	-63.4		27	25.6
100	29	16,253	-65.1		27	20.8
80	29	17,617	-63.1		27	14.6
70	29	18,440	-61.8		27	10.0
60	29	19,398	-60.1		27	7.5
50	29	20,538	-58.9		25	7.3
40	29	21,943	-57.2		26	6.3
30	29	23,772	-54.8		27	6.7
25	29	24,942	-53.2		27	7.7
20	27	26,382	-51.3		27	12.0
15	24	28,269	-48.7		27	17.4
10	16	30,958	-44.3		27	33.9
7	8	33,380	-39.8			

BARROW, ALASKA — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	8	-23.0	-25.6	07	3.5
1000	30	116	-22.6	-25.0	07	4.6
950	30	500	-19.2	-22.2	08	6.1
900	30	899	-17.8	-22.3	08	6.1
850	30	1,327	-17.8	-23.3	09	6.0
800	30	1,779	-18.9	-24.5	09	5.6
750	30	2,261	-20.3	-26.9	09	5.3
700	30	2,768	-22.6	-29.6	10	4.8
650	30	3,310	-25.1	-32.7	10	3.6
600	30	3,887	-28.2	-35.7	11	3.1
550	30	4,501	-31.7	-38.6	13	2.5
500	30	5,175	-35.8	-42.3	15	2.6
450	30	5,897	-40.7	-44.9	16	3.2
400	30	6,693	-45.9		18	3.1
350	30	7,572	-51.3		19	3.3
300	30	8,561	-56.4		19	3.9
250	30	9,715	-57.4		21	4.1
200	30	11,133	-54.8		24	6.3
175	30	11,989	-54.0		25	7.0
150	30	12,979	-53.8		25	8.4
125	30	14,151	-53.8		25	10.5
100	29	15,582	-54.7		26	13.1
80	29	17,006	-55.6		26	15.3
70	29	17,855	-56.3		26	17.7
60	27	18,825	-57.0		26	19.1
50	26	19,985	-57.9		26	22.0
40	22	21,411	-58.6		27	25.9
30	14	23,237	-59.7		26	29.8
25	11	24,377	-61.4			

BARTER IS., ALASKA — 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	15	-20.5	-24.1	10	2.5
1000	30	100			10	2.7
950	30	481	-18.4	-22.2	09	4.7
900	30	887	-17.1	-21.8	11	3.8
850	30	1,316	-16.8	-22.0	11	3.3
800	30	1,772	-17.2	-23.0	11	3.3
750	30	2,251	-18.4	-24.4	11	2.7
700	30	2,768	-20.7	-26.0	12	2.1
650	30	3,306	-23.7	-29.3	10	1.5
600	29	3,892	-27.2	-33.1	13	1.5
550	29	4,508	-31.1	-37.6	17	.8
500	28	5,185	-35.4	-39.8	22	1.7
450	28	5,910	-40.0	-44.5	23	1.7
400	28	6,707	-45.3		24	2.7
350	28	7,587	-50.9		24	3.1
300	28	8,579	-55.5		24	4.1
250	28	9,736	-56.5		25	6.2
200	28	11,162	-53.7		25	9.6
175	28	12,021	-53.2		25	10.5
150	28	13,015	-52.8		26	11.5
125	28	14,190	-53.3		26	12.7
100	28	15,626	-53.6		26	14.8
80	28	17,057	-54.6		26	16.0
70	28	17,910	-55.2		26	17.5
60	28	18,892	-56.1		27	18.9
50	28	20,048	-57.1		27	20.3
40	28	21,456	-58.4		27	21.8
30	27	23,263	-60.1		28	24.2
25	25	24,394	-60.6		28	26.6
20	22	25,789	-62.0		28	28.6
15	17	27,543	-63.3		28	33.5
10	5	30,155	-63.2			

BETHEL, ALASKA — 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	39	-13.2	-15.9	02	3.8
1000	30	20			03	4.8
950	30	417	-8.3	-13.7	03	5.2
900	30	835	-8.1	-14.9	03	3.6
850	30	1,278	-9.4	-16.3	02	2.6
800	30	1,745	-11.3	-19.3	34	2.3
750	30	2,235	-13.7	-21.9	33	1.6
700	30	2,760	-16.6	-24.2	29	1.0
650	30	3,311	-19.8	-26.5	26	1.5
600	30	3,903	-23.3	-30.1	24	2.9
550	30	4,531	-27.5	-33.7	23	4.2
500	30	5,214	-32.4	-37.9	23	5.1
450	30	5,947	-37.5	-41.5	23	6.7
400	30	6,753	-43.0	-45.4	23	8.6
350	30	7,642	-48.4		24	11.0
300	30	8,645	-52.7		24	14.1
250	30	9,816	-54.1		24	13.4
200	30	11,254	-52.1		24	12.5
175	30	12,120	-51.1		24	12.3
150	30	13,124	-50.4		25	11.8
125	30	14,314	-50.3		24	12.8
100	30	15,771	-50.0		25	12.4
80	30	17,230	-50.2		25	13.0
70	30	18,100	-50.7		25	13.9
60	29	19,108	-50.7		25	13.4
50	28	20,295	-51.3		26	13.7
40	27	21,746	-52.2		26	15.1
30	25	23,601	-52.3		27	17.1
25	24	24,779	-52.7		27	18.5
20	21	26,205	-53.2		27	19.7
15	12	28,017	-54.7		28	19.3

* BISMARCK, N. DAK. — 956 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	503	-3.7	-7.5	31	2.8
1000	30	146				
950	30	553			31	4.1
900	30	986	1.0	-6.7	32	7.5
850	30	1,446	.8	-9.6	32	9.9
800	30	1,932	-1.2	-12.5	32	10.9
750	30	2,440	-4.1	-14.7	32	11.4
700	30	2,985	-7.4	-17.9	32	12.0
650	30	3,555	-10.4	-20.3	31	13.1
600	30	4,172	-13.9	-23.5	31	14.1
550	30	4,822	-18.1	-27.1	31	15.9
500	30	5,534	-22.9	-31.9	31	17.1
450	30	6,294	-28.2	-36.1	31	18.9
400	30	7,134	-34.0	-41.1	31	20.2
350	30	8,056	-40.4	-44.5	31	20.4
300	30	9,091	-47.5		31	20.7
250	30	10,279	-53.7		31	20.6
200	30	11,697	-57.7		31	20.7
175	30	12,540	-57.8		31	19.7
150	30	13,512	-57.6		30	17.7
125	30	14,664	-58.0		30	15.2
100	30	16,068	-58.3		30	13.2
80	30	17,475	-57.7		30	10.5
70	30	18,316	-58.1		30	9.3
60	30	19,285	-58.6		30	9.4
50	30	20,430	-58.8		30	7.8
40	29	21,827	-59.6		31	8.1
30	29	23,627	-59.2		31	8.4
25	29	24,768	-59.2		30	9.2
20	27	26,161	-59.3		30	10.4
15	26	27,971	-59.3		30	15.4
10	20	30,526	-57.6		29	20.5
7	6	32,801	-55.1			

BOISE, IDAHO — 922 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	871	.7	-3.4	14	2.4
1000	30	210				
950	30	626				
900	30	1,064	4.6	-2.5	14	.4
850	30	1,530	4.5	-5.[illegible]	18	.4
800	30	2,023	2.6	-7.6	28	2.0
750	30	2,541	.3	-11.[illegible]	29	4.2
700	30	3,094	-2.5	-14.3	29	6.2
650	30	3,676	-5.6	-17.4	29	7.7
600	30	4,302	-9.2	-20.6	29	8.8
550	30	4,963	-13.2	-25.2	29	9.8
500	30	5,690	-18.1	-30.0	29	11.0
450	30	6,462	-23.6	-34.6	29	12.8
400	30	7,321	-29.8	-38.4	29	13.5
350	30	8,259	-37.1	-44.2	29	14.3
300	30	9,306	-45.5		29	14.4
250	30	10,497	-53.9		29	15.3
200	30	11,907	-60.5		30	16.4
175	30	12,733	-62.8		29	15.6
150	30	13,682	-62.8		29	15.3
125	30	14,807	-62.6		29	13.6
100	30	16,184	-62.3		29	12.2
80	30	17,565	-60.8		29	9.6
70	30	18,396	-60.5		30	7.6
60	30	19,356	-60.[illegible]		30	6.0
50	29	20,496	-59.3		30	5.7
40	29	21,896	-58.8		30	4.7
30	28	23,702	-58.0		32	5.8
25	26	24,847	-57.7		33	6.2
20	2[illegible]	26,260	-57.[illegible]		32	8.6
15	22	28,087	-56.4		31	10.4
10	7	30,643	-53.9			
7						
5						

* BROWNSVILLE, TEXAS — 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	7	16.3	12.8	33	1.2
1000	30	158	17.1	13.1	33	1.3
950	30	599	15.6	11.5	10	2.1
900	30	1,054	13.9	6.5	14	2.0
850	30	1,536	12.1	2.7	18	2.1
800	30	2,042	10.1	.2	21	1.6
750	30	2,578	8.6	-2.4	25	3.1
700	30	3,146	5.6	-5.[illegible]	26	5.2
650	30	3,748	2.5	-11.7	28	7.7
600	30	4,393	-1.4	-15.5	27	10.9
550	30	5,076	-5.7	-20.9	27	13.0
500	30	5,823	-10.3	-25.0	27	15.4
450	30	6,620	-15.5	-27.8	27	18.4
400	30	7,507	-21.7	-33.9	27	21.3
350	30	8,478	-28.7	-40.7	27	25.9
300	30	9,563	-37.2	-47.0	27	29.7
250	29	10,799	-46.4		27	35.3
200	29	12,245	-57.1		27	39.8
175	28	13,082	-62.4		27	40.8
150	28	14,024	-66.7		27	35.9
125	28	15,116	-70.5		27	30.2
100	28	16,430	-73.5		27	23.8
80	25	17,727	-73.7		26	13.9
70	24	18,513	-69.9		27	8.0
60	24	19,440	-65.6		28	4.8
50	24	20,559	-61.3		28	2.1
40	23	21,959	-58.3		23	.8
30	23	23,781	-55.0		27	1.0
25	20	24,954	-52.6		10	.6
20	20	26,407	-48.9		30	.6
15	19	28,312	-45.5		27	4.0
10	15	31,049	-40.3		27	8.7
7	[illegible]	33,491	-37.[illegible]			
5	6	35,800	-36.2			

BUFFALO, N. Y. — 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	218	3.0	.8	24	1.9
1000	30	131				
950	30	547	1.7	-1.1	23	4.8
900	30	981	-.4	-3.2	25	7.0
850	30	1,437	-2.4	-5.4	26	8.4
800	30	1,916	-4.8	-8.8	26	8.4
750	30	2,422	-7.1	-11.9	27	9.1
700	30	2,957	-9.8	-15.1	28	9.8
650	30	3,524	-12.7	-19.0	28	10.0
600	30	4,133	-16.1	-22.8	28	10.9
550	30	4,782	-19.7	-27.8	27	12.6
500	30	5,486	-24.0	-32.4	27	13.0
450	30	6,250	-28.7	-37.3	27	13.9
400	30	7,083	-34.2	-42.3	26	15.0
350	30	8,005	-40.4	-46.7	26	17.5
300	30	9,040	-46.9		26	18.9
250	30	10,232	-52.2		26	21.4
200	29	11,669	-55.1		26	21.6
175	29	12,522	-55.2		26	20.2
150	29	13,504	-56.1		25	17.7
125	29	14,658	-57.6		25	15.9
100	27	16,048	-58.1		25	14.1
80	27	17,451	-58.7		26	12.0
70	26	18,295	-58.4		25	11.0
60	25	19,258	-58.8		25	10.0
50	25	20,403	-59.0		25	10.9
40	25	21,803	-58.9		26	11.8
30	24	23,609	-58.3		26	11.5
25	24	24,757	-58.1		26	13.1
20	22	26,164	-58.2		26	18.1
15	20	27,994	-56.1		27	19.3

CAPE HATTERAS, N. C. — 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	10.2	6.3	34	2.5
1000	30	145	11.1	4.4	34	3.2
950	30	571	8.7	1.5	32	4.1
900	30	1,017	6.3	-2.2	28	4.7
850	30	1,484	4.0	-4.3	27	7.6
800	30	1,976	1.9	-7.0	26	9.3
750	30	2,495	.5	-11.9	26	11.1
700	30	3,047	-1.6	-16.5	26	13.1
650	30	3,629	-4.7	-18.8	26	15.3
600	30	4,260	-8.2	-22.4	26	16.3
550	30	4,925	-12.2	-24.8	26	19.0
500	30	5,654	-16.6	-30.1	26	20.8
450	30	6,431	-21.8	-34.5	26	22.7
400	30	7,297	-27.5	-39.4	26	24.8
350	30	8,244	-34.3	-44.8	26	25.3
300	30	9,306	-41.6	-50.7	26	27.5
250	30	10,521	-49.4		26	30.3
200	30	11,961	-55.6		27	33.5
175	30	12,809	-57.3		27	32.2
150	30	13,779	-59.0		27	29.7
125	30	14,917	-61.3		26	25.9
100	29	16,300	-62.3		26	20.8
80	29	17,682	-60.8		26	13.4
70	29	18,514	-60.1		26	10.3
60	29	19,479	-58.8		26	8.0
50	29	20,628	-57.4		27	7.0
40	29	22,040	-56.7		26	6.4
30	29	23,871	-54.4		28	6.4
25	28	25,041	-53.2		28	9.5
20	25	26,480	-51.9		27	13.9
15	24	28,357	-49.1		27	21.2
10	19	31,045	-43.7		27	33.1
7	11	33,492	-40.8			

* CARIBOU, MAINE — 994 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	191	.8	-.3	17	.2
1000	30	142				
950	30	560	.1	-2.1	19	2.5
900	30	987	-1.1	-3.9	21	3.3
850	30	1,443	-1.8	-6.1	21	5.5
800	30	1,925	-3.2	-9.[illegible]	22	6.3
750	30	2,439	-5.0	-13.[illegible]	22	7.7
700	30	2,975	-7.4	-15.4	22	8.1
650	30	3,553	-10.4	-19.6	23	8.5
600	30	4,163	-13.5	-23.3	23	11.5
550	30	4,823	-17.0	-25.9	22	13.0
500	30	5,531	-21.5	-29.5	22	14.9
450	30	6,298	-27.1	-35.1	22	16.3
400	30	7,139	-32.9	-39.6	23	16.7
350	30	8,065	-39.4	-45.1	23	17.8
300	30	9,106	-45.8		23	20.7
250	30	10,301	-52.8		23	22.5
200	30	11,724	-56.6		23	22.8
175	30	12,571	-56.5		23	20.1
150	30	13,548	-56.5		24	18.3
125	30	14,704	-57.4		24	16.2
100	30	16,110	-58.0		24	14.4
80	30	17,517	-57.7		25	12.3
70	30	18,360	-58.0		25	11.5
60	30	19,331	-58.2		25	11.2
50	29	20,476	-59.1		26	11.4
40	29	21,875	-59.2		27	12.2
30	29	23,675	-60.1		26	15.2
25	29	24,813	-59.9		27	16.5
20	28	26,199	-59.8		27	19.7
15	26	27,998	-58.6		27	24.7
10	22	30,559	-55.5		26	33.7
7	14	32,770	-53.6		27	38.8
5	7	34,875	-49.3			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

CHARLESTON, S. C. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	13	7.1	3.1	34	1.6
1000	30	154	10.5	5.7	36	2.1
950	30	579	10.4	1.8	35	2.5
900	30	1,032	8.5	-1.1	31	2.8
850	30	1,502	6.4	-4.5	28	5.2
800	30	1,998	4.3	-7.4	27	7.6
750	30	2,524	2.3	-12.1	27	9.8
700	30	3,078	.5	-16.4	28	11.6
650	30	3,665	-2.3	-19.5	27	12.8
600	30	4,302	-5.6	-22.5	27	15.1
550	30	4,974	-10.0	-26.1	27	16.9
500	30	5,708	-15.0	[illegible]	27	19.1
450	30	6,491	-20.4	-35.4	27	21.3
400	30	7,360	-26.5	[illegible]	27	24.3
350	30	8,311	-33.6	-44.4	27	27.1
300	30	9,374	-41.4	-47.8	27	31.1
250	30	10,590	-49.4		27	33.8
200	29	12,037	-56.3		27	35.4
175	29	12,880	-59.1		27	34.0
150	29	13,841	-61.3		27	32.7
125	29	14,967	-63.5		27	28.0
100	29	16,332	-65.0		26	21.6
80	29	17,696	-62.8		27	15.5
70	27	18,516	-61.6		26	11.0
60	27	19,476	-59.5		27	8.1
50	27	20,620	-58.2		26	7.3
40	27	22,030	-56.5		26	5.5
30	25	23,872	-53.7		28	5.4
25	24	25,048	-52.2		27	5.9
20	22	26,491	-50.1		27	9.8
15	20	28,383	-47.5		27	18.1
10	19	31,091	-42.0		27	26.7
7	13	33,536	-39.5			
5						
4						
3						
2						

CHIHUAHUA, MEXICO 860 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	1,428	6.2	1.5	30	.6
1000	30	155				
950	30	592				
900	30	1,046				
850	30	1,521	7.6	1.5	29	.6
800	30	2,024	8.7	-.5	25	1.8
750	30	2,551	6.8	-2.9	23	4.3
700	30	3,121	4.1	-7.4	24	6.9
650	30	3,716	.8	[illegible]	24	9.0
600	30	4,359	-3.2	-17.7	25	10.1
550	30	5,032	-7.2	-22.4	25	11.6
500	30	5,790	-11.7	-26.5	26	13.7
450	30	6,574	-17.3	-30.2	25	15.8
400	30	7,452	-24.1	-34.9	26	18.6
350	30	8,412	-31.3	-40.2	25	22.6
300	30	9,435	-39.4	-46.3	26	26.8
250	30	10,709	-48.2		26	32.8
200	30	12,149	-56.8		26	35.1
175	30	12,986	-61.1		26	33.9
150	30	13,935	-64.7		26	29.8
125	29	15,039	-67.2		26	25.6
100	29	16,375	-69.7		26	23.4
80	25	17,706	-68.4		26	18.2
70	25	18,509	-67.0		26	11.9
60	25	19,449	-62.9		26	6.4
50	24	20,578	-60.7		27	3.7
40	24	21,976	-57.9		28	3.0
30	24	23,801	-55.1		28	3.0
25	22	24,971	-53.4		27	3.3
20	18	26,412	-51.1		26	5.2
15	8	28,332	-48.0			

* COLD BAY, ALASKA 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	30	.8	-2.8	32	3.0
1000	30	-9			30	3.6
950	30	400	-1.5	-4.5	30	4.0
900	30	832	-3.9	-6.5	30	4.5
850	30	1,281	-6.7	-10.0	30	3.8
800	30	1,752	-9.1	-14.1	30	4.4
750	30	2,247	-11.8	-19.4	30	4.7
700	30	2,776	-14.4	[illegible]	27	4.8
650	30	3,333	-17.1	-25.4	26	5.9
600	30	3,931	-20.6	-29.3	26	7.0
550	30	4,565	-24.3	-33.4	26	6.9
500	30	5,260	-28.4	-36.5	24	4.6
450	30	6,004	-33.3	-40.2	22	6.2
400	30	6,827	-39.0	-43.4	22	8.3
350	30	7,731	-45.2		22	9.5
300	30	8,748	-50.6		23	12.4
250	30	9,927	-53.2		22	9.4
200	30	11,367	-52.6		23	12.1
175	30	12,232	-51.3		23	11.2
150	30	13,235	-51.0		23	12.4
125	30	14,423	-50.3		23	12.4
100	30	15,880	-50.4		24	11.9
80	30	17,335	-50.2		24	11.7
70	29	18,206	-50.1		25	10.9
60	29	19,211	-50.6		25	11.5
50	28	20,398	-50.5		25	11.1
40	28	21,854	-50.1		26	10.6
30	28	23,728	-51.0		27	11.1
25	27	24,913	-51.0		28	11.5
20	26	26,364	-51.5		28	13.4
15	25	28,235	-51.7		28	14.7
10	24	30,868	-52.0		29	18.5
7	20	33,231	-50.9		30	25.8
5	18	35,460	-49.9		29	31.2
4	13	36,959	-48.7			
3	9	38,879	-48.2			
2	5	41,424	-48.9			

COLUMBIA, MO. 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	238	2.9	-.9	26	.8
1000	30	152				
950	30	569	4.6	[illegible]	29	4.0
900	30	1,009	3.8	-5.4	31	5.9
850	30	1,472	1.9	-8.4	30	6.9
800	30	1,960	.5	-11.5	29	8.1
750	30	2,475	-1.8	-14.3	29	9.7
700	30	3,023	-4.7	-17.4	29	11.1
650	30	3,600	-7.7	-19.3	29	13.2
600	30	4,223	-11.1	-23.5	29	14.0
550	30	4,884	-15.2	[illegible]	29	14.5
500	30	5,601	-20.1	-33.2	29	15.7
450	30	6,367	-25.5	-38.4	28	17.0
400	30	7,219	-31.7	-43.4	28	18.0
350	30	8,149	-38.7	[illegible]	28	20.5
300	30	9,191	-45.9		28	23.1
250	30	10,386	-52.3		29	25.2
200	30	11,813	-56.2		28	27.9
175	29	12,660	-58.1		28	27.8
150	29	13,628	-59.0		28	25.5
125	29	14,768	-60.0		28	22.0
100	29	16,158	-60.8		28	17.3
80	28	17,544	-60.1		28	13.6
70	28	18,377	-60.3		28	11.4
60	28	19,338	-60.1		28	10.7
50	28	20,478	-59.0		28	9.6
40	27	21,882	-58.8		27	8.9
30	26	23,692	-57.4		27	11.5
25	26	24,845	-56.8		27	14.3
20	25	26,263	-55.7		27	16.9
15	20	28,094	-54.4		27	20.7
10	8	30,679	-52.0			

DAYTON, OHIO 982 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	299	1.5	[illegible]	25	1.4
1000	30	150				
950	30	563	2.0	-2.2	25	5.6
900	30	1,000	.7	-5.1	27	7.9
850	30	1,458	-.5	-10.3	27	8.6
800	30	1,942	-2.2	-11.9	27	9.0
750	30	2,451	-4.1	-15.7	28	9.9
700	30	2,995	-6.5	-17.4	27	12.1
650	30	3,569	-8.9	-20.0	27	14.0
600	30	4,188	-12.3	[illegible]	27	15.8
550	30	4,842	-16.2	[illegible]	27	16.7
500	30	5,560	-21.0	[illegible]	28	18.2
450	30	6,324	-26.4	-37.4	28	19.4
400	30	7,171	-32.7	-41.3	28	20.1
350	30	8,098	-39.5	[illegible]	28	21.8
300	30	9,137	-46.2		28	24.6
250	30	10,331	-52.5		27	27.1
200	30	11,760	-55.8		27	28.1
175	30	12,609	-56.5		27	26.1
150	30	13,584	-57.7		27	24.2
125	30	14,732	-58.8		27	20.7
100	29	16,123	-59.7		27	17.0
80	29	17,520	-59.2		27	13.2
70	28	18,356	-59.2		26	11.4
60	27	19,321	-59.2		26	9.7
50	27	20,466	-58.5		26	9.1
40	25	21,867	-57.9		26	11.2
30	25	23,682	-57.2		27	13.6
25	25	24,838	-56.2		27	15.0
20	24	26,262	-55.0		27	18.5
15	22	28,115	-53.6		26	23.9
10	12	30,705	-49.4		26	32.9

DEL RIO, TEXAS 984 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	314	10.4	7.9	03	.9
1000	30	174				
950	30	605	12.8	6.5	14	2.0
900	30	1,057	11.5	[illegible]	18	3.0
850	30	1,534	10.5	-.9	18	3.0
800	30	2,038	8.8	-3.1	22	2.8
750	30	2,557	6.2	-5.8	25	4.6
700	30	3,132	3.2	-7.9	26	6.8
650	30	3,728	-.2	-11.7	27	9.7
600	30	4,356	-4.2	-15.1	27	12.6
550	30	5,042	-8.6	-21.6	27	14.6
500	30	5,780	-12.7	-27.3	27	16.9
450	30	6,558	-17.8	-33.2	27	20.1
400	30	7,449	-24.1	-38.2	27	23.0
350	30	8,408	-31.5	-44.8	27	26.6
300	30	9,481	-39.6	-49.9	27	31.5
250	30	10,704	-48.2		27	40.1
200	30	12,142	-57.5		26	43.6
175	30	12,977	-61.6		27	43.0
150	30	13,924	-64.9		27	37.5
125	30	15,028	-67.8		27	31.8
100	30	16,361	-70.1		27	23.2
80	30	17,686	-69.0		27	15.7
70	30	18,490	-66.8		27	10.0
60	30	19,431	-63.4		27	7.3
50	30	20,558	-60.3		27	5.3
40	30	21,959	-57.4		26	3.8
30	30	23,786	-55.1		26	4.4
25	30	24,955	-53.4		25	5.0
20	27	26,391	-51.2		25	7.6
15	22	28,294	-47.6		27	10.5
10	18	31,017	-43.7		26	21.9
7	6	33,488	-37.4			

DENVER, COLO. 840 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	1,611	-1.4	-5.8	20	3.0
1000	30	193				
950	30	608				
900	30	1,048				
850	30	1,510				
800	30	1,999	3.5	-10.1	27	2.7
750	30	2,519	1.0	-13.5	31	4.1
700	30	3,073	-2.5	-16.8	32	6.4
650	30	3,653	-6.4	-20.8	31	7.7
600	30	4,278	-10.4	-24.3	32	9.0
550	30	4,938	-14.3	-28.2	32	10.9
500	30	5,660	-18.9	-33.0	31	11.3
450	30	6,428	-24.6	-36.7	31	12.0
400	30	7,284	-31.0	-42.2	31	13.5
350	30	8,217	-38.0	-46.3	30	14.8
300	30	9,260	-45.8		31	15.8
250	30	10,453	-53.3		30	15.1
200	30	11,868	-59.0		29	18.5
175	30	12,701	-61.0		29	19.5
150	30	13,659	-61.0		28	18.0
125	30	14,788	-62.1		28	17.2
100	30	16,166	-61.9		28	13.2
80	30	17,546	-61.9		28	10.1
70	29	18,374	-61.1		29	8.8
60	29	19,332	-60.5		28	7.1
50	29	20,469	-59.9		28	5.9
40	28	21,860	-59.6		29	6.4
30	28	23,669	-57.6		28	7.4
25	28	24,821	-56.7		29	8.2
20	27	26,241	-56.5		28	11.3
15	22	28,062	-54.9		28	15.9
10	8	30,736	-52.0			

DODGE CITY, KANS. 927 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	791	1.5	[illegible]	28	2.6
1000	30	170				
950	30	586				
900	30	1,028	6.3	-3.7	31	4.5
850	30	1,497	5.9	-7.1	31	6.7
800	30	1,992	3.7	-9.9	31	7.1
750	30	2,510	1.0	-13.0	31	8.0
700	30	3,065	-2.4	-15.9	30	9.5
650	30	3,645	-5.8	-18.9	30	9.8
600	30	4,272	-9.8	-22.3	30	10.6
550	30	4,931	-13.8	-27.0	29	12.1
500	30	5,657	-18.7	-31.9	29	13.5
450	30	6,427	-24.1	-36.9	29	15.4
400	30	7,284	-30.3	-42.2	29	16.9
350	29	8,215	-37.6	-46.2	28	18.2
300	29	9,261	-45.4		28	21.2
250	29	10,457	-52.1		28	23.3
200	28	11,877	-57.1		28	26.4
175	28	12,719	-58.8		28	26.3
150	28	13,683	-60.0		28	25.1
125	28	14,817	-61.9		27	21.5
100	28	16,195	-62.8		28	16.9
80	28	[illegible]	-61.4		28	12.6
70	28	18,402	-61.4		28	9.1
60	27	19,359	-60.8		27	8.1
50	25	20,493	[illegible]		28	8.0
40	24	21,896	-58.4		28	8.0
30	23	23,713	-56.5		27	9.7
25	21	24,867	-55.5		27	11.3
20	19	26,297	-54.9		27	13.8
15	13	28,134	-54.1			
10	7	30,777	-52.8			

EL PASO, TEXAS 886 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	1,193	5.6	-1.7	36	1.6
1000	30	185				
950	30	610				
900	30	1,060				
850	30	1,532	8.3	-2.8	03	1.1
800	30	2,031	6.0	-4.9	23	1.0
750	30	2,557	3.8	-6.0	25	3.0
700	30	3,117	1.1	-9.1	25	5.7
650	30	3,707	-2.0	-15.4	25	9.0
600	30	4,342	-5.4	-20.2	26	10.9
550	30	5,012	-9.7	-24.5	26	12.8
500	30	5,749	-14.4	-29.7	26	14.2
450	30	6,535	-19.9	-34.9	27	16.3
400	30	7,404	-26.3	-40.2	26	17.6
350	30	8,354	-33.5	-46.0	27	21.0
300	30	9,417	-41.6	-51.0	26	24.7
250	30	10,630	-50.0		26	30.0
200	30	12,061	-57.5		26	34.6
175	30	12,898	-60.6		26	33.1
150	30	13,851	-63.3		27	29.3
125	30	14,964	-66.3		27	25.4
100	30	16,307	-68.1		27	19.8
80	30	17,651	-66.8		27	13.8
70	30	18,462	-64.9		27	10.5
60	30	19,406	-62.9		28	7.3
50	30	20,536	-60.5		28	5.8
40	30	21,933	-58.3		27	6.3
30	27	23,759	-55.7		28	5.9
25	25	24,927	-53.8		27	5.8
20	24	26,372	-52.4		26	8.5
15	17	28,257	-49.9		27	10.8

ELY, NEV. 813 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	29	1,908	-4.9	-8.7	19	4.6
1000	29	248				
950	29	660				
900	29	1,095				
850	29	1,556				
800	29	2,037	.1	-5.4	19	2.7
750	29	2,558	1.0	-9.9	23	.1
700	29	3,109	-1.1	-14.4	31	1.8
650	29	3,693	-3.7	-17.7	31	3.2
600	29	4,326	-7.3	-21.6	32	4.6
550	29	4,989	-11.6	-25.5	31	5.6
500	29	5,724	-16.3	-30.1	31	6.6
450	29	6,498	-22.0	-35.0	32	6.8
400	29	7,364	-29.0	-40.5	32	7.8
350	29	8,305	-36.3	-45.6	32	7.9
300	29	9,355	-44.6		32	8.0
250	29	10,552	-53.1		31	9.4
200	29	11,963	-60.4		30	10.7
175	29	12,791	-62.2		30	12.5
150	29	13,743	-62.9		29	13.2
125	29	14,864	-63.3		29	12.8
100	29	16,233	-64.4		29	11.1
80	29	17,603	-62.6		29	8.9
70	28	18,427	-62.2		29	6.4
60	28	19,380	-61.5		29	5.6
50	28	20,515	-59.9		30	5.1
40	28	21,912	-58.7		30	4.4
30	27	23,726	-57.2		31	6.0
25	27	24,880	-56.8		30	5.6
20	26	26,296	-55.6		30	7.8
15	21	28,137	-54.2		29	11.8
10	14	30,759	-52.3			

EMPALME, MEXICO 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	27	12	15.5	7.9	35	1.5
1000	27	132	20.1	7.6	35	2.1
950	27	573	20.5	3.6	36	2.5
900	27	1,040	17.9	1.5	28	.7
850	27	1,527	14.9	-1.2	21	3.0
800	27	2,036	11.7	-5.0	21	4.4
750	27	2,574	8.5	-8.1	22	5.7
700	27	3,140	5.3	-12.3	23	6.3
650	27	3,740	1.8	-16.4	23	7.4
600	27	4,382	-2.6	-19.1	24	8.6
550	27	5,063	-7.4	-23.0	24	10.4
500	27	5,803	-12.2	-27.5	24	11.5
450	27	6,596	-17.9	-30.8	24	13.9
400	27	7,471	-24.5	-36.1	24	16.6
350	27	8,428	-31.8	-42.8	25	19.9
300	26	9,497	-40.1	-47.0	25	26.8
250	26	10,718	[illegible]		25	31.8
200	26	12,155	-57.2		25	35.9
175	25	12,994	-60.8		25	33.4
150	25	13,943	-64.4		25	28.8
125	25	15,049	-67.6		26	24.5
100	23	16,381	-70.0		26	19.0
80	23	17,712	-68.1		26	14.3
70	[illegible]	18,513	-66.5		26	10.2
60	22	19,450	-64.4		27	6.9
50	[illegible]	20,571	-61.8		29	3.9
40	21	21,965	-58.5		28	2.3
30	19	23,786	-55.4		25	2.6
25	19	24,953	-53.5		27	3.2
20	18	26,397	-51.0		26	4.4
15	16	28,282	-47.9		29	7.1
10	7	30,948	-43.6			

* FAIRBANKS, ALASKA 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	135	-17.3	-22.1	01	1.2
1000	30	50				
950	30	446	-12.6	-17.0	05	1.7
900	30	852	-12.2	-16.1	10	2.8
850	30	1,290	-11.4	-16.4	13	2.9
800	30	1,755	-12.2	-18.0	16	1.6
750	30	2,248	-14.7	-20.3	21	1.8
700	30	2,766	-17.5	-23.4	21	3.7
650	30	3,316	-21.1	-26.7	22	5.1
600	30	3,904	-24.7	-31.2	23	5.7
550	30	4,528	-28.8	-35.2	23	5.9
500	30	5,208	-33.5	-38.9	23	6.5
450	30	5,937	-38.8	-42.3	23	7.4
400	30	6,739	-44.6		23	8.5
350	30	7,622	-50.1		23	8.8
300	30	8,620	-53.8		24	10.4
250	30	9,787	-54.0		24	11.3
200	30	11,225	-52.1		24	12.7
175	30	12,091	-51.6		25	13.4
150	29	13,095	-51.5		25	13.8
125	29	14,279	-51.4		25	14.9
100	29	15,726	-51.6		25	15.0
80	29	17,171	-52.7		26	16.1
70	29	18,032	-53.3		26	17.2
60	28	19,018	-54.2		26	18.7
50	27	20,188	-54.8		27	19.8
40	[illegible]	21,612	-55.8		27	21.6
30	[illegible]	23,439	-56.8		28	24.6
25	[illegible]	24,597	-57.5		28	26.2
20	25	26,003	-58.3		28	27.5
15	22	27,810	-59.8		29	30.9
10	16	30,316	-61.4		29	34.3

FLINT, MICH. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	236	1.1	-.9	23	2.1
1000	30	129				
950	30	540	.3	-2.5	25	5.6
900	30	975	-1.0	-4.8	27	6.7
850	30	1,430	-2.6	-7.3	27	7.1
800	30	1,909	-4.6	-10.6	28	7.9
750	30	2,414	-6.4	-15.5	27	8.9
700	30	2,954	-9.0	-18.6	27	9.5
650	30	3,520	-11.7	-21.9	27	10.6
600	30	4,135	-15.0	-25.6	27	12.0
550	30	4,779	-18.7	-30.2	28	14.0
500	30	5,493	-23.2	-33.2	28	15.3
450	30	6,245	-28.4	-37.6	28	15.7
400	30	7,091	-34.4	-41.9	28	18.2
350	30	8,012	-40.8	-46.2	28	19.1
300	30	9,047	-47.1		28	19.5
250	30	10,239	-52.5		28	20.9
200	30	11,669	-54.7		28	22.3
175	30	12,525	-54.4		27	19.8
150	[illegible]	13,514	-55.7		27	17.9
125	[illegible]	14,672	-57.0		27	15.5
100	[illegible]	16,081	-57.5		27	13.5
80	[illegible]	17,489	-58.1		27	11.8
70	[illegible]	18,330	-58.1		26	10.8
60	28	19,307	-58.3		26	9.9
50	[illegible]	20,455	-58.3		26	10.6
40	[illegible]	21,861	-57.9		26	11.4
30	[illegible]	23,681	-57.3		27	12.0
25	[illegible]	24,834	-57.2		27	14.8
20	[illegible]	26,252	-56.3		27	16.6
15	[illegible]	28,109	-54.3		27	17.7
10	13	30,747	[illegible]		27	[illegible]

FORT WORTH, TEXAS 999 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	180	7.9	2.7	31	1.1
1000	30	170			33	2.5
950	30	601	10.9	2.2	29	3.7
900	30	1,047	9.8	[illegible]	29	5.1
850	30	1,520	8.2	-3.5	29	6.4
800	30	2,019	5.5	-6.2	29	7.1
750	30	2,546	3.2	-8.6	29	8.4
700	30	3,101	.5	-11.0	28	10.3
650	30	3,689	-2.9	-13.2	28	12.5
600	30	4,323	-6.4	-19.2	28	13.6
550	30	4,991	-10.5	-24.1	28	14.1
500	30	5,726	-14.9	-29.3	28	15.9
450	30	6,509	-20.6	-33.6	28	18.9
400	30	7,376	-27.0	-38.8	28	21.3
350	30	8,325	-33.9	-44.8	27	25.5
300	30	9,388	-41.6	[illegible]	27	30.4
250	30	10,602	-49.7		27	36.8
200	29	12,042	-57.0		27	38.5
175	[illegible]	12,881	-60.2		27	36.5
150	[illegible]	13,836	-62.3		27	34.4
125	[illegible]	14,955	-65.4		27	30.1
100	28	16,311	-66.5		27	23.7
80	[illegible]	17,664	-65.8		27	15.0
70	[illegible]	18,477	-64.2		27	11.5
60	[illegible]	19,426	-61.7		27	8.4
50	26	20,563	-59.6		28	6.9
40	[illegible]	21,965	-58.0		27	5.4
30	24	23,796	-55.1		26	7.7
25	24	24,963	-53.9		27	8.7
20	[illegible]	26,403	-52.0		27	11.4
15	[illegible]	28,272	-49.5		26	15.4
10	8	30,991	-44.0			

GLASGOW, MONT. 935 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	30	696	-2.4	-6.0	35	.8
1000	30	159				
950	30	570				
900	30	1,004	2.6	-6.2	30	6.2
850	30	1,466	1.9	-9.3	30	8.8
800	30	1,953	-.4	-11.4	30	11.3
750	30	2,466	-3.4	-12.8	30	11.6
700	30	3,010	-6.4	[illegible]	30	12.4
650	30	3,582	-9.8	-19.1	30	13.2
600	30	4,199	-13.6	-23.7	30	14.8
550	30	4,854	-17.6	-28.6	31	16.8
500	30	5,564	-21.9	-31.9	31	18.4
450	30	6,331	-27.1	-36.9	31	20.4
400	30	7,170	-33.1	-42.5	31	21.3
350	30	8,096	-40.0	-43.6	31	22.5
300	30	9,131	-47.5		32	24.1
250	30	10,318	-54.2		31	23.4
200	30	11,733	-58.3		31	22.9
175	30	12,570	-59.6		31	22.6
150	30	13,534	-59.0		30	19.6
125	30	14,679	-58.4		30	16.5
100	30	16,083	-58.4		30	13.8
80	30	17,485	-58.4		30	11.7
70	30	18,326	-57.9		31	10.2
60	29	19,298	-58.0		31	8.4
50	29	20,445	-58.5		30	8.6
40	29	21,852	-58.9		31	7.4
30	28	23,655	-59.2		32	8.0
25	27	24,806	-59.1		32	7.8
20	[illegible]	26,208	-59.8		31	11.3
15	[illegible]	28,036	-58.6		31	14.1
10	5	30,624	-57.5			

* See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1969

GRAND JUNCTION, COLO. 857 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,472	-.3	-7.0	13	2.3
1000	30	221				
950	30	639				
900	30	1,079				
850	30	1,541	1.5	-7.0	12	3.1
800	30	2,030	1.4	-7.7	14	2.3
750	30	2,548	-.5	-10.0	19	.6
700	30	3,098	-3.3	-13.2	28	3.4
650	30	3,678	-6.3	-18.8	30	4.3
600	30	4,303	-9.5	-23.5	31	6.1
550	30	4,962	-13.4	-27.3	30	7.3
500	30	5,691	-18.0	-31.1	31	8.9
450	30	6,465	-23.2	-36.1	32	10.0
400	30	7,323	-29.2	-41.6	32	10.9
350	30	8,263	-36.6	-46.0	32	11.4
300	30	9,312	-44.6		32	12.6
250	30	10,508	-53.0		32	14.7
200	30	11,924	-59.1		31	15.7
175	30	12,757	-61.2		30	16.4
150	30	13,712	-62.0		28	16.8
125	30	14,836	-62.9		29	17.0
100	30	16,209	-63.2		28	13.8
80	29	17,584	-62.6		29	12.0
70	28	18,411	-61.4		29	9.1
60	28	19,369	-60.3		29	7.3
50	26	20,503	-60.1		29	5.9
40	24	21,902	-58.8		30	5.6
30	22	23,720	-57.0		29	7.3
25	20	24,867	-56.3		29	8.1
20	16	26,307	-54.8		29	8.9
15	9	28,156	-53.6			
10						
7						
5						

*** GREAT FALLS, MONT. 889 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,118	1.9	-5.7	23	5.0
1000	30	159				
950	30	576				
900	30	1,021				
850	30	1,483	4.3	-8.8	25	10.6
800	30	1,975	1.5	-10.4	28	9.9
750	30	2,493	-1.7	-12.4	28	10.5
700	30	3,038	-4.6	-15.5	29	11.2
650	30	3,617	-8.3	-19.9	29	12.2
600	30	4,235	-11.8	-25.0	29	14.0
550	30	4,895	-15.6	-28.9	30	15.7
500	30	5,609	-20.6	-32.6	30	17.2
450	30	6,380	-25.5	-36.3	30	18.0
400	30	7,227	-31.4	-40.7	29	19.9
350	30	8,158	-38.3	-44.4	30	21.1
300	30	9,200	-46.1		29	22.2
250	30	10,390	-53.8		30	23.7
200	30	11,802	-59.7		30	22.9
175	30	12,632	-61.3		30	21.1
150	30	13,589	-61.0		30	19.3
125	28	14,726	-59.7		29	17.1
100	27	16,119	-59.5		29	13.0
80	26	17,522	-57.9		29	9.3
70	26	18,361	-58.5		29	8.7
60	25	19,331	-58.0		30	7.7
50	25	20,478	-58.4		29	6.2
40	25	21,880	-58.3		31	6.1
30	25	23,689	-58.4		31	6.2
25	24	24,839	-58.0		32	6.1
20	19	26,255	-58.0		31	8.4
15	14	28,071	-58.0		32	12.0
10	11	30,638	-56.3		31	14.2
7	8	32,880	-54.0			
5						

GREEN BAY, WIS. 989 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	210	-2.7	-6.2	26	1.8
1000	30	123				
950	30	533	-.8	-4.3	29	4.1
900	30	964	-1.6	-8.0	30	5.4
850	30	1,418	-3.0	-11.4	29	6.8
800	30	1,896	-5.0	-14.2	30	7.8
750	30	2,399	-7.1	-17.6	29	9.1
700	30	2,937	-9.4	-20.8	29	9.9
650	30	3,502	-12.4	-23.0	30	11.1
600	30	4,115	-15.9	-26.8	30	12.4
550	30	4,760	-19.7	-30.6	29	13.6
500	30	5,468	-24.1	-34.8	29	15.5
450	30	6,223	-29.1	-39.4	29	16.9
400	30	7,061	-35.2	-42.8	28	17.2
350	30	7,979	-41.4	-46.6	28	18.9
300	30	9,010	-48.1		28	20.1
250	30	10,196	-53.4		28	21.6
200	30	11,624	-55.2		28	20.8
175	30	12,476	-55.3		28	18.0
150	30	13,459	-55.6		28	16.8
125	30	14,617	-56.8		28	15.4
100	30	16,027	-57.6		28	12.3
80	30	17,433	-58.2		28	11.5
70	30	18,274	-58.0		27	11.0
60	30	19,245	-58.1		28	9.5
50	30	20,391	-59.0		28	9.2
40	30	21,790	-59.4		28	9.4
30	29	23,593	-58.9		27	11.7
25	29	24,737	-58.8		28	12.6
20	28	26,145	-58.6		28	15.5
15	20	27,981	-56.6		27	17.2
10	15	30,550	-54.0		26	25.6
7	5	32,818	-51.9			
5						

GREENSBORO, N. C. 986 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	275	4.1	.0	29	.8
1000	30	158				
950	30	579	6.1	-.7	28	3.0
900	30	1,020	4.3	-3.5	29	4.3
850	30	1,484	2.5	-6.7	29	6.2
800	30	1,973	.9	-9.8	29	7.3
750	30	2,491	-.7	-13.0	29	8.5
700	30	3,040	-3.1	-16.8	29	9.6
650	30	3,624	-5.8	-20.1	28	11.3
600	30	4,248	-9.2	-22.9	28	12.9
550	30	4,913	-13.4	-26.9	28	14.7
500	30	5,635	-18.2	-30.9	28	17.4
450	30	6,412	-23.3	-36.1	28	19.1
400	30	7,268	-29.3	-41.0	28	21.6
350	30	8,208	-36.1	-45.9	27	22.2
300	30	9,262	-43.5		27	23.7
250	30	10,469	-50.8		27	26.7
200	30	11,904	-56.3		27	28.6
175	30	12,749	-57.5		27	29.1
150	30	13,720	-59.2		27	27.0
125	30	14,859	-60.7		27	23.0
100	30	16,241	-62.2		27	19.2
80	30	17,623	-60.9		27	13.7
70	30	18,456	-59.9		27	10.7
60	29	19,423	-59.1		26	10.1
50	28	20,567	-58.2		26	8.9
40	28	21,977	-56.8		26	8.0
30	27	23,805	-55.5		28	9.6
25	27	24,970	-54.5		27	10.6
20	27	26,403	-53.1		27	14.7
15	26	28,259	-50.9		27	21.1
10	24	30,919	-46.9		27	32.0
7	7	33,276	-42.6			
5						

*** GUAM, MARIANA IS. 998 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	111	25.6	23.9	09	3.2
1000	30	94				
950	30	550	24.2	22.4	09	9.2
900	30	1,020	21.6	17.8	09	9.2
850	30	1,515	19.0	14.3	10	8.8
800	30	2,034	16.2	9.7	09	8.6
750	30	2,583	13.6	3.9	10	8.7
700	30	3,160	10.6	-1.0	10	9.0
650	30	3,774	7.1	-4.8	10	9.1
600	30	4,428	3.3	-10.1	10	9.6
550	30	5,124	-.8	-15.2	10	9.8
500	30	5,883	-5.0	-19.4	10	10.3
450	30	6,698	-10.1	-24.3	10	11.3
400	30	7,603	-15.7	-30.8	10	10.6
350	30	8,596	-22.5	-37.7	10	9.6
300	30	9,708	-30.8	-44.9	10	7.7
250	30	10,975	-40.8	-52.3	10	5.9
200	30	12,452	-53.1		10	4.5
175	29	13,298	-60.1		09	4.3
150	29	14,242	-67.4		10	4.7
125	29	15,319	-74.9		11	7.4
100	28	16,588	-82.1		10	10.6
80	27	17,840	-79.6		10	8.9
70	27	18,606	-75.2		09	6.3
60	27	19,515	-69.1		10	3.3
50	27	20,617	-64.9		12	2.3
40	27	21,994	-60.7		11	2.5
30	27	23,810	-55.3		08	5.7
25	27	24,978	-53.5		09	8.6
20	27	26,427	-49.6		09	10.1
15	26	28,332	-45.6		07	13.1
10	24	31,056	-42.0		09	13.7
7	16	33,511	-38.4		09	15.4
5	6	35,886	-33.8			

HILO, HAWAII 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	11	20.6	17.7	22	2.2
1000	30	142	21.8	18.2	22	2.1
950	30	585	18.8	15.9	12	2.7
900	30	1,049	15.6	13.3	11	3.6
850	30	1,533	12.7	10.2	10	3.1
800	30	2,041	11.0	3.6	09	3.0
750	30	2,579	9.6	-4.3	08	3.5
700	30	3,149	7.3	-8.6	08	3.3
650	30	3,754	4.4	-12.6	08	2.7
600	30	4,404	.6	-17.0	06	1.7
550	30	5,094	-3.6	-21.1	35	1.5
500	30	5,844	-8.5	-25.2	31	3.0
450	30	6,650	-13.6	-31.3	31	5.6
400	30	7,540	-19.9	-36.0	30	5.9
350	30	8,517	-26.8	-42.6	29	7.3
300	30	9,612	-34.9	-49.8	29	9.8
250	29	10,857	-44.6		30	11.9
200	29	12,315	-55.4		30	16.8
175	29	13,156	-61.0		29	17.2
150	29	14,102	-66.7		29	16.7
125	29	15,190	-71.8		29	14.4
100	29	16,491	-75.7		28	9.8
80	29	17,784	-74.2		28	6.8
70	28	18,571	-70.6		29	4.3
60	28	19,497	-65.6		30	1.0
50	28	20,615	-62.0		17	.3
40	28	22,005	-58.8		06	1.4
30	28	23,828	-54.7		08	1.9
25	28	25,001	-52.4		07	3.3
20	28	26,454	-49.5		07	3.6
15	28	28,356	-45.4		10	4.0
10	24	31,092	-40.7		15	2.3
7	10	33,522	-37.4			
5						

HUNTINGTON W. VA. 989 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	246	2.8	.3	20	1.8
1000	30	152				
950	30	570	4.2	-.6	25	4.0
900	30	1,008	1.8	-3.8	26	6.0
850	30	1,468	.2	-7.3	26	7.0
800	30	1,953	-1.1	-10.5	27	8.7
750	30	2,470	-3.2	-13.4	28	10.6
700	30	3,010	-5.2	-16.0	28	12.7
650	30	3,590	-8.1	-18.2	28	14.1
600	30	4,208	-11.3	-22.6	28	15.8
550	30	4,872	-15.2	-26.9	28	17.4
500	30	5,585	-20.0	-31.2	28	19.2
450	30	6,357	-25.5	-36.2	28	20.2
400	30	7,204	-31.7	-40.6	28	22.3
350	30	8,135	-38.5	-44.9	28	24.4
300	30	9,179	-45.3		27	27.7
250	30	10,378	-51.6		27	29.8
200	29	11,815	-56.0		27	30.3
175	29	12,661	-57.5		27	29.1
150	29	13,633	-58.1		27	25.7
125	28	14,774	-59.6		27	21.2
100	28	16,166	-60.5		27	17.8
80	28	17,558	-59.4		27	12.4
70	28	18,394	-59.0		27	11.3
60	28	19,362	-58.6		27	9.9
50	28	20,509	-57.9		26	8.6
40	28	21,919	-57.0		26	10.3
30	27	23,752	-55.5		27	11.7
25	26	24,906	-55.3		27	13.4
20	24	26,334	-54.1		27	17.7
15	23	28,190	-51.9		27	24.2
10	17	30,845	-47.7		26	33.9
7	5	33,264	-43.6			
5						

*** INTERNATIONAL FALLS, MINN. 970 MB**

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	359	-4.8	-7.2	28	1.1
1000	30	120				
950	30	526	-3.8	-6.6	28	2.2
900	30	952	-4.0	-7.9	30	5.3
850	30	1,402	-4.8	-10.4	30	5.9
800	30	1,878	-6.3	-13.5	30	7.6
750	30	2,378	-8.0	-16.4	31	9.2
700	30	2,916	-10.5	-18.3	31	10.5
650	30	3,476	-13.6	-21.1	31	10.9
600	30	4,088	-16.8	-25.5	31	12.3
550	30	4,727	-20.8	-30.4	31	13.8
500	30	5,435	-25.2	-34.0	31	14.[illegible]
450	30	6,188	-30.4	-37.1	30	15.6
400	30	7,022	-36.2	-41.6	31	18.6
350	30	7,937	-42.2	-44.6	31	19.6
300	30	8,966	-48.3		31	20.7
250	30	10,153	-52.9		31	20.6
200	30	11,583	-55.2		30	19.8
175	30	12,436	-55.1		30	17.5
150	30	13,421	-54.9		30	15.2
125	30	14,585	-55.8		29	14.2
100	30	16,001	-56.8		29	12.8
80	30	17,413	-56.9		29	10.8
70	30	18,257	-57.5		29	10.0
60	30	19,228	-58.2		30	9.2
50	30	20,374	-58.8		30	9.0
40	30	21,772	-59.3		30	9.0
30	30	23,570	-60.0		30	9.0
25	30	24,707	-60.4		29	10.1
20	29	26,085	-60.9		30	13.4
15	26	27,881	-59.9		30	17.9
10	21	30,413	-59.1		29	21.0
7	13	32,735	-55.2		28	26.1
5	8	34,969	-50.5			

JACKSON, MISS. 1008 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	100	6.2	5.0	16	.5
1000	30	169	8.0	4.4	18	1.0
950	30	594	9.8	2.0	27	2.3
900	30	1,043	7.8	-.4	29	4.1
850	30	1,513	6.4	-4.5	29	6.1
800	30	2,009	4.6	-8.0	30	7.5
750	30	2,530	2.4	-11.6	29	9.4
700	30	3,068	.0	-14.6	28	11.3
650	30	3,674	-2.6	-18.2	28	12.9
600	30	4,310	-6.1	-21.3	28	14.9
550	30	4,976	-10.4	-25.1	28	16.8
500	30	5,712	-15.1	-31.0	27	18.8
450	30	6,496	-20.7	-36.6	27	21.3
400	30	7,361	-26.7	-41.3	27	24.9
350	30	8,311	-33.5	-46.6	27	29.1
300	30	9,375	-41.5	-49.4	27	33.2
250	30	10,590	-49.6		27	36.9
200	30	12,025	-57.4		28	39.9
175	30	12,862	-60.4		28	38.6
150	30	13,817	-62.9		27	33.6
125	30	14,932	-65.4		27	30.1
100	30	16,283	-66.9		27	23.3
80	30	17,634	-65.6		27	16.1
70	30	18,449	-63.6		27	12.5
60	30	19,399	-61.8		27	9.0
50	30	20,533	-59.5		27	6.7
40	29	21,937	-57.4		26	6.3
30	28	23,766	-55.3		27	8.0
25	28	24,933	-53.7		27	8.5
20	28	26,375	-51.5		27	11.9
15	24	28,265	-48.0		27	15.4
10	17	30,938	-45.5		26	24.6
7	5	33,352	-40.5			
5						

JOHNSTON IS., PACIFIC AREA 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	26.2	22.2	10	5.9
1000	30	115	25.1	21.2	10	6.5
950	30	563	21.3	19.2	10	7.9
900	30	1,032	18.3	15.0	10	8.3
850	30	1,521	15.7	9.7	10	7.0
800	30	2,034	13.7	5.0	10	6.1
750	30	2,577	11.5	-2.0	10	4.4
700	30	3,152	9.3	-7.2	10	2.7
650	30	3,760	6.3	-11.9	09	2.4
600	30	4,416	2.7	-15.6	09	2.2
550	30	5,107	-1.1	-20.4	08	1.9
500	30	5,869	-5.7	-24.0	05	1.5
450	30	6,685	-11.0	-28.4	02	1.1
400	30	7,582	-16.9	-33.2	32	2.5
350	30	8,570	-24.1	-39.5	31	4.3
300	30	9,676	-32.7	-46.3	29	7.5
250	30	10,934	-42.3		28	9.4
200	30	12,405	-53.8		28	13.5
175	30	13,251	-60.3		28	14.5
150	30	14,197	-67.1		28	13.4
125	29	15,280	-73.8		29	11.5
100	29	16,565	-78.2		30	8.3
80	29	17,838	-76.8		31	4.1
70	29	18,614	-72.4		32	1.5
60	27	19,534	-66.1		20	.5
50	27	20,649	-62.4		14	1.3
40	27	22,036	-59.1		10	3.2
30	26	23,856	-55.1		08	5.3
25	26	25,027	-52.0		08	6.2
20	25	26,483	-48.5		08	8.1
15	22	28,385	-45.3		09	9.1
10	17	31,121	-41.3		10	7.8
7	5	33,540	-40.9			
5						

KEY WEST, FLA. 1015 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	27	3	21.2	16.7	02	2.4
1000	27	135	21.0	16.2	04	3.8
950	27	574	18.1	15.0	05	4.2
900	27	1,039	15.1	10.6	05	2.0
850	27	1,523	13.1	2.8	32	1.2
800	27	2,031	11.9	-3.5	28	2.7
750	27	2,564	9.8	-8.2	28	3.9
700	27	3,140	6.9	-12.3	29	4.7
650	27	3,741	3.9	-17.3	28	5.5
600	27	4,392	-.1	-21.2	28	6.8
550	27	5,074	-4.2	-24.7	28	8.5
500	27	5,829	-8.8	-28.4	28	10.0
450	27	6,632	-14.5	-33.7	28	12.7
400	27	7,521	-20.8	-37.9	28	15.7
350	27	8,493	-28.1	-44.6	28	19.9
300	27	9,582	-36.1	-52.2	28	25.2
250	27	10,823	-45.6		27	29.1
200	27	12,274	-56.3		27	29.8
175	27	13,111	-62.2		26	30.7
150	27	14,051	-67.2		26	30.1
125	27	15,140	-71.5		27	27.1
100	27	16,448	-74.0		27	20.3
80	26	17,759	-71.8		28	12.3
70	26	18,554	-67.7		28	6.8
60	26	19,490	-64.0		28	3.1
50	25	20,615	-61.2		32	1.2
40	25	22,008	-58.4		06	1.1
30	24	23,840	-53.1		31	2.3
25	[illegible]	25,022	-49.6		31	2.8
20	[illegible]	26,490	-47.1		31	1.7
15	19	28,410	-43.6		31	1.7
10	14	31,140	-39.2		27	10.1
7	7	33,570	-37.0			

KING SALMON, ALASKA 997 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	15	-9.0	-12.7	01	2.4
1000	30	-14			02	5.5
950	30	388	-5.2	-9.7	03	4.1
900	30	813	-5.4	-10.3	04	3.3
850	30	1,260	-6.9	-12.8	01	2.2
800	30	1,731	-9.2	-15.3	36	1.8
750	30	2,230	-11.7	-18.1	35	1.0
700	30	2,755	-14.5	-20.2	28	.9
650	30	3,311	-17.6	-23.4	26	2.6
600	30	3,908	-21.4	-27.5	26	3.8
550	30	4,540	-25.3	-31.3	25	4.9
500	30	5,231	-30.0	-36.6	25	6.2
450	30	5,966	-35.3	-40.8	25	7.2
400	30	6,786	-40.6	-42.7	25	9.6
350	30	7,685	-46.1		25	12.1
300	30	8,698	-51.2		25	14.7
250	30	9,875	-53.5		24	14.1
200	30	11,316	-51.7		24	14.0
175	30	12,185	-50.4		25	14.3
150	30	13,189	-50.7		24	13.6
125	30	14,378	-50.2		25	14.2
100	30	15,836	-49.9		25	14.2
80	30	17,294	-50.5		25	13.2
70	30	18,164	-50.7		25	12.9
60	30	19,169	-50.5		25	13.4
50	30	20,356	-51.6		26	12.4
40	30	21,802	-51.8		27	13.7
30	30	23,668	-52.0		27	15.0
25	28	24,847	-52.8		28	17.1
20	25	26,294	-53.0		29	18.9
15	23	28,137	-53.9		29	22.2
10	5	30,603	-57.4			
7						

+ KOROR, CAROLINE IS. 1007 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	30	28.2	25.0	26	.7
1000	30	88	27.5	24.0	26	.9
950	30	537	24.1	19.9	22	1.0
900	30	1,013	21.4	16.0	22	1.2
850	30	1,508	18.6	12.2	21	.9
800	30	2,026	15.9	9.2	17	1.3
750	30	2,569	13.1	5.7	16	1.9
700	30	3,150	10.1	1.5	15	1.8
650	30	3,761	6.6	-2.2	13	2.4
600	30	4,416	2.8	-6.3	12	3.0
550	30	5,111	-1.0	-10.7	11	2.9
500	30	5,871	-5.3	-16.0	11	3.5
450	30	6,690	-10.0	-21.5	11	5.2
400	30	7,591	-15.7	-27.2	10	4.7
350	30	8,585	-22.5	-34.3	10	5.2
300	30	9,698	-30.8	-43.0	10	6.9
250	30	10,964	-41.1	-52.9	10	8.5
200	30	12,439	-53.5		09	10.5
175	30	13,284	-60.7		08	10.8
150	29	14,227	-67.9		08	11.1
125	29	15,301	-75.6		08	12.5
100	29	16,572	-80.4		09	11.5
80	29	17,844	-75.6		05	1.1
70	29	18,625	-71.2		30	2.3
60	29	19,544	-67.3		29	3.5
50	[illegible]	20,652	-63.1		27	2.9
40	[illegible]	22,040	-59.1		34	.4
30	27	23,856	-55.5		10	3.3
25	27	25,023	-52.9		09	7.1
20	26	26,478	-48.9		10	10.5
15	24	28,386	-45.6		09	15.3
10	18	31,122	-39.0		[illegible]	21.1
7	5	33,627	-35.3			

KOTZEBUE, ALASKA 1008 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	-16.7	-21.1	03	3.0
1000	30	63			04	3.1
950	30	455	-14.3	-20.2	06	3.2
900	30	862	-15.0	-21.0	06	2.9
850	30	1,294	-15.4	-21.4	05	2.4
800	30	1,751	-16.3	-22.4	05	1.6
750	30	2,235	-18.3	-24.6	05	1.0
700	30	2,747	-20.9	-27.3	14	1.0
650	30	3,292	-23.6	-31.1	19	1.9
600	30	3,873	-27.0	-35.2	22	3.0
550	30	4,492	-31.0	-38.6	22	3.6
500	30	5,166	-35.4	-42.5	22	4.6
450	30	5,888	-40.2	-46.2	22	6.5
400	29	6,692	-45.5		23	6.0
350	29	7,572	-50.7		22	7.2
300	29	8,566	-54.6		22	7.6
250	29	9,729	-55.3		23	7.6
200	28	11,166	-52.8		24	8.6
175	27	12,033	-52.1		24	7.9
150	27	13,032	-51.9		24	9.9
125	25	14,220	-51.5		25	10.2
100	24	15,665	-52.4		25	13.2
80	22	17,111	-52.8		26	15.0
70	21	17,972	-53.0		26	16.9
60	19	18,971	-53.5		26	17.9
50	17	20,161	-54.3		26	18.9
40	17	21,587	-55.4		27	20.7
30	16	23,399	-57.1		27	20.1
25	12	24,538	-59.1		27	23.6
20	8	25,911	-60.8			
15						
10						
7						

KWAJALEIN, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	27.6	23.9	07	4.7
1000	30	88	27.0	23.7	07	5.3
950	30	541	23.7	21.6	07	6.5
900	30	1,014	20.9	18.4	08	6.4
850	30	1,508	18.4	14.5	09	5.8
800	30	2,027	15.9	10.6	09	5.5
750	30	2,574	13.5	6.0	09	5.5
700	30	3,152	10.3	2.5	09	5.5
650	30	3,766	6.8	-1.4	09	5.7
600	30	4,420	3.1	-5.7	08	5.7
550	30	5,121	-.8	-9.6	09	5.3
500	30	5,877	-4.8	-16.8	08	5.6
450	30	6,699	-9.5	-22.0	08	4.8
400	30	7,600	-15.2	-28.6	09	3.8
350	30	8,596	-22.2	-35.5	08	3.3
300	30	9,711	-30.4	-43.0	10	2.3
250	30	10,979	-40.9	-50.[illegible]	13	2.5
200	30	12,457	-53.2	-62.1	16	2.1
175	30	13,304	-60.2	-69.4	11	1.5
150	30	14,248	-67.6		07	2.2
125	30	15,326	-74.9		06	4.7
100	29	16,599	-81.4		08	7.9
80	[illegible]	17,860	-78.1		10	2.0
70	27	18,633	-73.1		27	2.2
60	27	19,547	-68.3		27	4.1
50	27	20,653	-64.1		29	2.7
40	27	22,033	-60.1		23	.9
30	25	23,848	-55.6		10	3.3
25	25	25,016	-53.5		08	7.7
20	25	26,463	-50.5		08	9.4
15	20	28,362	-45.7		09	15.3
10	14	31,076	-41.3		10	20.2
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

LAKE CHARLES, LA. 1019 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	9.4	8.2	02	1.1
1000	30	166	13.5	7.6	05	1.3
950	30	597	12.1	3.9	29	1.6
900	30	1,050	10.5	-.2	29	3.6
850	30	1,525	8.9	-4.6	30	4.9
800	30	2,025	5.5	-7.8	30	5.9
750	30	2,555	4.6	-10.3	29	8.0
700	30	3,113	2.4	-12.9	28	9.9
650	30	3,709	-.8	-17.1	28	11.8
600	30	4,343	-4.7	-20.5	28	14.6
550	30	5,018	-8.7	-24.4	27	17.1
500	30	5,757	-12.9	-29.7	27	19.8
450	30	6,548	-18.5	-34.8	27	22.0
400	30	7,422	-24.7	-39.1	27	24.7
350	30	8,379	-31.8	-44.7	27	28.2
300	30	9,450	-40.2	-50.3	27	33.5
250	30	10,672	-48.7		27	36.2
200	30	12,109	-57.7		27	39.4
175	30	12,944	-61.5		27	39.5
150	30	13,893	-64.3		27	35.1
125	30	15,000	-67.2		27	29.3
100	30	16,334	-70.1		26	23.7
80	30	17,669	-67.9		27	14.7
70	30	18,475	-65.9		26	11.0
60	30	19,417	-63.2		26	9.0
50	30	20,547	-60.2		27	6.5
40	28	21,949	-57.6		27	4.7
30	26	23,777	-54.8		27	5.3
25	25	24,948	-53.1		26	6.0
20	25	26,393	-50.6		27	9.6
15	25	28,284	-47.0		26	13.2
10	23	30,990	-41.9		27	20.1
7	5	33,470	-39.5			
5						

LANDER, WYO. 831 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,697	-2.9	-8.2	25	.8
1000	30	206				
950	30	618				
900	30	1,054				
850	30	1,518				
800	30	2,003	1.8	-11.1	30	.2
750	30	2,520	.0	-13.7	29	2.2
700	30	3,072	-3.0	-16.8	30	6.0
650	30	3,646	-6.8	-20.2	30	9.2
600	30	4,276	-10.3	-23.5	31	10.4
550	30	4,933	-14.5	-28.5	31	11.6
500	30	5,658	-18.9	-31.9	31	12.5
450	30	6,429	-24.5	-36.4	31	13.1
400	30	7,283	-30.9	-41.6	31	14.9
350	30	8,216	-38.0	-46.4	31	15.9
300	30	9,259	-46.2		31	17.4
250	30	10,449	-54.2		31	18.5
200	29	11,866	-60.1		30	17.5
175	29	12,696	-61.9		29	18.5
150	29	13,648	-62.0		29	16.9
125	28	14,778	-62.0		29	15.9
100	28	16,157	-62.2		28	12.8
80	27	17,540	-60.8		29	10.6
70	27	18,370	-60.4		30	8.7
60	27	19,331	-59.7		30	6.9
50	24	20,469	-59.7		29	6.1
40	21	21,863	-59.2		29	5.6
30	21	23,657	-58.5		30	6.2
25	18	24,828	-57.5		29	7.5
20	15	26,250	-56.3		29	9.7
15	10	28,083	-56.0		28	12.5
10	5	30,701	-53.1			

• LIHUE KAUAI, HAWAII 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	36	22.8	19.5	05	2.6
1000	30	146	22.7	19.3	06	3.5
950	30	588	19.5	17.4	08	5.2
900	30	1,056	16.4	14.3	08	4.8
850	30	1,542	13.8	9.6	09	5.0
800	30	2,052	12.2	2.0	09	4.3
750	30	2,588	10.4	-4.5	09	3.4
700	30	3,163	7.5	-9.5	11	1.9
650	30	3,769	4.8	-13.[illegible]	08	1.0
600	30	4,419	1.0	-17.6	32	1.5
550	30	5,105	-3.0	-22.[illegible]	31	3.1
500	30	5,862	-7.8	-25.[illegible]	30	4.9
450	30	6,669	-13.2	-29.[illegible]	30	6.5
400	30	7,561	-19.5	-34.5	29	7.8
350	30	8,539	-26.5	-40.[illegible]	29	8.9
300	30	9,633	-35.2	-47.5	30	11.3
250	30	10,878	-44.9		30	16.0
200	30	12,335	-55.4		30	20.6
175	30	13,176	-60.7		29	21.3
150	30	14,122	-66.1		30	20.5
125	30	15,214	-71.3		29	15.7
100	30	16,517	-75.8		28	11.7
80	29	17,808	-73.7		29	7.0
70	29	18,594	-70.4		29	4.1
60	29	19,520	-65.6		30	1.3
50	29	20,638	-62.1		10	1.2
40	29	22,027	-59.2		10	1.4
30	28	23,848	-55.0		09	1.4
25	28	25,018	-53.0		05	2.7
20	26	26,470	-50.0		06	3.1
15	24	28,362	-46.8		08	1.9
10	21	31,069	-42.8		27	1.0
7	16	33,515	-38.8		25	2.9
5	5	35,839	-38.9			

LITTLE ROCK, ARK. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	79	5.4	2.5	28	1.6
1000	30	164	7.0	1.7	28	2.2
950	30	595	8.4	-.3	28	4.7
900	30	1,034	6.6	-2.5	29	6.2
850	30	1,503	5.4	-6.7	28	7.9
800	30	1,997	3.3	-10.6	29	9.0
750	30	2,513	.8	-13.8	29	10.0
700	30	3,070	-1.9	-16.[illegible]	29	11.7
650	30	3,651	-5.1	-19.1	29	12.9
600	30	4,281	-8.5	-22.4	29	14.2
550	30	4,944	-12.5	-26.4	28	15.0
500	30	5,674	-17.0	-31.4	28	16.6
450	30	6,444	-22.4	-36.6	28	19.4
400	30	7,312	-28.8	-42.8	28	23.4
350	30	8,255	-35.3	-46.5	28	27.2
300	30	9,313	-42.5	-49.1	27	30.0
250	30	10,523	-50.3		28	33.0
200	30	11,957	-56.8		28	35.8
175	30	12,798	-59.2		28	35.3
150	30	13,760	-61.0		28	31.8
125	30	14,886	-63.2		28	28.2
100	29	16,258	-63.8		28	19.6
80	27	17,618	-63.2		28	15.1
70	26	18,440	-62.5		28	11.5
60	26	19,394	-60.9		28	9.3
50	25	20,534	-58.9		28	7.9
40	25	21,938	-57.6		27	6.8
30	23	23,760	-55.7		27	9.0
25	23	24,924	-54.2		27	10.8
20	22	26,366	-52.2		27	13.8
15	17	28,272	-49.5		27	20.6
10	8	30,924	-47.0			

MCGRATH, ALASKA 992 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	10	103	-20.5	-25.[illegible]	36	1.3
1000	10	35				
950	10	426	-13.5	-17.5		
900	10	835	-9.3	-16.0		
850	10	1,280	-7.9	-16.4		
800	10	1,750	-9.5	-17.4		
750	10	2,242	-12.8	-21.5		
700	10	2,769	-15.9	-23.5		
650	10	3,320	-19.2	-26.9		
600	10	3,914	-23.2	-31.1		
550	10	4,539	-27.6	-34.7		
500	10	5,225	-32.1	-39.[illegible]		
450	10	5,956	-37.1	-42.[illegible]		
400	10	6,766	-42.9			
350	10	7,654	-49.0			
300	10	8,654	-53.9			
250	10	9,821	-54.5			
200	10	11,258	-51.6			
175	10	12,127	-50.6			
150	10	13,132	-50.5			
125	10	14,321	-50.4			
100	10	15,778	-50.2			
80	10	17,235	-50.0			
70	10	18,106	-50.5			
60	10	19,111	-51.2			
50	10	20,293	-52.4			
40	10	21,733	-52.7			
30	9	23,577	-53.5			
25	5	24,699	-51.8			
20	5	26,142	-52.7			

+ MAJURO, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	3	29.2	25.3	07	3.3
1000	30	87	27.9	22.6	07	3.2
950	30	536	24.2	18.6	08	4.9
900	30	1,013	21.3	15.7	09	5.5
850	30	1,507	18.8	11.4	09	5.3
800	30	2,027	16.3	8.[illegible]	09	5.0
750	30	2,572	13.7	4.2	09	5.3
700	30	3,153	10.8	.5	11	5.0
650	30	3,761	7.2	-4.1	10	5.2
600	30	4,422	3.6	-8.1	09	5.3
550	30	5,110	-.3	-11.3	09	5.0
500	30	5,881	-4.2	-16.0	09	5.1
450	30	6,697	-8.7	-21.1	08	5.1
400	30	7,611	-14.0	-27.4	08	4.6
350	30	8,611	-20.9	-34.2	09	4.0
300	30	9,731	-29.2	-42.1	11	3.4
250	30	11,007	-39.5	-51.3	13	2.2
200	30	12,495	-51.6		14	1.0
175	30	13,348	-58.6		18	.8
150	30	14,300	-65.9		06	1.2
125	30	15,386	-73.1		07	4.4
100	30	16,671	-79.6		07	6.5
80	30	17,942	-75.9		02	2.1
70	29	18,724	-70.5		27	4.3
60	29	19,649	-66.1		26	6.5
50	29	20,765	-62.0		26	4.9
40	28	22,156	-58.0		26	2.4
30	28	23,988	-53.7		09	3.3
25	28	25,166	-51.1		10	6.0
20	26	26,634	-47.4		11	6.9
15	22	28,562	-42.7		09	13.3
10	21	31,335	-36.4		09	21.6
7	10	33,834	-32.2		09	28.5

• MEDFORD, OREG. 974 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	401	1.5	.8	22	.1
1000	30	188				
950	30	608	5.1	3.[illegible]	04	.1
900	30	1,049	8.5	-2.0	15	2.6
850	30	1,522	8.2	-6.3	17	3.0
800	30	2,020	5.8	-9.5	21	2.9
750	30	2,547	3.0	-12.8	24	3.5
700	30	3,102	.2	-16.8	26	4.6
650	30	3,690	-3.4	-19.9	26	5.7
600	30	4,320	-7.5	-22.0	26	6.1
550	30	4,987	-12.0	-26.2	27	7.8
500	30	5,715	-16.9	-30.5	27	8.0
450	30	6,493	-22.3	-34.7	26	8.7
400	30	7,354	-28.7	-40.5	27	8.7
350	30	8,295	-36.0	-46.1	27	9.3
300	30	9,347	-44.3	-50.5	28	9.5
250	30	10,545	-52.8		29	10.5
200	30	11,958	-60.3		29	13.3
175	30	12,786	-62.2		29	12.6
150	30	13,737	-62.8		28	13.8
125	29	14,854	-62.4		28	12.2
100	29	16,231	-62.2		28	10.6
80	28	17,612	-61.4		29	8.4
70	28	18,441	-60.7		29	6.7
60	27	19,404	-59.9		29	5.2
50	27	20,544	-59.4		30	4.8
40	26	21,945	-58.1		31	4.5
30	26	23,763	-56.9		31	4.9
25	25	24,924	-56.2		31	5.4
20	23	26,353	-55.6		31	6.6
15	21	28,186	-55.2		30	8.0
10	18	30,793	-53.4		30	13.0
7	15	33,118	-52.2		29	15.6

MERIDA, MEXICO 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	11	18.3	17.3	06	2.4
1000	29	137	21.7	18.5	06	4.3
950	29	579	19.6	15.7	05	5.8
900	29	1,047	16.5	12.9	05	4.1
850	29	1,533	14.6	5.4	03	2.9
800	29	2,044	12.8	2.2	02	2.4
750	29	2,586	10.7	-4.0	35	1.9
700	29	3,157	8.[illegible]	-7.0	33	2.9
650	29	3,768	4.6	-10.4	30	3.6
600	29	4,414	.9	-16.3	29	4.8
550	29	5,108	-2.4	-22.2	30	5.5
500	29	5,861	-6.7	-25.8	29	7.3
450	29	6,674	-12.0	-30.0	28	8.8
400	29	7,569	-18.4	-35.3	28	12.1
350	29	8,553	-25.4	-41.5	28	15.2
300	28	9,654	-33.7	-49.2	27	18.2
250	28	10,907	-43.5		27	19.7
200	28	12,371	-54.7		26	20.3
175	27	13,213	-60.8		26	21.5
150	27	14,157	-67.1		27	20.4
125	27	15,244	-71.7		27	17.2
100	27	16,548	-75.6		28	13.7
80	27	17,836	-74.8		29	7.4
70	27	18,619	-70.2		29	3.3
60	27	19,549	-64.1		28	1.4
50	26	20,673	-60.6		19	.7
40	25	22,074	-57.[illegible]		02	.7
30	21	23,918	-52.8		01	.6
25	19	25,100	-49.9		34	1.8
20	17	26,574	-47.0		36	2.2
15	15	28,495	-42.8		35	1.4
10	11	31,248	-38.9			
7	5	33,642	-36.9			

MIAMI, FLA. 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	4	18.0	15.0	35	1.6
1000	29	144	18.9	14.5	01	2.8
950	29	583	16.8	11.5	03	3.8
900	29	1,044	14.2	8.[illegible]	02	2.5
850	29	1,526	12.6	2.[illegible]	33	1.8
800	29	2,033	10.6	-.5	29	3.0
750	29	2,559	8.9	-4.[illegible]	29	4.7
700	29	3,139	6.2	-9.3	28	6.3
650	29	3,743	3.0	-13.1	28	7.9
600	29	4,387	-.6	-17.4	28	10.5
550	29	5,071	-4.8	-21.2	28	11.4
500	29	5,821	-9.5	-25.2	28	12.9
450	29	6,622	-15.0	-29.1	28	14.5
400	29	7,509	-21.4	-35.0	28	17.4
350	29	8,479	-28.5	-41.2	28	21.3
300	29	9,566	-36.5	-48.5	28	25.8
250	29	10,806	-45.6		28	30.4
200	29	12,261	-55.3		28	33.9
175	29	13,103	-60.5		27	34.4
150	29	14,051	-65.5		27	33.0
125	29	15,149	-69.4		27	29.3
100	28	16,469	-72.2		28	22.2
80	28	17,786	-70.6		28	14.3
70	28	18,584	-67.2		28	8.8
60	28	19,524	-63.4		28	4.6
50	28	20,651	-60.8		25	1.1
40	28	22,047	-57.7		30	.7
30	27	23,884	-52.4		32	2.3
25	26	25,071	-49.5		32	2.0
20	23	26,546	-46.8		29	1.6
15	17	28,468	-44.1		29	3.0
10	16	31,229	-39.5		26	6.1
7	11	33,677	-36.5			

MONTERREY, MEXICO 973 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	423	12.0	10.1	33	2.2
1000	30	189				
950	30	626	13.2	9.8	35	2.0
900	30	1,075	12.1	6.5	01	.6
850	30	1,554	11.9	2.3	13	2.8
800	30	2,062	10.9	.0	14	1.3
750	30	2,600	8.6	-3.7	23	2.0
700	30	3,166	6.4	-7.7	26	4.9
650	30	3,771	2.7	-10.3	27	7.5
600	30	4,413	-1.7	-14.5	26	9.9
550	30	5,097	-6.0	-19.1	26	12.1
500	30	5,840	-10.4	-22.4	26	14.6
450	30	6,641	-16.0	-27.9	26	16.1
400	30	7,521	-22.0	-34.[illegible]	26	19.8
350	30	8,489	-29.2	-39.5	26	21.8
300	30	9,571	-37.9	-46.9	26	26.2
250	30	10,801	-47.5		26	32.9
200	29	12,239	-57.9		26	34.9
175	28	13,068	-62.5		26	35.4
150	28	14,010	-66.6		26	31.0
125	27	15,106	-70.7		26	25.5
100	26	16,425	-73.3		26	21.1
80	23	17,726	-71.5		27	14.6
70	21	18,521	-68.7		27	10.8
60	20	19,453	-64.9		26	6.9
50	18	20,572	-61.2		25	4.9
40	17	21,970	-58.8		24	2.2
30	14	23,796	-55.3		24	2.9
25	13	24,967	-52.7		24	4.0
20	10	26,433	-47.8		27	6.7
15	9	28,362	-45.7			

MONTGOMERY, ALA. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	57	5.1	3.0	32	.9
1000	30	168	9.0	4.4	33	1.3
950	30	598	10.0	1.3	32	3.3
900	30	1,044	8.0	-1.5	31	5.2
850	30	1,514	6.5	-4.7	30	5.7
800	30	2,011	4.9	-8.7	29	6.4
750	30	2,536	2.9	-10.8	28	8.6
700	30	3,092	.5	-15.0	28	10.6
650	30	3,685	-2.2	-18.7	28	12.9
600	30	4,317	-5.7	-22.5	28	14.0
550	30	4,990	-9.8	-25.5	28	15.8
500	30	5,724	-14.5	-29.8	27	17.6
450	30	6,510	-20.[illegible]	-34.1	27	20.3
400	30	7,377	-26.6	-39.6	27	22.9
350	30	8,328	-33.6	-45.1	27	26.5
300	30	9,393	-41.3	-49.6	28	31.3
250	30	10,609	-49.5		28	36.1
200	30	12,045	-57.0		28	37.4
175	30	12,884	-59.[illegible]		27	36.0
150	30	13,844	-61.6		27	32.3
125	30	14,966	-64.4		27	27.0
100	30	16,322	-66.5		27	20.8
80	29	17,678	-64.5		27	14.4
70	29	18,498	-62.5		27	11.1
60	29	19,452	-60.2		27	8.9
50	29	20,595	-58.5		27	7.2
40	28	22,010	-56.6		26	5.9
30	28	23,845	-53.9		27	6.5
25	28	25,019	-52.2		27	7.8
20	28	26,470	-49.9		27	9.9
15	25	28,368	-46.9		27	15.0
10	15	[illegible]	-41.6		26	24.7
7	8	33,494	-39.1			
5						

• NANTUCKET, MASS. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	13	7.4	3.8	28	.3
1000	30	134	6.6	3.1	21	.4
950	30	555	4.9	1.6	23	1.5
900	30	995	3.6	-2.8	22	3.6
850	30	1,458	1.7	-5.8	23	5.3
800	30	1,946	-.6	-8.5	23	6.8
750	30	2,459	-2.8	-11.5	23	8.1
700	30	3,005	-5.1	-15.[illegible]	23	10.0
650	30	3,580	-8.1	-18.9	23	11.5
600	30	4,203	-11.0	-22.2	23	14.0
550	30	4,859	-15.0	-26.6	23	15.3
500	30	5,581	-19.9	-30.0	23	17.1
450	30	6,349	-24.9	-35.1	23	18.7
400	30	7,201	-30.9	-40.0	23	18.8
350	30	8,136	-37.5	-44.[illegible]	23	19.7
300	30	9,183	-44.9	-48.[illegible]	24	21.6
250	30	10,382	-52.0		24	22.4
200	30	11,812	-56.2		25	22.7
175	30	12,659	-56.3		25	22.8
150	30	13,635	-57.9		25	20.2
125	29	14,774	-59.2		25	17.9
100	29	16,172	-59.6		25	14.7
80	29	17,567	-59.3		25	12.1
70	29	18,404	-58.[illegible]		25	10.3
60	29	19,372	-58.[illegible]		26	9.0
50	29	20,518	-58.4		25	10.1
40	29	21,921	-58.4		26	10.8
30	29	23,733	-57.8		27	12.2
25	29	24,884	-57.4		27	13.8
20	29	26,295	-56.8		27	17.0
15	28	28,128	-54.6		27	21.8
10	21	30,748	-49.[illegible]		27	32.5
7	15	33,147	-45.8		27	35.6
5	5	35,678	-39.[illegible]			

• NOME, ALASKA 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	5	-12.6	-18.6	36	3.2
1000	29	38			03	2.2
950	29	436	-11.2	-17.2	03	4.3
900	29	847	-11.9	-17.6	04	4.1
850	29	1,284	-12.9	-18.7	04	3.7
800	29	1,745	-14.4	-20.5	03	3.1
750	29	2,232	-16.4	-23.2	02	2.0
700	29	2,750	-18.9	-27.1	31	1.4
650	29	3,297	-21.9	-30.4	25	1.0
600	29	3,885	-25.6	-33.[illegible]	26	2.2
550	29	4,507	-29.4	-36.[illegible]	23	3.3
500	29	5,186	-33.8	-41.3	22	4.6
450	29	5,911	-38.9	-45.[illegible]	22	5.7
400	29	6,718	-44.4		22	7.1
350	29	7,602	-50.0		22	7.5
300	29	8,599	-54.3		22	7.3
250	29	9,765	-54.4		24	7.8
200	29	11,197	-52.2		24	8.5
175	29	12,063	-51.6		24	10.3
150	28	13,065	-50.9		25	10.7
125	28	14,253	-50.5		25	12.0
100	27	15,703	-50.[illegible]		25	13.6
80	25	17,149	-51.0		24	16.0
70	24	18,317	-51.3		24	17.2
60	24	19,017	-51.8		26	18.9
50	24	20,195	-52.2		26	20.1
40	24	21,638	-57.4		26	22.1
30	24	23,494	-53.3		25	24.6
25	22	24,654	-54.0		26	27.0
20	21	26,083	-54.[illegible]		27	[illegible]
15	20	27,923	-55.0		27	35.1
10	15	30,516	-55.[illegible]		28	43.4
7	5	32,918	-52.[illegible]			

NORTH PLATTE, NEBR. 919 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	847	-3.1	-5.[illegible]	31	2.2
1000	30	173				
950	30	583				
900	30	1,016	2.4	-4.4	32	5.8
850	30	1,481	3.8	-7.1	33	9.5
800	30	1,972	1.8	-9.[illegible]	33	10.3
750	30	2,488	-.9	-12.2	32	10.4
700	30	3,037	-3.9	-15.5	31	10.9
650	30	3,615	-7.1	-19.4	31	10.7
600	30	4,239	-11.0	-22.7	31	11.4
550	30	4,897	-15.2	-26.7	31	13.1
500	30	5,615	-20.1	-31.7	30	13.5
450	30	6,384	-25.9	-36.0	30	14.0
400	30	7,230	-32.3	-41.0	31	16.3
350	30	8,159	-39.1	-44.3	31	17.8
300	30	9,199	-46.4		31	19.7
250	30	10,390	-53.4		31	18.7
200	30	11,810	-57.7		30	21.2
175	30	12,650	-58.9		29	20.5
150	30	13,615	-59.4		29	19.1
125	30	14,754	-60.1		29	17.9
100	30	16,143	-60.5		29	13.4
80	30	17,535	-60.1		29	12.0
70	30	18,369	-59.6		29	10.6
60	30	19,332	-59.7		29	8.1
50	30	20,472	-59.6		29	7.3
40	30	21,868	-59.1		29	7.2
30	30	23,678	-57.9		29	8.4
25	30	24,828	-57.6		28	9.9
20	30	26,240	-56.7		28	12.3
15	30	28,065	-56.2		28	15.6
10	15	[illegible]	-53.1		27	19.9

OAKLAND, CALIF. 1018 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	6	9.3	7.1	15	.9
1000	30	154	12.1	5.9	14	.6
950	30	587	13.9	1.5	07	2.3
900	30	1,041	12.8	-2.4	05	.7
850	30	1,519	10.8	-5.0	24	1.0
800	30	2,022	8.0	-8.[illegible]	22	2.0
750	30	2,552	4.8	-12.1	22	2.1
700	30	3,111	1.2	-16.3	23	1.3
650	30	3,699	-2.4	-20.3	20	.8
600	30	4,335	-6.5	-24.[illegible]	17	.3
550	30	5,002	-11.1	-28.2	28	.5
500	30	5,736	-16.1	-32.[illegible]	25	1.6
450	30	6,519	-22.1	-36.[illegible]	25	1.9
400	30	7,377	-28.6	-42.2	25	2.9
350	30	8,320	-35.9	-48.2	28	2.6
300	30	9,373	-44.1		30	3.1
250	30	10,574	-52.4		31	3.7
200	30	11,994	-59.1		33	5.3
175	30	12,828	-60.6		32	6.9
150	30	13,785	-61.7		30	8.1
125	30	14,912	-62.9		29	8.9
100	30	16,284	-63.7		29	7.9
80	30	17,555	-62.9		29	7.0
70	30	18,479	-61.7		29	5.9
60	30	19,436	-60.8		29	4.5
50	30	20,573	-59.5		30	4.1
40	29	21,976	-58.2		31	3.5
30	28	23,793	-56.3		30	4.4
25	28	24,958	-55.3		29	6.4
20	28	26,390	-54.1		29	7.9
15	27	28,251	-52.8		28	11.0
10	8	30,861	-5[illegible]			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OMAHA, NEBR. 969 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	403	.4	-2.6	27	1.1
1000	30	148				
950	30	564	3.7	-1.9	27	2.4
900	30	1,002	4.2	-4.9	29	6.7
850	30	1,466	2.4	-8.5	30	7.9
800	30	1,954	.1	-12.0	30	10.0
750	30	2,467	-2.2	-14.4	30	10.6
700	30	3,015	-5.2	-16.9	30	11.1
650	30	3,586	-8.3	-19.8	31	12.4
600	30	4,211	-11.7	-24.3	30	13.1
550	30	4,866	-16.0	-28.1	30	14.5
500	30	5,585	-20.7	-33.5	30	15.3
450	30	6,350	-26.4	-38.7	30	16.8
400	30	7,198	-33.0	-42.2	30	17.9
350	30	8,123	-39.7	-44.5	30	19.0
300	30	9,161	-46.7		29	20.5
250	30	10,352	-53.0		29	22.1
200	30	11,776	-56.9		29	23.6
175	30	12,619	-58.0		29	21.8
150	30	13,591	-58.1		28	21.1
125	30	14,735	-59.6		28	18.3
100	30	16,130	-59.5		28	15.0
80	28	17,529	-59.5		29	10.8
70	28	18,365	-59.5		29	9.7
60	28	19,330	-59.2		29	9.6
50	27	20,473	-59.2		28	8.3
40	24	21,871	-58.9		28	8.2
30	24	23,680	-57.9		28	10.1
25	24	24,831	-57.7		27	12.5
20	23	26,248	-57.3		28	15.5
15	17	28,117	-54.5		27	18.0
10	10	30,780	-50.6			
7						
5						

* PAGO PAGO, AMERICAN SAMOA 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	28.4	24.8	11	4.2
1000	30	95	26.9	22.3	10	4.6
950	30	543	23.1	18.2	09	5.1
900	30	1,017	20.0	15.0	08	3.8
850	30	1,509	17.7	11.4	08	3.0
800	30	2,026	15.4	7.5	06	2.4
750	30	2,568	12.9	3.6	02	1.8
700	30	3,149	10.1	-.3	33	1.9
650	30	3,761	6.8	-4.3	32	2.4
600	30	4,416	3.1	-9.8	32	3.6
550	30	5,109	-.6	-14.3	29	2.7
500	30	5,874	-4.6	-20.1	27	3.7
450	30	6,690	-9.7	-24.7	27	4.2
400	30	7,597	-15.3	-30.0	27	5.0
350	30	8,592	-22.2	-37.1	27	6.7
300	30	9,707	-30.5	-45.1	26	8.4
250	30	10,975	-40.6	-53.1	26	11.4
200	30	12,457	-52.6		26	12.8
175	30	13,306	-59.4		26	13.2
150	30	14,255	-66.5		26	12.6
125	30	15,339	-73.6		26	10.8
100	30	16,622	-79.4		26	7.4
80	29	17,899	-74.5		27	.9
70	27	18,685	-70.0		09	1.8
60	26	19,610	-66.5		09	5.2
50	26	20,723	-62.9		08	5.9
40	26	22,115	-57.4		07	5.4
30	26	23,949	-53.6		09	7.1
25	24	25,129	-50.9		08	9.3
20	22	26,588	-47.5		08	11.2
15	22	28,510	-42.8		09	13.7
10	17	31,264	-38.6		09	14.3

* PEORIA, ILL. 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	200	-.3	-2.7	25	1.3
1000	30	145				
950	30	559	2.6	-3.4	29	5.0
900	30	995	1.9	-6.9	29	7.0
850	30	1,455	.3	-10.0	29	7.6
800	30	1,940	-1.4	-12.3	29	8.8
750	30	2,450	-3.3	-15.7	29	10.0
700	30	2,997	-5.9	-15.6	29	11.7
650	30	3,570	-8.5	-22.5	29	12.9
600	30	4,192	-11.9	-25.6	29	13.7
550	30	4,845	-16.0	-28.0	29	14.6
500	30	5,565	-21.1	-32.5	29	15.6
450	30	6,323	-26.7	-37.6	28	16.0
400	30	7,174	-32.8	-43.5	28	17.9
350	30	8,100	-39.5	-46.6	28	19.7
300	30	9,138	-46.9		28	21.7
250	30	10,329	-52.8		28	23.3
200	30	11,754	-56.2		28	24.2
175	30	12,601	-57.0		28	24.4
150	30	13,575	-57.6		28	23.8
125	30	14,723	-58.7		28	20.4
100	30	16,123	-59.7		28	15.7
80	30	17,519	-59.1		27	12.6
70	30	18,356	-59.0		28	11.7
60	30	19,323	-58.8		27	9.2
50	30	20,468	-58.5		28	9.8
40	30	21,871	-58.3		27	8.9
30	30	23,687	-57.2		27	12.2
25	30	24,843	-56.0		27	14.4
20	30	26,265	-55.2		27	16.3
15	29	28,094	-54.2		27	21.7
10	26	30,698	-51.2		27	28.5
7	22	33,059	-46.1		26	35.7
5	10	35,365	-42.1			

* PONAPE, CAROLINE IS. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	39	28.9	24.6	08	2.2
1000	30	80	28.3	23.6	08	2.7
950	30	531	24.3	19.0	08	4.4
900	30	1,007	21.0	15.5	09	4.2
850	30	1,500	18.4	11.7	09	4.7
800	30	2,018	15.9	7.6	10	5.1
750	30	2,565	13.2	4.5	10	5.1
700	30	3,143	10.0	.9	09	5.8
650	30	3,756	6.9	-3.2	09	6.7
600	30	4,410	3.3	-7.5	09	7.6
550	30	5,110	-.5	-12.6	09	6.5
500	30	5,868	-4.7	-17.1	09	7.0
450	30	6,692	-9.5	-22.4	09	6.5
400	29	7,593	-14.9	-29.0	09	6.6
350	29	8,590	-21.6	-36.0	10	6.3
300	29	9,708	-29.9	-44.3	10	5.2
250	29	10,980	-40.1	-53.0	08	4.9
200	29	12,464	-52.4		07	3.9
175	29	13,313	-59.3		07	3.6
150	29	14,262	-66.7		07	5.5
125	29	15,343	-74.6		08	8.1
100	29	16,619	-80.5		08	9.8
80	29	17,886	-75.9		09	3.1
70	29	18,665	-71.9		27	2.3
60	29	19,584	-66.8		27	5.6
50	29	20,695	-63.0		27	4.4
40	28	22,083	-59.1		28	1.9
30	28	23,903	-55.2		08	2.1
25	27	25,078	-52.4		09	5.7
20	24	26,534	-49.0		10	8.3
15	19	28,436	-45.2		10	10.0
10	7	31,212	-39.3			

PORTLAND, MAINE 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	20	3.7	.7	05	.6
1000	30	139	3.7	.4	16	.2
950	30	553	2.6	-.4	17	1.1
900	30	992	.9	-2.4	19	1.7
850	30	1,450	-.3	-6.2	21	2.8
800	30	1,935	-1.9	-9.5	22	4.7
750	30	2,444	-4.3	-11.7	22	6.8
700	30	2,988	-6.8	-15.6	22	8.3
650	30	3,557	-9.7	-19.9	23	9.8
600	30	4,178	-13.0	-22.7	23	11.8
550	30	4,827	-17.1	-26.6	23	13.5
500	30	5,545	-21.4	-29.8	22	15.3
450	30	6,307	-26.4	-35.3	22	16.3
400	30	7,156	-32.1	-40.1	23	16.8
350	30	8,087	-38.6	-44.2	23	17.3
300	30	9,130	-45.7		24	19.9
250	30	10,325	-52.4		24	20.1
200	30	11,752	-56.3		25	20.4
175	30	12,600	-56.6		25	17.8
150	30	13,576	-57.1		25	17.4
125	30	14,727	-57.9		25	17.0
100	30	16,131	-58.8		25	13.5
80	30	17,531	-58.5		25	12.1
70	30	18,372	-58.1		25	10.9
60	30	19,341	-58.9		26	9.8
50	30	20,485	-58.8		26	10.2
40	30	21,885	-58.9		25	11.2
30	30	23,691	-58.8		27	12.6
25	29	24,831	-58.8		27	14.8
20	22	26,234	-58.1		27	18.1
15	16	28,046	-56.0		26	24.6
10	8	30,585	-53.7			
7	6	32,915	-49.9			

* QUILLAYUTE, WASH. 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	58	5.5	4.7	11	1.4
1000	30	151			12	2.2
950	30	574	7.2	2.8	19	5.0
900	30	1,018	5.5	.6	21	6.6
850	29	1,482	3.4	-3.2	22	7.7
800	29	1,972	1.0	-6.9	24	9.0
750	29	2,488	-1.5	-11.1	25	10.2
700	29	3,036	-3.6	-14.4	25	11.6
650	29	3,614	-6.7	-17.0	26	13.0
600	29	4,239	-10.7	-20.6	26	14.3
550	29	4,897	-14.9	-24.9	26	15.4
500	29	5,618	-19.6	-28.7	27	17.0
450	29	6,388	-24.9	-34.3	27	17.7
400	29	7,240	-30.9	-40.4	27	19.4
350	29	8,173	-38.0	-45.1	28	20.3
300	29	9,217	-45.3		28	21.4
250	29	10,411	-53.1		28	22.6
200	29	11,823	-60.0		28	21.9
175	29	12,651	-61.8		27	21.4
150	29	13,604	-61.9		28	19.2
125	27	14,728	-60.4		27	17.3
100	27	16,121	-59.9		28	13.4
80	26	17,511	-59.3		28	10.9
70	26	18,349	-58.7		28	9.4
60	26	19,317	-58.3		29	8.0
50	25	20,472	-58.0		29	6.2
40	24	21,879	-57.7		30	6.8
30	22	23,702	-57.2		31	8.6
25	22	24,856	-57.1		31	7.5
20	19	26,280	-57.4		32	9.8
15	17	28,102	-56.7		32	13.3
10	13	30,698	-55.2		33	18.2
7	7	33,011	-57.3			
5						
4						

RAPID CITY, S. DAK. 906 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	966	-.1	-6.6	33	4.4
1000	30	164				
950	30	577				
900	30	1,015			32	5.8
850	30	1,480	3.3	-8.2	33	10.1
800	30	1,969	.5	-11.0	33	11.7
750	30	2,481	-2.4	-13.4	32	12.7
700	30	3,030	-4.9	-16.5	32	13.3
650	30	3,601	-8.3	-19.9	31	13.5
600	30	4,226	-12.1	-23.2	31	13.9
550	30	4,875	-16.5	-27.6	31	14.4
500	30	5,596	-21.5	-31.6	31	16.1
450	30	6,360	-26.7	-36.0	31	17.4
400	30	7,205	-32.8	-41.3	31	17.6
350	30	8,131	-39.9	-44.4	31	18.2
300	30	9,168	-47.0		31	20.2
250	30	10,356	-54.2		31	21.1
200	30	11,769	-58.7		31	20.7
175	30	12,606	-59.4		30	19.7
150	30	13,570	-59.8		30	17.9
125	30	14,710	-59.6		30	15.9
100	30	16,102	-60.0		29	13.4
80	30	17,500	-59.1		29	11.3
70	29	18,332	-59.6		29	9.4
60	28	19,300	-59.2		30	7.6
50	28	20,442	-59.2		30	7.0
40	28	21,840	-59.3		30	7.7
30	27	23,645	-58.8		30	7.0
25	23	24,810	-57.5		29	8.0
20	15	26,225	-57.4		28	10.6
15	12	28,064	-56.6		27	14.3
10	5	30,704	-52.3			

ST CLOUD, MINN. 977 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	316	-2.2	-5.3	29	1.0
1000	30	133				
950	30	545	-1.6	-4.9	30	2.3
900	30	973	-.9	-7.0	31	5.4
850	30	1,429	-1.6	-10.7	30	6.8
800	30	1,910	-3.3	-13.9	30	9.1
750	30	2,417	-5.3	-15.5	30	10.9
700	30	2,958	-8.1	-18.6	30	11.6
650	30	3,527	-11.2	-21.2	30	12.6
600	30	4,140	-15.2	-24.4	31	13.9
550	30	4,790	-19.3	-28.7	31	14.6
500	30	5,495	-24.0	-33.4	31	16.1
450	30	6,249	-29.4	-38.0	30	17.9
400	30	7,087	-35.7	-42.5	30	19.6
350	30	8,003	-41.7	-42.5	31	20.9
300	30	9,034	-47.8		30	18.9
250	30	10,222	-53.6		29	19.1
200	30	11,646	-56.3		29	19.4
175	30	12,494	-56.5		29	17.8
150	30	13,473	-56.4		29	16.0
125	30	14,628	-57.3		29	14.5
100	30	16,037	-57.7		29	12.5
80	30	17,442	-58.0		29	10.3
70	30	18,282	-58.5		29	9.5
60	29	19,255	-58.6		29	8.5
50	29	20,398	-59.2		29	8.0
40	28	21,790	-59.0		29	8.0
30	27	23,592	-59.3		29	9.7
25	24	24,707	-60.1		29	9.8
20	20	26,078	-60.4		29	12.5
15	14	27,887	-59.9		28	17.2
10	6	30,499	-56.0			

* ST PAUL IS., ALASKA 999 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	10	.6	-2.4	01	3.0
1000	30	3			36	3.2
950	30	413	-2.2	-4.5	01	3.5
900	30	841	-5.1	-7.0	34	3.0
850	30	1,288	-7.7	-10.7	33	3.1
800	30	1,758	-10.2	-15.9	32	2.9
750	30	2,251	-13.1	-19.5	32	2.8
700	30	2,775	-16.3	-21.9	31	3.6
650	30	3,328	-19.6	-26.6	30	4.4
600	30	3,920	-23.1	-31.4	29	4.3
550	30	4,546	-26.6	-35.2	28	5.5
500	30	5,237	-30.5	-39.1	27	6.7
450	30	5,972	-35.1	-41.7	27	8.4
400	30	6,791	-40.7	-43.9	25	8.0
350	30	7,688	-47.0		25	10.1
300	30	8,696	-52.6		24	13.0
250	30	9,867	-54.5		24	11.5
200	30	11,303	-52.1		24	9.8
175	30	12,169	-50.8		24	10.2
150	30	13,173	-50.5		24	9.9
125	30	14,362	-50.0		24	11.4
100	30	15,822	-49.4		24	11.5
80	30	17,284	-49.4		24	11.0
70	30	18,158	-49.6		25	12.7
60	30	19,168	-49.6		25	12.5
50	30	20,361	-49.8		25	12.4
40	30	21,820	-50.0		26	13.3
30	30	23,659	-50.3		26	15.9
25	30	24,889	-50.3		27	16.7
20	30	26,342	-50.8		27	17.2
15	29	28,213	-51.5		27	19.7
10	26	30,847	-51.8		28	20.9
7	21	33,170	-51.3		29	25.0
5	13	35,450	-50.4		29	29.6
4	6	36,882	-50.4			

SALEM, OREG. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	61	4.6	3.7	18	.9
1000	30	171	5.7	3.8	15	.4
950	30	594	7.9	1.5	20	2.0
900	30	1,039	7.9	-2.9	21	3.7
850	30	1,510	6.3	-4.6	23	5.0
800	30	2,005	3.9	-7.6	24	6.1
750	30	2,525	1.3	-12.5	24	7.2
700	30	3,079	-1.8	-15.1	25	8.0
650	30	3,662	-5.6	-19.5	26	9.4
600	30	4,289	-9.1	-22.2	26	10.6
550	30	4,950	-13.5	-26.5	27	11.9
500	30	5,676	-18.1	-31.0	27	12.0
450	30	6,449	-23.6	-35.9	27	12.6
400	30	7,307	-29.9	-40.9	27	13.5
350	30	8,245	-37.1	-45.5	27	14.1
300	30	9,292	-45.1		28	15.8
250	30	10,486	-53.5		29	17.7
200	29	11,895	-60.7		29	18.7
175	29	12,722	-62.2		29	17.2
150	29	13,672	-63.0		29	16.8
125	29	14,796	-62.4		29	14.8
100	29	16,177	-61.1		29	11.0
80	29	17,562	-60.7		29	9.0
70	29	18,393	-60.3		29	8.2
60	29	19,356	-59.4		30	6.8
50	28	20,499	-59.1		30	5.1
40	26	21,902	-58.4		30	4.6
30	23	23,717	-57.2		33	5.9
25	21	24,881	-56.8		33	6.4
20	17	26,301	-56.1		35	8.2
15	12	28,119	-54.8		34	8.3

SAN DIEGO, CALIF. 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	124	11.7	5.4	06	1.5
1000	30	134			05	1.7
950	30	570	16.1	2.2	07	1.4
900	30	1,027	13.8	-.9	11	1.7
850	30	1,507	11.1	-4.4	11	1.4
800	30	2,010	8.5	-6.1	11	.9
750	30	2,540	5.4	-10.2	10	.6
700	30	3,101	2.3	-13.5	21	.2
650	30	3,695	-1.1	-17.9	22	1.4
600	30	4,330	-5.1	-21.9	22	2.1
550	30	5,000	-9.7	-26.2	25	2.4
500	30	5,736	-15.0	-31.0	25	4.0
450	30	6,514	-21.1	-36.2	25	5.0
400	30	7,382	-27.7	-41.[illegible]	24	6.9
350	30	8,328	-34.9	-47.4	24	8.2
300	30	9,386	-42.8		25	8.9
250	30	10,593	-51.2		24	10.9
200	30	12,020	-57.3		25	15.5
175	30	12,860	-59.4		25	17.2
150	30	13,820	-61.9		26	15.5
125	30	14,942	-64.3		26	15.1
100	30	16,301	-65.7		27	11.5
80	30	17,658	-64.5		27	7.9
70	30	18,476	-63.1		27	6.9
60	29	19,426	-62.3		28	5.9
50	29	20,557	-60.6		29	3.9
40	28	21,953	-58.5		29	3.9
30	27	23,773	-55.7		28	5.4
25	27	24,938	-54.3		28	6.9
20	27	26,375	-52.0		28	10.1
15	22	28,257	-50.4		28	13.6
10						
7						
5						

SAN JUAN, P. R. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	6	23.9	20.[illegible]	12	2.1
1000	30	119	24.3	20.0	11	4.3
950	30	569	22.0	17.7	10	6.5
900	30	1,037	18.8	14.7	10	6.2
850	30	1,526	16.1	10.9	10	5.5
800	30	2,040	14.0	5.9	10	4.1
750	30	2,580	11.3	1.4	11	3.1
700	30	3,157	8.6	-2.6	12	1.8
650	30	3,759	5.4	-7.0	15	1.0
600	30	4,416	1.7	-11.6	22	.4
550	30	5,108	-2.2	-17.0	25	1.7
500	30	5,863	-6.6	-22.2	27	2.6
450	30	6,675	-11.4	-27.7	29	3.7
400	30	7,572	-17.8	-32.4	29	5.4
350	30	8,557	-24.7	-38.1	28	8.1
300	30	9,660	-32.9	-45.4	28	11.8
250	29	10,915	-42.6		27	17.0
200	29	12,382	-54.3		27	21.3
175	29	13,225	-61.0		28	22.8
150	29	14,167	-67.6		28	21.4
125	29	15,248	-72.8		28	16.4
100	28	16,544	-76.6		28	10.2
80	26	17,826	-74.5		27	6.9
70	26	18,611	-70.4		27	3.6
60	26	19,535	-66.4		28	1.3
50	[illegible]	20,649	-62.1		34	1.0
40	25	22,047	-56.6		06	1.3
30	23	23,887	-53.0		08	3.7
25	[illegible]	25,072	-50.6		09	4.0
20	[illegible]	26,531	-47.2		09	6.8
15	[illegible]	28,459	-44.0		10	7.7

SAN NICOLAS, CALIF. 996 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	29	174	14.6	7.7	36	1.5
1000	29	142				
950	29	579	16.8	.5	08	2.3
900	29	1,038	14.3	-1.4	10	2.2
850	29	1,518	11.7	-4.7	10	2.1
800	29	2,022	8.7	-8.0	09	2.6
750	29	2,552	5.6	-11.7	08	2.4
700	29	3,113	2.4	-15.1	09	1.6
650	29	3,707	-1.4	-19.8	09	.3
600	29	4,340	-5.4	-23.4	26	.3
550	29	5,017	-9.8	-28.5	27	.5
500	29	5,745	-15.2	-33.0	26	1.9
450	29	6,532	-21.3	-38.1	24	2.4
400	29	7,389	-28.0	-42.3	24	2.7
350	29	8,334	-35.2	-49.1	25	4.7
300	29	9,389	-43.5	-56.0	25	4.9
250	29	10,592	-51.9	-63.2	25	7.4
200	29	12,016	-57.8	-68.3	26	10.2
175	29	12,854	-59.8	-69.4	25	11.8
150	29	13,813	-61.5		26	12.2
125	29	14,938	-63.9		26	12.3
100	28	16,299	-65.3		27	9.8
80	28	17,650	-64.2		28	7.9
70	28	18,480	-63.0		27	6.3
60	28	19,432	-61.8		28	5.4
50	28	20,565	-60.0		29	3.4
40	28	21,964	-58.3		29	4.2
30	28	23,788	-55.2		28	4.1
25	27	24,953	-54.0		29	6.9
20	27	26,391	-52.2		28	8.7
15	26	28,258	-50.2		28	15.0
10	20	30,953	-46.7		27	23.9
7	11	33,369	-44.4			
5	7	35,587	-43.9			

* SAULT STE MARIE, MICH. 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	221	-.6	-3.4	22	.4
1000	30	109				
950	30	518	-.8	-4.4	27	2.7
900	30	950	-2.5	-6.0	28	5.5
850	30	1,402	-4.4	-8.4	29	6.3
800	30	1,879	-5.9	-11.2	28	7.0
750	30	2,383	-8.2	-13.4	27	7.1
700	30	2,916	-10.7	-17.6	27	7.8
650	30	3,483	-13.2	-22.4	27	9.1
600	30	4,089	-16.4	-26.1	27	10.2
550	30	4,737	-20.3	-30.5	27	11.3
500	30	5,439	-24.7	-35.2	27	11.9
450	30	6,194	-30.0	-39.1	27	14.0
400	30	7,028	-35.6	-42.8	27	15.3
350	30	7,944	-41.8	-44.5	27	16.8
300	30	8,974	-47.7		27	17.6
250	30	10,164	-52.4		27	17.9
200	30	11,599	-53.9		27	17.1
175	30	12,456	-54.0		27	16.2
150	30	13,445	-54.4		27	14.0
125	29	14,609	-55.2		26	13.1
100	29	16,029	-56.5		26	12.2
80	29	17,445	-56.7		27	9.4
70	29	18,291	-57.0		27	7.8
60	29	19,265	-57.6		27	8.5
50	28	20,419	-58.1		27	9.3
40	28	21,823	-58.6		27	9.0
30	28	23,631	-58.5		27	11.1
25	27	24,786	-58.2		27	10.8
20	25	26,177	-58.2		27	12.8
15	24	27,989	-57.5		27	15.9
10	22	30,550	-55.4		27	23.4
7	20	32,872	-51.5		27	31.0

* SHEMYA, ALASKA 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	36	2.0	-1.8	25	2.4
1000	30	47				
950	30	454	-1.1	-4.1	31	3.3
900	30	887	-4.5	-6.8	31	3.9
850	30	1,335	-6.9	-12.4	31	4.0
800	30	1,807	-9.1	-16.7	30	4.3
750	30	2,300	-11.7	-19.6	30	4.9
700	30	2,830	-14.8	-23.1	29	6.6
650	30	3,378	-18.2	-26.8	28	8.1
600	30	3,980	-22.2	-30.1	29	8.0
550	29	4,607	-26.4	-34.2	28	8.5
500	29	5,298	-31.3	-38.5	27	10.1
450	29	6,031	-36.5	-40.7	27	10.8
400	29	6,843	-42.1	-42.5	28	11.3
350	29	7,736	-47.4		28	13.5
300	29	8,745	-51.8		28	16.4
250	29	9,920	-53.9		28	17.4
200	27	11,326	-53.5		27	18.8
175	27	12,188	-52.1		28	17.4
150	26	13,184	-51.7		27	17.3
125	26	14,369	-50.9		27	16.3
100	25	15,818	-50.1		27	16.1
80	25	17,279	-49.1		26	13.7
70	25	18,156	-48.9		26	12.5
60	25	19,167	-49.2		25	12.9
50	24	20,362	-48.5		25	12.2
40	24	21,831	-48.1		25	10.4
30	23	23,734	-47.7		25	10.9
25	23	24,940	-47.0		24	11.7
20	22	26,430	-45.9		25	12.0
15	21	28,349	-45.5		25	14.8
10	18	31,032	-46.7		26	11.5
7	10	33,305	-48.4			
5	5	35,252	-51.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1969

SHREVEPORT, LA. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	79	7.8	5.4	28	.6
1000	30	169	9.5	5.9	27	.8
950	30	601	10.6	3.6	27	3.5
900	30	1,048	9.6	-1.5	29	5.6
850	30	1,520	7.4	-5.1	30	6.5
800	30	2,018	5.1	-7.4	29	7.5
750	30	2,544	2.9	[illegible]	30	9.2
700	30	3,099	.6	-13.2	29	11.1
650	30	3,692	-2.5	[illegible]	28	12.5
600	30	4,322	-6.5	-18.2	28	13.8
550	30	4,993	-10.5	[illegible]	27	16.2
500	30	5,725	-15.2	-27.5	28	17.9
450	30	6,509	-20.4	-32.4	28	20.6
400	30	7,377	-26.2	[illegible]	28	23.7
350	30	8,329	-33.3	[illegible]	27	27.9
300	29	9,391	-41.1	-47.5	27	30.9
250	29	10,608	-49.2		28	34.9
200	27	12,039	-57.0		27	38.6
175	27	12,878	-60.3		27	36.6
150	27	13,834	-62.6		27	32.7
125	27	14,950	-65.4		28	30.0
100	26	16,299	-66.1		28	25.7
80	25	17,653	-65.2		27	18.4
70	25	18,470	-63.6		27	12.8
60	24	19,427	-61.1		27	8.9
50	24	20,564	-59.5		27	6.5
40	24	21,970	-57.0		27	5.0
30	24	23,800	-54.7		27	5.4
25	24	24,974	-52.9		27	9.4
20	24	26,419	-51.0		27	10.9
15	24	28,306	-48.0		26	17.0
10	21	31,010	-44.4		26	26.2
7	15	33,415	-39.3		26	37.3
5	7	35,731	-37.6			

SPOKANE, WASH. 930 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	720	[illegible]	-1.4	14	1.8
1000	30	189				
950	30	583				
900	30	1,038	3.2	-1.5	19	4.4
850	30	1,502	2.7	-6.4	23	6.6
800	30	1,991	1.0	-9.2	24	8.1
750	30	2,506	-1.5	-11.3	25	9.3
700	30	3,054	-4.5	-13.6	27	9.9
650	30	3,628	[illegible]	[illegible]	27	11.1
600	30	4,253	-11.5	-20.3	28	13.5
550	30	4,908	-15.3	-24.3	28	16.1
500	30	5,629	-19.9	-28.5	28	16.4
450	30	6,395	-24.8	-33.4	29	17.8
400	30	7,250	-30.9	-38.0	29	18.8
350	30	8,184	-38.1	-43.0	29	21.1
300	30	9,228	-45.9		28	23.0
250	30	10,420	-53.9		28	22.8
200	30	11,830	-60.1		28	23.0
175	29	12,656	-61.4		29	21.6
150	28	13,617	-60.9		28	18.8
125	27	14,753	-60.5		29	15.6
100	27	16,143	-60.5		28	12.6
80	26	17,545	-59.6		29	10.6
70	26	18,381	-58.9		29	8.9
60	25	19,350	-58.4		29	7.7
50	25	20,499	-58.5		30	6.9
40	24	21,909	-58.5		30	6.3
30	23	23,720	-58.1		31	6.9
25	21	24,867	-57.8		30	7.3
20	21	26,273	-58.1		31	8.9
15	18	28,089	-57.2		31	12.7
10	12	30,648	-56.7			

SWAN ISLAND, W. I. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	10	26.0	21.4	03	4.1
1000	30	109	25.4	20.9	04	5.7
950	30	550	22.0	18.6	05	7.1
900	30	1,029	18.8	[illegible]	05	6.4
850	30	1,519	15.9	11.5	05	5.6
800	30	2,032	13.2	7.8	05	4.2
750	30	2,577	10.9	2.5	05	3.8
700	30	3,148	8.8	[illegible]	04	3.1
650	30	3,756	5.7	[illegible]	03	2.8
600	30	4,410	2.4	-10.8	02	2.5
550	30	5,105	-1.5	-14.6	36	2.6
500	30	5,863	-5.5	[illegible]	34	2.6
450	30	6,680	-10.4	-26.7	33	2.5
400	30	7,579	-16.7	[illegible]	32	3.8
350	30	8,568	-23.8	-37.9	30	6.1
300	30	9,675	-32.4	-45.5	28	9.1
250	30	10,933	-42.6		27	10.7
200	30	12,399	-54.8		25	13.3
175	29	13,239	-61.6		25	14.0
150	27	14,179	-68.9		26	14.2
125	25	15,254	-74.3		28	12.6
100	23	16,543	-77.5		30	8.9
80	23	17,819	-77.1		31	4.7
70	21	18,595	-71.9		31	2.4
60	22	19,515	-66.0		01	.6
50	22	20,633	-61.9		09	1.2
40	22	22,027	-57.7		06	1.8
30	21	23,865	-53.6		08	3.1
25	19	25,041	-51.1		08	4.5
20	14	26,500	-48.0		07	5.7
15	13	28,408	-43.6		09	7.3
10	6	31,149	-39.1			

TAMPA, FLA. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	6	13.6	11.4	05	2.3
1000	30	150	15.7	10.7	05	3.2
950	30	588	14.2	7.5	02	2.2
900	30	1,040	12.0	4.3	30	1.9
850	30	1,518	10.2	.2	28	3.1
800	30	2,022	9.0	[illegible]	29	4.7
750	30	2,557	6.9	-10.1	28	6.0
700	30	3,119	4.2	-13.5	28	7.9
650	29	3,723	1.2	-17.2	28	9.7
600	29	4,361	-2.2	-20.9	28	11.0
550	29	5,044	-6.3	-23.6	28	13.2
500	29	5,787	-10.9	[illegible]	28	16.1
450	29	6,588	-16.6	-32.9	28	18.0
400	29	7,463	-23.2	-37.1	28	21.1
350	29	8,426	-30.3	-44.6	28	24.4
300	29	9,505	-38.2	-51.6	29	28.4
250	29	10,736	-47.0		28	32.5
200	29	12,181	-56.7		28	36.2
175	29	13,018	-61.1		27	35.1
150	29	13,956	-64.8		27	34.2
125	29	15,069	-67.9		27	29.1
100	29	16,398	-71.0		27	23.1
80	29	17,724	-68.7		27	14.2
70	29	18,529	-65.9		27	9.9
60	28	19,473	-62.6		27	7.1
50	27	20,606	-60.2		26	3.8
40	27	22,006	-57.6		28	2.2
30	27	23,837	-53.9		29	1.7
25	[illegible]	25,016	-51.4		29	2.3
20	23	26,475	-48.2		27	3.2
15	15	28,396	-44.5		27	5.9
10	7	31,194	-40.8			

TOPEKA, KANS. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	268	1.1	-1.4	29	1.0
1000	30	150				
950	30	577	5.5	-2.2	28	3.0
900	30	1,018	4.8	-4.6	30	5.1
850	30	1,483	2.8	-8.3	30	6.5
800	30	1,973	1.4	-11.7	30	7.4
750	30	2,488	-1.1	-14.3	30	9.5
700	30	3,038	-3.7	-15.9	30	10.2
650	30	[illegible]	-6.8	-18.5	29	11.3
600	30	4,241	-10.7	-23.3	29	12.4
550	30	4,897	-15.1	-28.1	29	14.0
500	30	[illegible]	[illegible]	[illegible]	29	15.8
450	30	6,385	-25.5	-37.0	29	16.4
400	30	7,238	-31.9	-41.9	30	18.2
350	30	8,168	-38.8	-44.2	29	20.7
300	30	9,209	-46.0		29	22.9
250	30	10,405	-52.3		29	24.9
200	30	11,832	-56.9		29	26.9
175	30	12,675	-58.1		29	26.1
150	30	13,644	-59.4		28	23.9
125	30	14,782	-60.6		28	21.2
100	30	16,168	-61.3		29	18.0
80	30	17,557	-60.5		29	12.1
70	28	18,395	-60.5		29	10.0
60	27	19,359	-59.7		28	7.9
50	27	20,499	-59.3		28	7.9
40	25	21,908	-58.0		28	6.9
30	25	23,725	-56.9		27	10.0
25	24	24,881	-56.2		27	11.6
20	22	26,315	-55.4		27	15.3
15	19	28,162	-53.3		27	20.6
10	9	30,850	-50.0			

TRUK, CAROLINE IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	2	28.9	24.7	06	1.8
1000	30	87	27.9	23.3	07	2.3
950	30	536	24.0	19.5	09	4.0
900	30	1,013	21.2	[illegible]	10	4.9
850	30	1,508	[illegible]	12.6	10	5.4
800	30	2,027	16.0	9.0	10	5.4
750	30	2,572	13.1	5.1	10	5.6
700	30	3,152	10.2	1.3	10	5.9
650	30	3,765	6.7	-2.4	09	6.8
600	30	4,419	3.0	-6.8	09	7.4
550	30	5,114	-.8	-10.6	09	7.6
500	29	5,876	-4.8	-16.2	09	7.9
450	28	6,693	-9.6	-21.5	09	9.0
400	28	7,602	-14.9	-28.4	09	8.3
350	28	8,599	-21.5	-35.1	09	7.4
300	28	9,717	-29.7	-43.5	09	5.6
250	28	10,990	-39.9	-52.2	09	4.5
200	28	12,474	-52.4		08	5.0
175	28	13,324	-59.5		07	4.6
150	28	14,271	-67.1		07	5.8
125	29	15,351	-74.8		08	9.3
100	28	16,624	-80.8		09	12.0
80	28	17,893	-76.2		08	3.3
70	28	18,672	-71.5		27	2.3
60	27	19,593	-67.1		28	4.3
50	27	20,707	-62.1		26	2.9
40	26	22,099	-59.3		31	1.7
30	26	23,921	-54.4		07	3.1
25	25	25,096	-52.1		10	6.9
20	24	26,549	-49.6		10	9.4
15	23	28,456	-44.6		09	12.7
10	21	31,201	-39.4		09	21.2
7	12	33,640	-35.7			
5	5	35,960	-33.8			

TUCSON, ARIZ. 927 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	789	10.1	.9	14	4.1
1000	30	151				
950	30	583				
900	30	1,036	13.1	.3	13	5.3
850	30	1,515	10.9	-2.2	13	4.4
800	30	2,018	8.1	-4.7	16	3.7
750	30	2,544	5.1	[illegible]	20	3.6
700	30	3,109	2.0	[illegible]	24	4.4
650	30	3,697	-1.2	-16.3	25	5.7
600	30	4,337	-5.2	-21.7	26	7.0
550	30	5,005	-9.7	-25.9	26	8.0
500	30	5,744	-15.0	-30.5	26	8.1
450	30	6,524	-20.8	-34.7	26	10.8
400	30	7,393	-27.4	-40.0	26	13.7
350	30	8,341	-34.3	-45.7	25	16.4
300	30	9,403	-41.9	-49.6	25	19.4
250	30	10,615	-50.5		25	23.7
200	30	12,046	-57.3		26	27.4
175	30	12,885	-60.0		26	27.9
150	30	13,841	-62.7		26	26.3
125	30	14,957	-65.4		26	21.7
100	29	16,312	-67.0		27	16.0
80	29	17,658	-66.1		27	10.7
70	27	18,475	-64.4		28	9.1
60	27	19,421	-62.8		28	7.1
50	27	20,549	-60.9		28	5.6
40	27	21,943	-58.7		28	6.2
30	26	23,765	-55.9		28	6.7
25	25	24,930	-54.2		27	7.3
20	25	26,365	-52.1		27	9.7
15	22	28,235	-49.9		27	14.1
10	14	30,872	-48.1		28	20.0
7	5	33,277	-46.0			

VANDENBERG AFB, CALIF. 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	29	100	10.8	5.8	10	1.6
1000	29	145	13.3	5.1	09	1.6
950	29	580	16.1	1.0	11	1.6
900	29	1,038	14.1	-2.0	12	1.8
850	29	1,518	11.6	-5.0	12	1.8
800	29	2,021	8.5	-8.0	11	3.0
750	29	2,552	5.4	-11.5	11	2.8
700	29	3,112	1.9	-15.1	11	1.9
650	29	3,703	-1.9	-18.3	11	1.4
600	29	4,339	-5.5	-22.1	11	1.4
550	29	5,011	-10.0	-26.3	09	.9
500	29	5,744	-15.0	-31.6	29	.4
450	29	6,523	-21.0	-36.4	25	.7
400	29	7,391	-27.8	-41.3	22	.8
350	29	8,335	-35.5	-46.9	21	1.0
300	29	9,390	-43.6		28	1.8
250	29	10,592	-52.2		27	3.8
200	29	12,010	-59.1		28	5.7
175	29	12,844	-60.5		28	6.9
150	29	13,801	-62.1		27	8.1
125	29	14,923	-63.6		27	9.7
100	29	16,294	-65.9		28	8.3
80	29	17,643	-64.5		28	6.9
70	29	18,459	-63.9		28	5.9
60	28	19,406	-62.6		29	5.2
50	27	20,538	-61.1		30	4.3
40	27	21,931	-58.9		29	3.6
30	26	23,744	-56.7		29	4.0
25	25	24,922	-55.5		28	5.6
20	25	26,329	-53.9		28	7.1
15	24	28,186	-51.1		28	10.3
10	21	30,841	-48.9		28	17.5
7	14	33,209	-47.0		27	30.1
5	5	35,519	-44.0			

VICTORIA, TEXAS 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	33	12.4	10.1	35	1.0
1000	30	165	14.8	9.3	04	1.0
950	30	599	14.0	5.4	15	.5
900	30	1,055	12.5	.0	28	.4
850	30	1,533	10.2	-2.4	27	1.0
800	30	2,036	8.3	-4.8	28	2.9
750	30	2,564	6.0	-6.9	28	5.0
700	30	3,130	3.6	-10.3	28	8.7
650	30	3,725	.5	[illegible]	28	11.5
600	30	4,367	-3.4	[illegible]	28	14.5
550	30	5,045	-7.6	-23.0	28	16.6
500	30	5,787	-12.2	-27.6	27	18.8
450	30	6,580	-17.3	-31.9	27	20.6
400	30	7,459	-23.4	-37.2	27	23.5
350	30	8,421	-30.8	-43.9	27	27.1
300	30	9,496	-39.1	-48.9	27	31.6
250	30	10,723	-47.9		27	37.6
200	30	12,163	-57.3		27	42.6
175	30	12,998	-61.7		27	40.6
150	30	13,944	-65.1		27	36.9
125	30	15,046	-68.5		27	31.6
100	29	16,374	-71.0		27	23.4
80	28	17,696	-69.4		27	15.3
70	28	18,497	-67.1		27	10.5
60	28	19,435	-63.6		27	7.5
50	28	20,560	-60.7		27	4.9
40	28	21,959	-57.8		26	3.0
30	27	23,782	-54.9		26	4.2
25	27	24,952	-53.1		27	5.9
20	27	26,396	-51.0		27	7.1
15	21	28,288	-47.7		27	10.6
10	13	30,981	-42.9		26	21.6

WAKE IS., PACIFIC AREA 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	5	26.6	22.4	07	7.6
1000	30	127	25.2	19.9	07	8.3
950	30	574	21.5	18.4	07	9.2
900	30	1,044	18.0	15.5	07	8.7
850	30	1,533	15.5	11.0	07	7.4
800	30	2,047	14.2	4.3	07	5.8
750	30	2,588	12.5	-4.6	06	4.8
700	30	3,167	10.6	-8.5	06	6.1
650	30	3,774	7.2	-11.5	06	6.6
600	30	4,434	3.4	-15.6	05	7.0
550	30	5,125	-1.1	-20.7	05	6.7
500	30	5,888	-5.6	-25.4	05	6.1
450	30	6,699	-10.8	-29.8	03	5.9
400	30	7,603	-16.9	-34.8	02	5.6
350	30	8,592	-24.1	[illegible]	01	6.0
300	30	9,698	-32.3	[illegible]	36	6.8
250	30	10,959	-41.6		34	7.8
200	30	12,436	-52.8		34	6.8
175	29	13,284	-59.2		34	7.0
150	29	14,234	-66.1		34	6.7
125	29	15,320	-73.4		34	7.2
100	28	16,604	-78.9		36	5.7
80	25	17,866	-79.1		04	4.3
70	23	18,632	-75.4		07	4.0
60	22	19,538	-69.4		08	3.5
50	22	20,641	-63.7		09	1.9
40	22	22,028	-58.6		05	1.6
30	20	23,859	-54.3		09	4.3
25	18	25,027	-52.6		09	5.6
20	18	26,479	-49.7		08	5.9
15	15	28,391	-45.3		09	6.3
10	13	31,118	-42.5		09	5.3
7	6	33,543	-39.7			

WALLOPS IS., VA. NASA 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	4	5.8	3.5	31	1.8
1000	30	140	7.3	1.2	31	2.3
950	30	558	5.5	-1.3	32	4.8
900	30	1,003	3.3	[illegible]	31	5.3
850	30	1,465	1.3	-6.4	28	6.1
800	30	1,952	-.7	-10.0	27	7.0
750	30	2,466	-2.7	-13.0	26	8.8
700	30	3,011	-4.8	-16.8	27	10.7
650	30	3,588	-7.8	-19.9	26	11.9
600	30	4,211	-10.5	-23.2	26	14.8
550	30	4,871	-14.5	-27.3	26	14.7
500	30	5,593	-18.8	-30.1	26	15.8
450	30	6,364	-24.2	[illegible]	27	16.3
400	30	7,221	-29.7	-40.3	27	18.2
350	30	8,161	-36.1	-45.2	27	20.2
300	30	9,215	-43.2	-48.4	26	22.4
250	30	10,423	-50.5		27	26.9
200	30	11,861	-55.3		27	26.3
175	30	12,711	-56.4		27	25.0
150	30	13,696	-57.6		26	24.0
125	30	14,832	-59.7		26	22.1
100	29	16,216	-60.3		26	20.2
80	29	17,608	-59.7		26	14.9
70	29	18,443	-59.2		26	11.5
60	29	19,410	-58.6		26	8.9
50	29	20,556	-58.2		26	9.4
40	29	21,952	-57.3		26	10.1
30	27	23,789	-56.1		27	11.0
25	27	24,948	-55.2		27	11.7
20	26	26,376	-53.9		27	14.9
15	23	28,230	-51.1		27	19.7
10	15	30,856	-48.6			
7	4	33,235	-42.1			

WASHINGTON DULLES INT. AP 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	85	2.4	-.7	29	1.5
1000	30	148			27	1.7
950	30	568	4.3	-1.6	28	4.3
900	30	1,005	2.1	-3.9	29	5.6
850	30	1,465	-.2	-7.3	29	6.9
800	30	1,949	-2.0	-10.4	29	7.5
750	30	2,462	-3.7	-13.0	28	8.4
700	30	3,005	-5.5	-18.4	28	9.8
650	30	3,583	-8.0	-21.2	29	11.3
600	30	4,202	-11.4	-24.1	29	12.7
550	30	4,864	-15.6	-27.0	27	14.5
500	30	5,577	-20.2	-31.7	27	15.5
450	30	6,348	-25.1	-36.1	27	18.1
400	30	7,197	-31.0	-41.2	27	20.7
350	30	8,131	-37.5	-44.1	27	21.5
300	30	9,180	-44.3	-48.4	26	24.6
250	30	10,385	-50.9		26	27.3
200	30	11,822	-55.1		26	27.1
175	30	12,674	-55.7		26	25.9
150	30	13,653	-56.8		26	23.5
125	30	14,804	-58.7		26	20.8
100	30	16,201	-59.7		26	17.9
80	30	17,598	-59.6		26	13.7
70	30	18,435	[illegible]		26	11.8
60	30	19,407	-57.8		26	10.3
50	30	20,557	-57.8		26	9.9
40	30	21,965	-57.3		26	9.3
30	28	23,799	-56.5		27	10.3
25	28	24,952	-56.1		27	12.5
20	24	26,367	-55.1		27	16.0
15	21	28,199	-53.2		27	20.2
10	[illegible]	[illegible]	-50.9		27	27.5
7	[illegible]	33,115	[illegible]			

WAYCROSS, GA. 1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	44	7.7	6.1	31	.9
1000	30	153	10.7	6.7	34	2.0
950	30	579	11.4	3.2	34	3.4
900	30	1,032	9.6	-.2	30	4.0
850	30	1,505	7.8	-4.0	29	5.1
800	30	2,003	5.7	-6.4	28	7.3
750	30	2,527	4.0	-10.3	28	9.1
700	30	3,089	1.8	-13.5	28	10.6
650	30	3,681	-1.2	-16.6	28	12.4
600	30	4,317	-4.8	-20.7	27	14.1
550	30	4,990	-8.8	-24.4	27	16.0
500	30	5,728	-13.7	-27.3	27	18.3
450	30	6,516	-19.2	-32.5	27	20.6
400	30	7,387	-25.4	-38.0	27	23.2
350	30	8,341	-32.5	-44.3	27	27.4
300	30	9,409	-40.5	-47.6	27	31.7
250	30	10,629	-48.5		27	36.3
200	30	12,067	-56.8		27	37.8
175	30	12,906	-59.7		27	36.2
150	30	13,863	[illegible]		27	34.8
125	30	14,978	-65.4		27	29.2
100	30	16,326	[illegible]		27	22.9
80	30	17,675	-65.4		27	16.0
70	30	18,491	-63.1		27	11.3
60	30	19,444	-61.0		26	8.1
50	30	[illegible]	-59.3		26	5.8
40	[illegible]	21,986	-57.2		26	4.9
30	[illegible]	23,823	-53.4		27	4.0
25	[illegible]	25,001	-51.4		27	5.9
20	[illegible]	26,464	-49.2		27	7.9
15	[illegible]	[illegible]	-45.9		26	15.5
10	[illegible]	31,105	-39.1			

WINNEMUCCA, NEV. 874 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	1,312	-5.9	-7.9	13	.8
1000	30	241				
950	30	652				
900	30	1,083				
850	30	1,537	4.4	-4.3	13	1.3
800	30	2,032	4.3	-7.7	20	1.7
750	30	2,555	1.9	-10.4	25	2.2
700	30	3,109	-1.1	-14.2	29	3.5
650	30	3,694	-4.6	-17.6	30	4.0
600	30	4,323	-8.2	-21.7	29	5.4
550	30	4,990	-12.5	[illegible]	30	6.1
500	30	5,715	-17.1	-29.9	29	6.4
450	30	6,491	-22.4	[illegible]	30	6.2
400	30	7,351	-29.2	[illegible]	30	7.1
350	30	8,291	-36.8	-45.2	29	7.7
300	30	9,339	-45.2		28	7.9
250	30	10,533	[illegible]		29	8.2
200	30	11,941	-61.0		30	9.3
175	30	12,767	-62.7		30	10.6
150	30	13,715	-62.9		29	11.7
125	29	14,839	-63.5		29	11.9
100	29	16,207	-63.9		29	10.2
80	29	17,579	-62.6		29	7.5
70	29	18,405	-61.4		29	6.6
60	29	19,352	-60.8		30	5.8
50	[illegible]	20,498	-59.7		30	4.9
40	[illegible]	21,896	-58.8		31	4.8
30	[illegible]	23,708	-57.3		31	5.1
25	[illegible]	[illegible]	-57.2		31	6.0
20	[illegible]	26,280	-56.1		32	7.6
15	[illegible]	[illegible]	-55.9		31	11.6

WINSLOW, ARIZ. 855 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed
SURFACE	30	1,487	-.5	-5.8	20	.4
1000	30	217				
950	30	633				
900	30	1,075				
850	30	1,538	.4	-5.7	[illegible]	.1
800	30	2,030	4.0	-5.6	09	.4
750	30	2,552	1.8	-8.6	21	.4
700	30	3,107	-.8	-12.6	25	1.3
650	30	3,696	-3.3	-17.0	27	2.4
600	30	4,326	-6.6	-21.4	28	3.4
550	30	4,997	-10.7	[illegible]	28	5.3
500	30	5,728	-15.7	-30.1	29	6.5
450	30	6,509	-21.6	[illegible]	29	6.8
400	30	7,374	-28.0	-41.3	29	8.6
350	30	8,319	-35.2	-46.0	28	10.0
300	30	9,376	-43.2	-50.1	28	12.2
250	30	10,581	-52.0		28	14.3
200	30	12,004	-58.3		27	19.4
175	30	12,839	-60.5		27	20.7
150	30	13,795	-62.4		27	20.6
125	30	14,915	-64.5		27	18.3
100	30	[illegible]	-65.9		27	14.7
80	30	17,632	-64.5		28	10.8
70	30	18,450	-63.7		28	9.0
60	29	19,400	-62.5		28	7.3
50	27	20,526	[illegible]		29	5.6
40	27	21,919	-58.8		28	5.7
30	26	23,731	-56.9		28	7.4
25	24	24,890	-55.4		28	8.7
20	[illegible]	26,311	[illegible]		28	11.0
15	[illegible]	28,163	-52.4		28	15.9
10	[illegible]	[illegible]	-51.6			

See reference note at end of table.

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	YAKUTAT, ALASKA 998 MB: No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.	+ YAP, CAROLINE IS. 1006 MB: No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.
SURFACE	30	12	.2	-2.9	11	3.0	30	14	28.7	25.0	10	1.4
1000	30	-5			10	2.9	30	82	27.7	23.4	09	1.8
950	30	407	1.7	-2.3	14	6.1	30	528	23.9	19.2	10	3.0
900	30	843	-.9	-3.0	15	7.2	30	1,007	21.1	15.3	10	3.3
850	30	1,297	-3.8	-6.0	16	8.0	30	1,501	18.4	11.8	11	2.8
800	30	1,773	-6.8	-10.1	17	8.3	30	2,019	15.7	8.4	11	3.1
750	30	2,271	-9.8	-13.2	18	8.6	30	2,562	13.0	4.5	11	3.5
700	30	2,804	-13.1	-17.9	19	8.4	30	3,143	10.0	.9	11	4.3
650	30	3,364	-16.4	-21.[illegible]	20	9.0	30	3,754	6.7	-2.6	11	5.3
600	30	3,963	-20.1	-25.5	21	10.0	30	4,410	3.1	-6.9	11	6.4
550	30	4,597	-24.5	-30.2	22	11.1	30	5,106	-.8	-11.8	11	6.8
500	30	5,290	-29.4	-34.9	23	13.2	30	5,866	-4.9	-15.8	11	7.2
450	30	6,033	-34.0	-39.7	23	16.5	30	6,686	-9.5	-20.9	11	7.5
400	30	6,851	-39.7	-43.8	24	19.2	30	7,589	-15.1	-27.7	10	7.9
350	30	7,752	-45.6		25	20.3	30	8,585	-21.9	-34.8	10	6.5
300	30	8,768	-50.1		25	23.6	30	9,700	-30.2	-43.0	10	6.8
250	30	9,950	-52.6		25	20.2	30	10,971	-40.2	-51.9	10	8.0
200	30	11,394	-51.6		26	15.1	30	12,452	-52.7		09	8.4
175	30	12,262	-51.2		26	15.6	30	13,300	-59.9		09	9.0
150	30	13,262	-51.6		26	16.1	30	14,245	-67.2		08	8.5
125	30	14,442	-52.3		26	15.4	30	15,323	-74.8		08	10.3
100	30	15,887	-51.4		26	13.7	30	16,598	-80.2		09	13.1
80	30	17,333	-52.1		26	13.7	30	17,864	-76.9		10	5.6
70	30	18,196	-52.8		27	13.3	30	18,640	-72.2		06	1.6
60	30	19,188	-53.6		27	14.0	30	19,557	-67.5		34	2.0
50	29	20,358	-54.1		28	14.0	30	20,668	-62.7		04	.9
40	28	21,789	-54.7		28	15.0	30	22,057	-58.5		11	1.8
30	27	23,620	-56.6		29	18.5	29	23,879	-55.4		09	4.8
25	23	24,769	-56.6		30	19.6	28	25,051	-51.9		09	7.6
20	2[illegible]	26,188	-57.5		30	21.7	27	26,506	-48.6		10	10.4
15	18	27,998	-58.0		30	25.9	19	28,414	-45.5		10	14.1
10	7	30,526	-59.0				16	31,158	-39.5		09	19.9
7							10	33,605	-35.8			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 885 MB: No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.	YUMA, ARIZ. 1003 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.
SURFACE	30	1,198	1.6	-4.3	30	1.1	17	131	12.8	1.2	36	.9
1000	30	202					17	158			01	2.9
950	30	620					17	593	16.7	-.5	03	4.4
900	30	1,067					17	1,053	13.9	-3.0	05	4.5
850	30	1,533	8.4	-6.2	02	3.2	17	1,532	10.9	-5.4	06	3.3
800	30	2,032	6.1	-8.9	05	2.8	17	2,034	7.9	-8.8	06	2.7
750	30	2,557	3.3	-11.9	06	1.5	17	2,561	5.9	-12.8	04	2.4
700	30	3,114	.4	-14.2	06	1.1	17	3,126	3.2	-15.9	01	2.0
650	30	3,701	-2.7	-19.0	36	1.6	17	3,722	.4	-21.5	32	2.6
600	30	4,336	-6.3	-23.1	35	1.8	17	4,351	-3.6	-25.1	30	3.8
550	30	5,006	-10.5	-27.0	33	2.4	17	5,036	-8.3	-28.3	30	5.2
500	30	5,738	-15.4	-31.7	31	2.8	17	5,775	-13.9	-32.5	30	7.1
450	30	6,517	-21.2	-36.0	31	4.2	17	6,557	-20.2	-37.7	30	7.1
400	30	7,383	-28.0	-41.4	29	4.9	17	7,425	-27.0	-42.7	29	8.1
350	30	8,326	-35.4	-46.5	31	4.9	17	8,373	-34.3	-47.8	28	9.0
300	30	9,380	-43.6		30	5.1	16	9,441	-42.6		27	11.6
250	30	10,582	-52.0		29	6.1	16	10,648	-51.5		27	14.5
200	30	11,999	-59.4		28	9.5	10	12,115	-59.0			
175	30	12,830	-61.1		28	10.4						
150	30	13,786	-61.5		28	12.4						
125	29	14,910	-62.8		28	13.3						
100	29	16,279	-64.3		28	11.0						
80	29	17,647	-63.3		28	6.9						
70	28	18,469	-62.1		28	6.8						
60	28	19,425	-60.8		29	6.6						
50	28	20,562	-59.7		29	4.7						
40	28	21,962	-58.3		28	4.4						
30	28	23,781	-56.6		30	4.9						
25	28	24,940	-55.9		29	7.3						
20	25	26,371	-54.2		28	8.6						
15	20	28,232	-52.3		28	11.6						
10	12	30,897	-49.4									
7												

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Sun's zenith distance

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	*	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°
				ALBUQUERQUE, N. MEX.					
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Nov.									
1-----	1.02	1.12	1.24	1.36	1.43	1.36	----	1.01	0.91
2-----	----	----	1.26	1.40	----	----	----	1.08	1.00
3-----	1.05	1.16	1.25	1.39	1.45	1.39	1.24	1.11	.99
4-----	1.06	1.16	1.28	1.41	1.48	1.40	1.26	1.14	1.06
5-----	1.01	1.12	1.23	1.39	1.43	1.32	1.19	1.04	.95
6-----	----	1.10	1.21	1.31	1.44	1.37	1.22	1.09	.95
7-----	.94	1.09	1.21	1.32	1.43	1.34	1.15	1.02	.89
8-----	1.00	1.07	----	----	----	----	----	----	----
10----	.96	1.08	1.19	1.31	----	----	----	----	----
11----	----	----	----	1.28	----	----	1.15	----	----
13----	1.02	1.15	1.25	----	----	----	----	----	----
14----	1.04	1.14	1.25	1.40	1.45	1.37	1.24	1.13	1.02
17----	----	----	----	----	----	----	----	1.05	.96
18----	1.11	1.16	1.27	1.44	----	----	1.33	1.21	----
19----	1.09	1.20	1.31	1.44	1.50	1.41	1.31	1.18	1.09
20----	1.12	1.21	1.31	1.45	1.47	1.41	1.23	1.10	.99
22----	1.08	1.18	1.30	1.43	1.49	1.44	1.28	1.15	1.03
24----	.91	1.07	1.19	1.35	1.39	1.35	1.24	1.12	1.02
25----	1.04	1.14	1.25	1.39	1.44	1.41	1.27	1.15	1.06
26----	----	----	----	----	----	1.36	1.19	----	.93
27----	.94	----	1.18	----	----	----	1.14	1.02	.92
28----	1.13	1.21	1.31	1.41	1.42	1.35	1.18	1.05	.91
29----	1.08	1.19	1.30	1.42	1.46	1.44	1.30	----	----
30----	1.07	1.16	1.28	1.43	1.46	1.41	1.25	1.13	1.03
Averages	1.04	1.14	1.25	1.39	1.45	1.38	1.23	1.10	0.99
				OMAHA, NEBR.					
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Nov.									
4-----	----	1.03	----	----	----	HS1.27	HS1.08	HS0.96	HS0.84
6-----	0.90	1.00	1.12	1.24	1.24	HM1.17	HM .94	HM .79	HM .71
7-----	.62	.86	.98	1.12	1.09	HM1.12	----	----	----
10----	----	----	----	----	----	HM1.06	HM1.00	HS .92	HS .82
15----	----	----	1.19	1.32	1.32	1.33	1.12	1.08	.92
18----	.90	1.02	1.11	----	----	----	----	----	----
19----	.92	1.04	1.18	----	1.28	----	----	----	----
21----	.94	(.54)	1.08	----	----	----	----	----	----
23----	----	----	1.15	----	----	----	1.12	1.02	.90
24----	.95	1.07	1.17	----	----	----	----	----	----
25----	1.00	1.08	1.20	----	1.27	----	1.17	1.04	----
28----	----	.99	1.11	----	1.24	----	HS1.10	----	----
29----	1.00	1.09	1.20	----	1.31	----	----	----	----
Averages	0.90	1.02	1.13	1.24	1.25	1.18	1.08	0.97	0.84
				GUAM, M. I.					
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
				No observations due to cloudiness					

Sun's zenith distance

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	*	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°
				MADISON, WIS.					
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Nov.									
6-----	----	----	I 1.01	M 1.20	----	----	M 1.00	M 0.85	M 0.75
12----	S 0.96	S 1.04	S 1.17	----	----	----	----	----	----
19----	----	S 1.05	S 1.20	----	S 1.30	----	----	----	----
25----	S .95	S 1.05	S 1.10	----	S 1.27	----	S 1.13	S 1.02	S .89
30----	----	----	----	----	----	----	S 1.19	S 1.06	S .97
Averages	0.96	1.05	1.12	1.20	1.29	----	1.11	0.98	0.87
				TUCSON, ARIZ.					
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Nov.									
1-----	0.91	1.00	1.12	1.28	1.35	1.27	1.13	1.02	0.92
2-----	.95	1.04	1.15	1.29	1.37	1.27	1.13	.99	.91
3-----	.91	1.00	1.11	1.26	1.36	1.26	1.14	1.00	.91
4-----	.88	.95	1.11	1.24	1.35	1.20	.98	.84	.71
5-----	.86	.95	1.03	1.24	1.34	1.27	1.12	1.02	.92
6-----	.90	----	----	1.25	1.27	1.18	1.05	.94	.84
7-----	----	.91	----	----	1.29	1.22	----	----	----
9-----	----	----	----	----	----	----	----	.92	.84
10----	.77	.91	1.02	1.20	----	----	----	----	----
14----	----	----	1.02	1.20	1.33	----	----	----	----
17----	----	----	----	1.23	1.33	1.25	1.02	.89	.77
18----	1.03	1.11	1.24	1.39	1.45	1.38	1.25	1.14	1.03
19----	1.05	1.14	1.25	1.36	1.45	1.37	1.22	1.10	.98
20----	1.03	1.15	----	----	----	----	----	----	----
21----	----	----	----	----	----	1.30	1.16	1.01	.87
22----	1.02	1.11	1.21	1.37	1.39	1.34	1.17	1.00	.91
23----	.92	1.03	1.15	1.28	1.38	1.30	1.11	.96	.86
24----	.94	1.04	1.17	1.33	1.39	1.31	1.17	1.05	.96
25----	.97	1.08	1.19	1.35	----	----	----	----	----
26----	.93	1.02	1.17	1.34	1.38	----	1.13	----	----
Averages	0.94	1.03	1.14	1.29	1.36	1.28	1.13	0.99	0.89
				BLUE HILL OBS., MASS.					
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Nov.									
21----	0.91	1.06	1.18	----	1.30	----	1.17	1.04	0.95
22----	----	----	----	----	1.28	----	1.10	.98	.88
24----	.87	.96	1.06	----	1.16	----	----	----	----
25----	.99	1.08	1.20	----	1.27	----	.91	----	----
28----	----	.76	.95	----	----	----	.94	.81	.67
Averages	0.92	0.97	1.10	----	1.25	----	1.03	0.94	0.83

S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable
( ) Doubtful
HS Slight haze
HM Moderate haze
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. NOVEMBER 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	325	318	382	384	368	361	357	320	289	258	265	244	347	355	308	143	216	382	---	323	212	320	194	---	---	296	199	306	308	300		296
AMES IOWA	40	51	36	215	217	251	245	107	165	126	182	105	95	157	232	84	17	162	206	114	202	[illegible]	176	193	211	186	66	185	234	190		151
ANNETTE ALASKA	[illegible]	65	57	59	100	13	124	24	40	26	110	14	9	44	62	96	22	16	41	12	49	---	---	23	45	6	8	5	1	8		41
APALACHICOLA FLORIDA	258	359	240	[illegible]	438	427	403	317	387	408	399	163	32	371	414	406	377	373	---	---	385	371	323	308	240	348	252	72	316	377		317
ARGONNE NAT. LAB.	[illegible]	56	62	43	275	254	215	208	89	45	75	269	163	256	135	169	[illegible]	18	259	204	187	[illegible]	192	197	112	209	53	184	225	149		156
ASTORIA OREGON	240	95	123	---	104	107	35	106	129	85	170	174	198	---	155	110	76	114	72	6	101	114	107	---	89	164	160	154	162	158		123
ATLANTA GEORGIA	[illegible]	227	351	290	383	386	294	362	359	365	336	274	141	292	374	346	251	185	143	347	315	323	152	240	199	259	198	160	301	329		276
BARROW ALASKA	2	0	1	8	4	12	4	4	9	16	4	8	3	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0		6
BETHEL ALASKA	[illegible]	42	33	21	24	38	17	40	34	82	39	27	25	57	18	22	28	[illegible]	35	40	34	45	32	[illegible]	13	14	16	16	17	8		[illegible]
BISMARCK N.DAK.	111	85	281	240	187	249	145	---	194	170	209	108	101	195	91	116	[illegible]	[illegible]	115	126	151	176	200	142	183	72	189	178	133	175		161
BOISE IDAHO	279	260	243	159	39	40	170	161	251	---	183	175	172	187	180	127	184	174	173	216	176	230	192	193	194	202	198	206	198	191		185
BROWNSVILLE TEXAS	335	134	[illegible]	361	171	274	353	389	409	410	414	399	404	143	195	72	---	157	413	419	[illegible]	340	245	202	114	150	140	50	28	73		258
BURLINGTON VERMONT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	101	51	77	---	---	---	---	---	---	---	---	---	---		---
CAPE HATTERAS N.C.	127	180	338	272	288	299	346	264	106	109	336	78	180	316	361	362	324	225	179	[illegible]	339	318	308	161	306	282	227	50	305	287		253
CARIBOU MAINE	181	78	39	66	25	164	72	70	45	42	53	47	43	91	52	156	205	85	47	15	104	127	78	94	206*	112*	103	200*	152	81		94*
CHARLESTON S.C.	8	330	359	83	378	393	261	367	366	349	334	214	103	344	382	366	273	123	159	328	336	323	259	159	179	286	282	68	280	327		271
CLEVELAND OHIO	49	76	113	66	86	296	91	29	101	37	128	103	119	62	140	238	137	47	20	130	168	215	27	181	193	200	111	77	61	39		112
COLUMBIA MISSOURI	102	77	312	173	328	294	303	227	267	163	138	179	144	202	253	248	139	59	301	275	274	194	271	186	272	255	76	273	278	249		220
DAVIS CALIFORNIA	302	281	231	264	58	149	124	274	290	284	254	263	255	244	94	229	275	253	254	257	229	246	216	238	235	226	236	222	191	200		231
DODGE CITY KANSAS	245	145	178	367	357	347	342	341	304	321	281	295	133	345	307	283	106	320	313	[illegible]	297	296	295	283	296	285	303	297	278	274		285
E. LANSING MICHIGAN	39	164	70	70	258	295	285	39	84	69	196	205	191	154	119	211	18	20	64	244	238	210	124	67	163	186	87	102	133	191		143
EL CENTRO CALIF. NPF	393	393	385	378	372	301	374	236	216	126	126	182	316	318	61	340	333	354	350	266	335	326	333	321	315	295	260	310	131	291		292
EL PASO TEXAS	435	440	435	433	417	389	415	400	305	353	395	332	315	380	383	275	371	417	402	399	279	325	351	351	345	110	51	177	192	202		336
ELY NEVADA	335	134	367	368	321	171	228	175	103	264	324	329	322	323	122	201	267	252	297	303	277	306	326	298	284	285	300	293	280	274		271
EPPLEY NEWPORT R.I.	183	82	128	52	21	60	71	270	51	28	52	131	261	59	189	248	225	153	116	182	241	229	175	117	229	134	226	205	200	191		150
FAIRBANKS ALASKA	---	47	20	25	38	33	20	49	18	35	69	59	30	61	19	50	53	37	59	54	20	14	11	10	15	5	4	8	8	6		29
FLAMING GORGE UTAH	134	346*	338*	293*	337	296	195	283	237	308	271	174	248	299	247	109	177	287	287*	271	209	275	275*	256	274*	266	277*	278*	254	260		259*
FORT WORTH TEXAS	404	172	356	401	403	251	394	368	358	222	339	337	311	392*	375	100	272	119	375	360	364	345	264	85	304	201	54	235	277	337		293*
FRESNO CALIFORNIA	303	300	299	297	217	49	274	284	249	281	282	277	266	254	163	189	191	270	273	234	232	236	239	234	242	221	199	220	225	234		240
GAINESVILLE FLORIDA	28[illegible]	164	224	79	426	418	288	240	313	349	344	191	148	400	408	405	256	316	221	216	378	268	265	268	108	320	298	172	293	376		281
GENEVA NEW YORK	92	40	44	173	92	30	104	10	43	19	96	31	93	26	121	113	156	68	39	178	180	131	50	183	198	145	68	104	51	39		91
GLASGOW MONTANA	122	168	226	---	176	123	312	214	217	169	117	80	223	124	157	104	192	179	115	167	170	167	172	182	176	155	161	145	131	167		167
GRAND JUNCTION COLO.	282	370	354	354	352	342	252	328	124	301	288	281	291	318	228	160	264	319	314	303	241	265	294	297	286	285	296	292	292	287		289
GREAT FALLS MONTANA	282	258	250	147	114	87	71	242	237	129	166	---	210	75	129	150	193	202	[illegible]	123	140	208	92	100	157	198	181	173	136	187		168
GREENSBORO N.C.	36	125	263	263	157	330	320	261	312	299	278	149	231	170	317	318	216	150	25	270	290	271	268	226	192	276	126	80	248	256		224
INDIANAPOLIS INDIANA	88	77	98	60	297	280	274	170	34	119	89	293	62	180	164	252	17	13	251	272	242	208	43	237	164	233	108	159	204	126		160
ITHACA NEW YORK	125	67	51	92	58	80	98	31	71	45	86	63	179	49	104	90	206	123	75	151	196	180	62	137	240	122	68	137	76	59		104
LAKE CHARLES LA.	443	403	415	417	426	386	325	385	375	352	359	105	305	302	409	304	102	146	430	427	403	---	176	107	329	339	154	---	---	302		319
LAKELAND FLORIDA	223	365	336	173	483	464	403	326	358	433	438	419	238	171	452	430	349	369	332	345	411	198	319	327	251	329	201	138	266	413		333
LANDER WYOMING	247	311	306	288	293	241	240	273	254	157	268	182	183	255	208	70	138	254	170	251	249	232	232	229	187	182	249	239	216	208		227
LARAMIE WYOMING	290	250	310	296	307	294	229	272	161	275	264	105	224	259	231	200	151	260	---	247	203	165	255	202	226	124	276	232	222	225		233
LAS VEGAS NEVADA	387	388	375	375	353	189	349	206	157	110	267	271	277	278	74	245	290	329	333	330	271	320	327	314	312	304	315	319	266	289		287
LEXINGTON KENTUCKY	55	167	76	161	129	291	313	277	88	87	118	246	72	190	244	284	129	43	53	280	229	249	25	180	245	261	156	48	247	236		173
LITTLE ROCK ARKANSAS	383	160	316	373	383	291	124	233	322	277	136	352	242	314	345	319	32	26	362	316	318	315	158	193	270	311	80	324	311	321		264
LOS ANGELES CALIF.	367	363	346	325	72*	43	236	315	64	263	333	291	300	161	76	250	320	323	317	239	311	290	310	315	290	263	303	310	301	225		264*
LOS ANGELES CALIF. U	380	380	380	330	100	49	259	193	193	204	308	331	311	---	---	---	321	317	321	236	322	318	306	316	303	262	293	346	---	77		275
MADISON WISCONSIN	70	56	45	47	282	276	249	148	189	113	195	251	116	200	135	165	40	42	232	192	190	169	222	145	226	97	146	166	223	194		160
MANHATTAN KANSAS	73	52	153	318	300	288	261	240	179	247	160	121	182	275	271	208	195	263	278	252	256	231	244	249	255	238	246	258	251	238		226
MATANUSKA ALASKA	45	45	42	21	59	87	41	---	---	64	78	39	59	44	63	61	73	42	37	28	22	37	18	28	14	9	24	15	21	8		40
MEDFORD OREGON	297	271	284	72	312	270	156	207	274	253	244	196	154	187	140	163	260	144	---	---	---	---	---	---	---	---	153	159	215	209		210
MIAMI FLORIDA	445	500	481	254	519	503	347	418	338	461	469	435	369	307	487	425	328	403	432	320	360	369	235	326	254	262	276	286	190	407		374
MIDLAND TEXAS	---	183	394	---	384	362	---	353	131	281	341	255	343	---	356	240	272	297	---	---	---	333	126	152	---	---	---	---	---	---		---
NASHVILLE TENNESSEE	54	174	41	186	330	314	312	327	78	265	120	274	86	183	247	286	125	57	235	286	269	273	145	51	168	281	85	77	282	278		196
NEW YORK N.Y. U	150	28	137	138	16	40	80	216	23	60	131	26	258	44	163	221	194	131	120	233	215	219	187	221	192	195	196	163	171	145		144
NORTH OMAHA NEBRASKA	79	67	38	301	259	282	---	---	239	197	118	109	161	273	272	111	18	248	241	228	226	97	247	234	248	228	110	234	249	207		190

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

NOVEMBER 1969

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	191	342	[illegible]	[illegible]	325	312	247	316	81	181	[illegible]	308	211	166	[illegible]	314	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	167	123	[illegible]	287		232
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	302	267	329	237	[illegible]	[illegible]	186	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	275	[illegible]	[illegible]	278	334	[illegible]	[illegible]		292
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	175	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	341	345	168	208	[illegible]	334	337	[illegible]	[illegible]	--	--	---	--	---	---	--	---	--		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	114	[illegible]	[illegible]	[illegible]	83	[illegible]	68	82	67	88	[illegible]	[illegible]	46	44	[illegible]	[illegible]	40	45	[illegible]	24	[illegible]	31	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	411	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	158	88	[illegible]	[illegible]	[illegible]	326	122	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	81	61	[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	183	218	---	145	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	114	[illegible]	214	144	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	244	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	146	136	175	277	[illegible]	240	117	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	161	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	267	278	123	260	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	208	[illegible]	[illegible]	[illegible]	[illegible]	97	[illegible]	224	166	[illegible]	[illegible]	179	[illegible]	[illegible]	176	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	346	[illegible]	229	[illegible]	375	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		321
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	248	[illegible]	258	359	346	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	41	47	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	217	[illegible]	97	98	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	124	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	271	[illegible]	[illegible]	[illegible]	284	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	197	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	98	[illegible]	[illegible]	[illegible]	180	[illegible]	[illegible]	196	[illegible]	[illegible]	[illegible]	[illegible]	342	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	75	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	51	148	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]	[illegible]	[illegible]	[illegible]	148		94
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	168	[illegible]	[illegible]	[illegible]	88	174	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	[illegible]		[illegible]
[illegible] VIRGINIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	---	[illegible]	[illegible]	182	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	---	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		178
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	488	454	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	444	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	382	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	318	[illegible]	[illegible]	[illegible]	268	[illegible]	[illegible]	161	[illegible]	[illegible]*	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]*
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	372	---	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	457	[illegible]	443	267	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 p.m.) at Palmer, Alaska

NOVEMBER 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-40	-36	-15	-4	-61	-100	-42	-58	-34	-147	-77	-46	-92	-104	-145	-83	-62	-61	-33	-30	-59	-33	-15	-47	-35	-58	-82	-55	-86	-13		-58

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer, Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (<3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	2.36	2.56	2.17	6.81	7.69	7.20	7.30	4.73	5.42	3.84	6.21	4.83	4.44	6.41	7.79	3.94	1.18	6.02	6.90	4.83	6.71	4.44	6.11	6.41	6.51	6.02	3.35	6.21	6.41	6.11		5.36

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

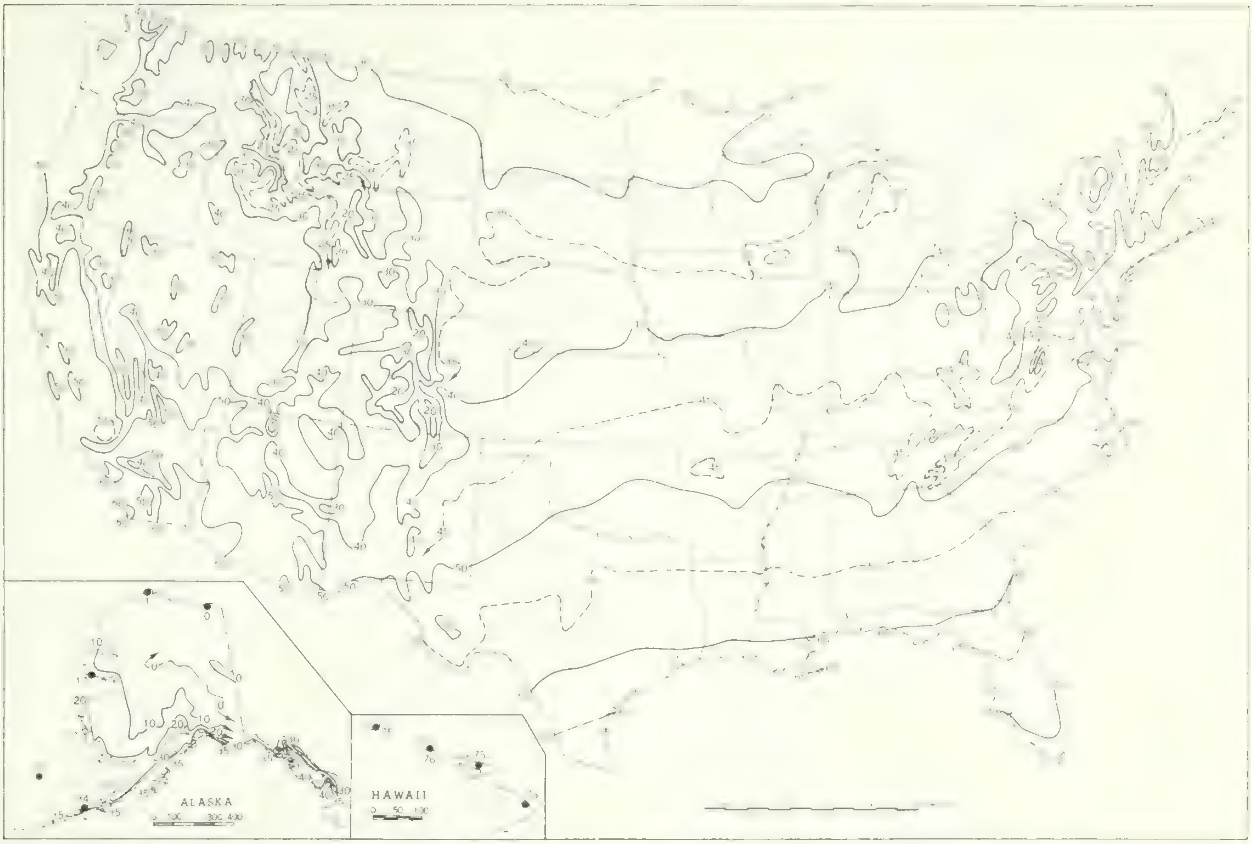
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λ s designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), November



B. Temperature Departure from 30 - Year Mean (°F 1931-60), November 1969.

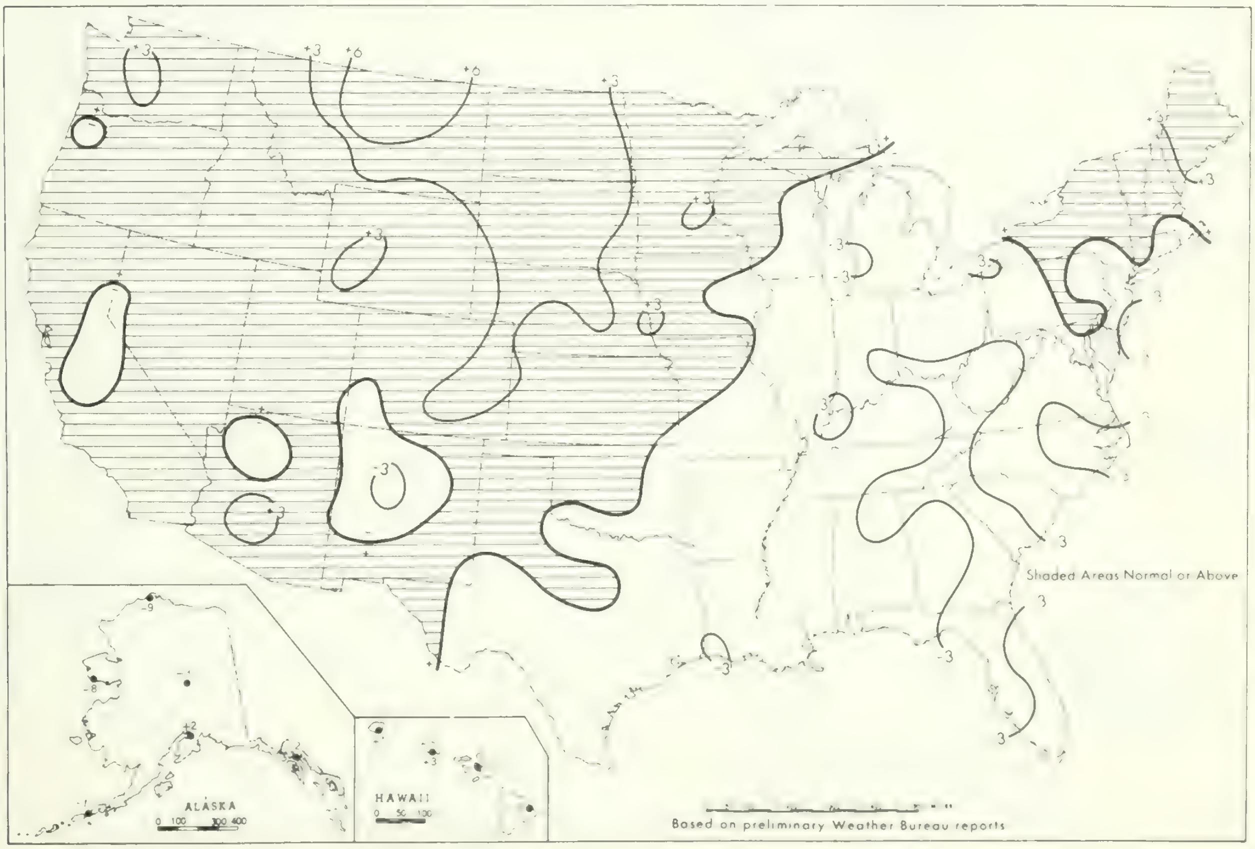


Chart II. Total Precipitation (Inches), November 1969.

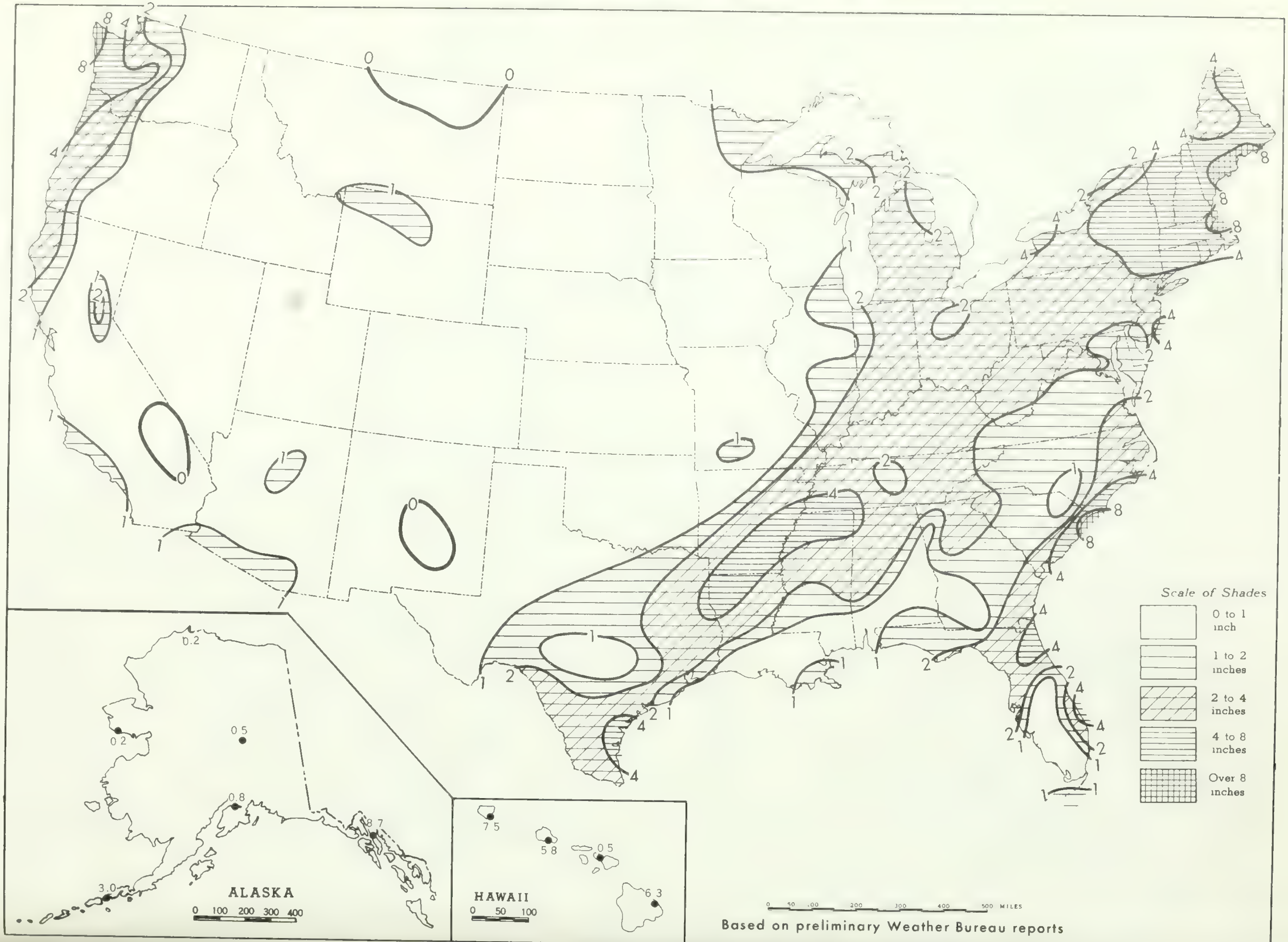


Chart III. Percentage of Normal Precipitation, November 1969.

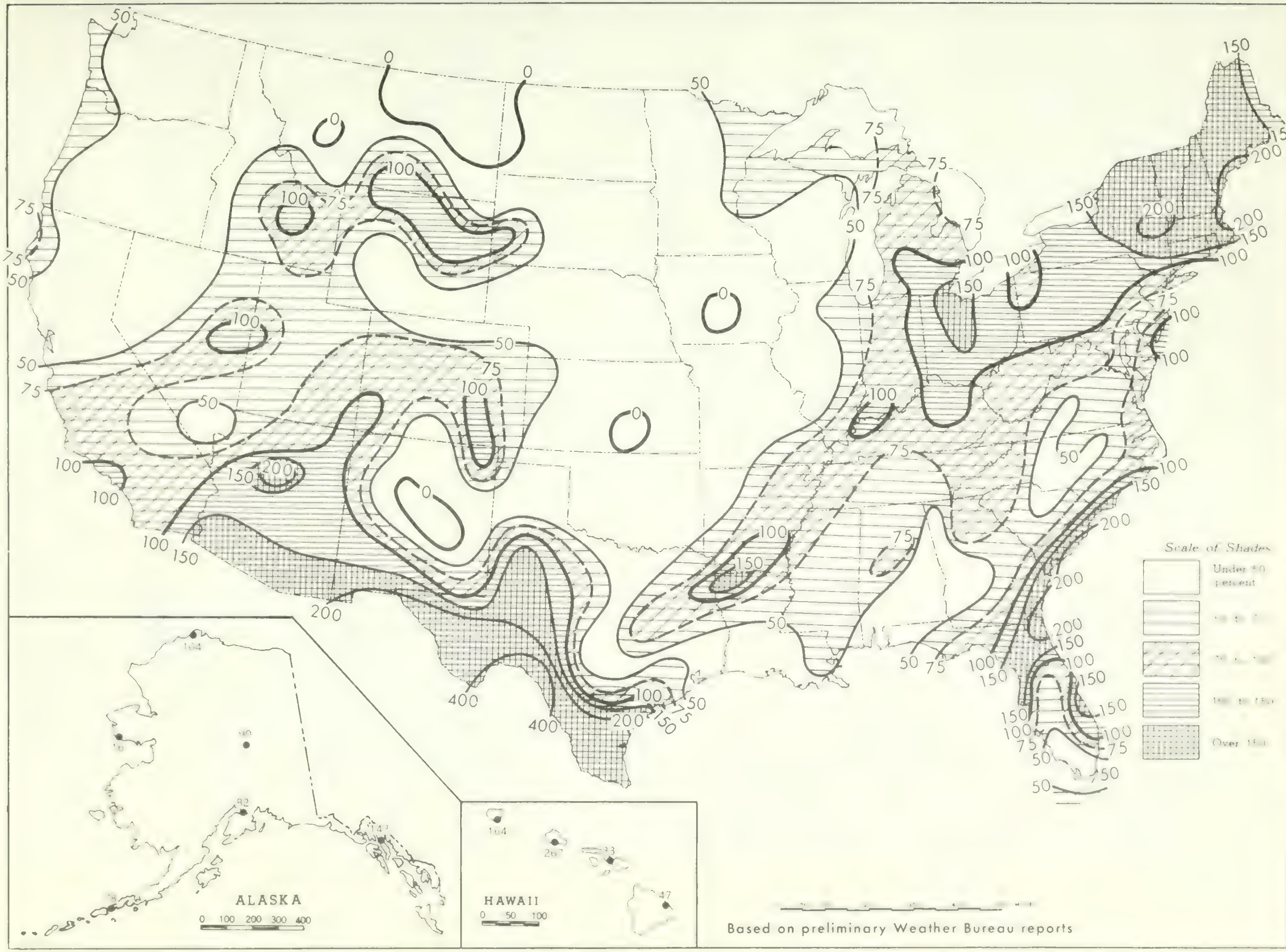
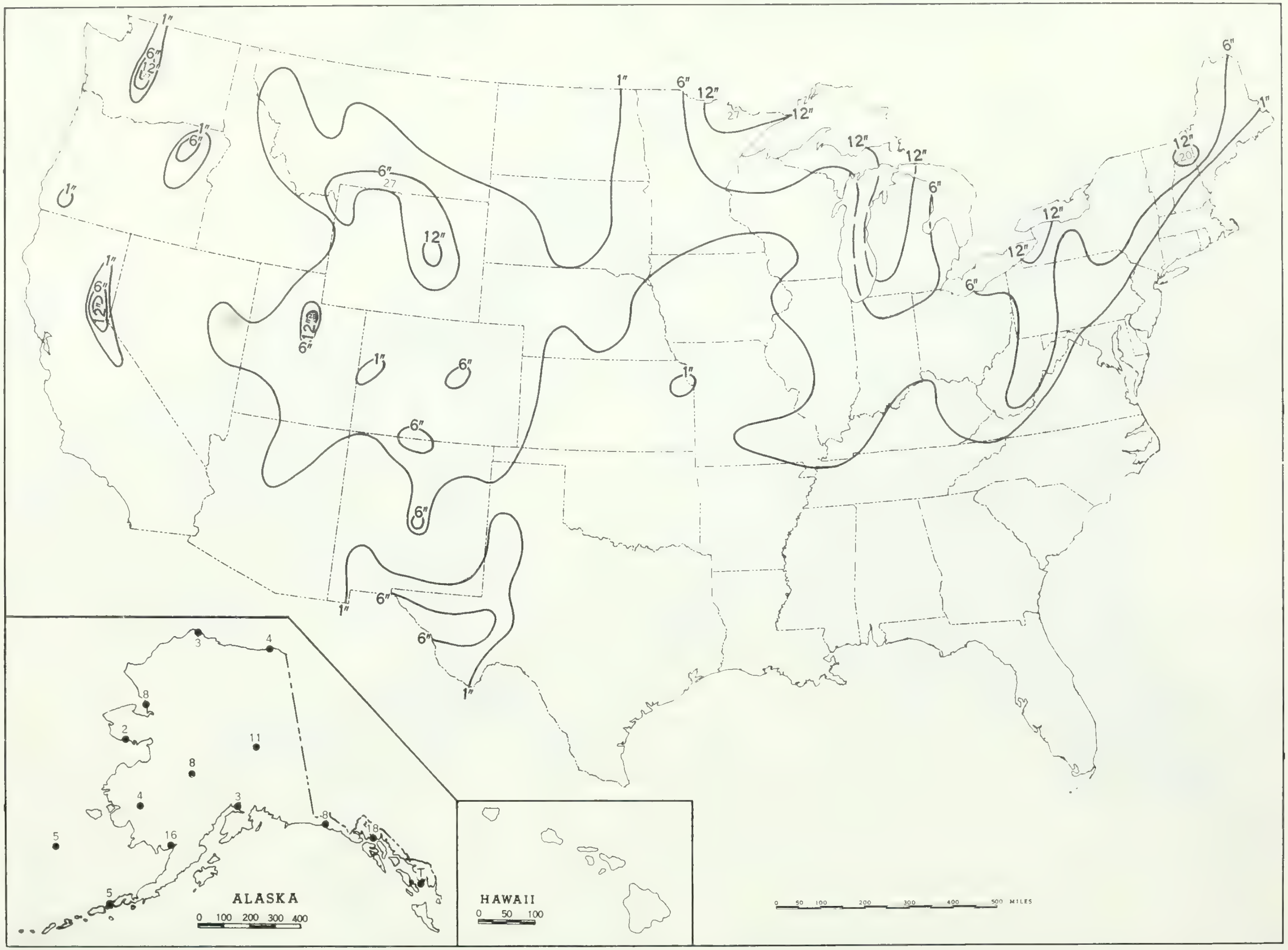
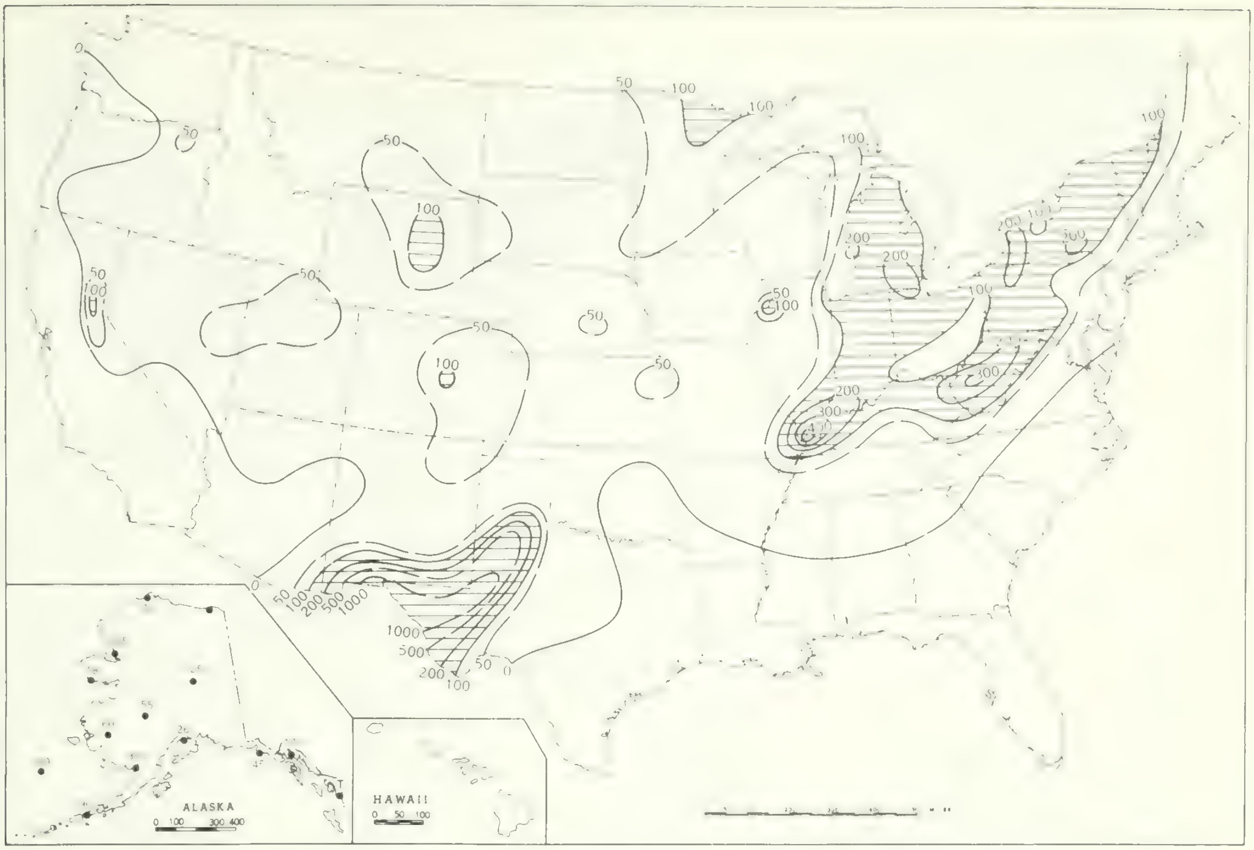


Chart IV. Total Snowfall (Inches), November 1969.

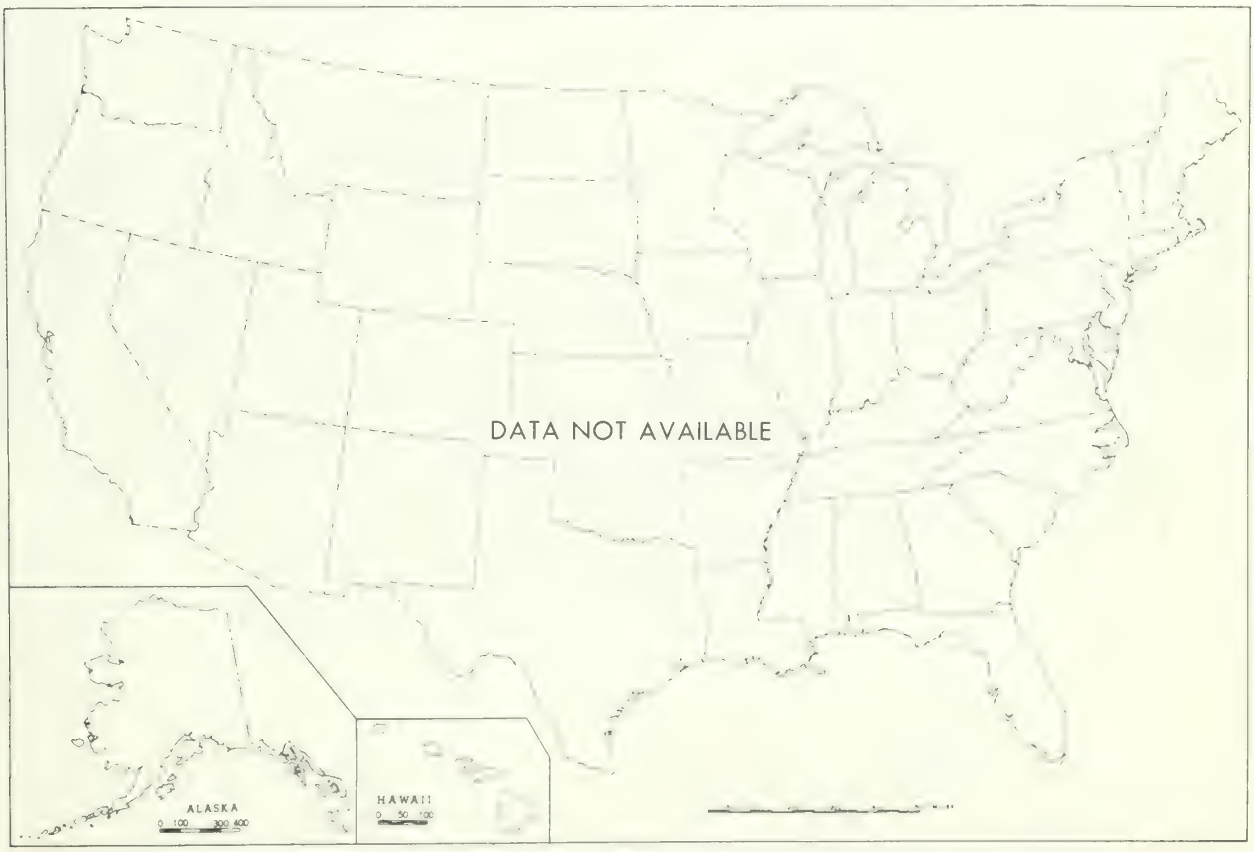


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, November 1969.

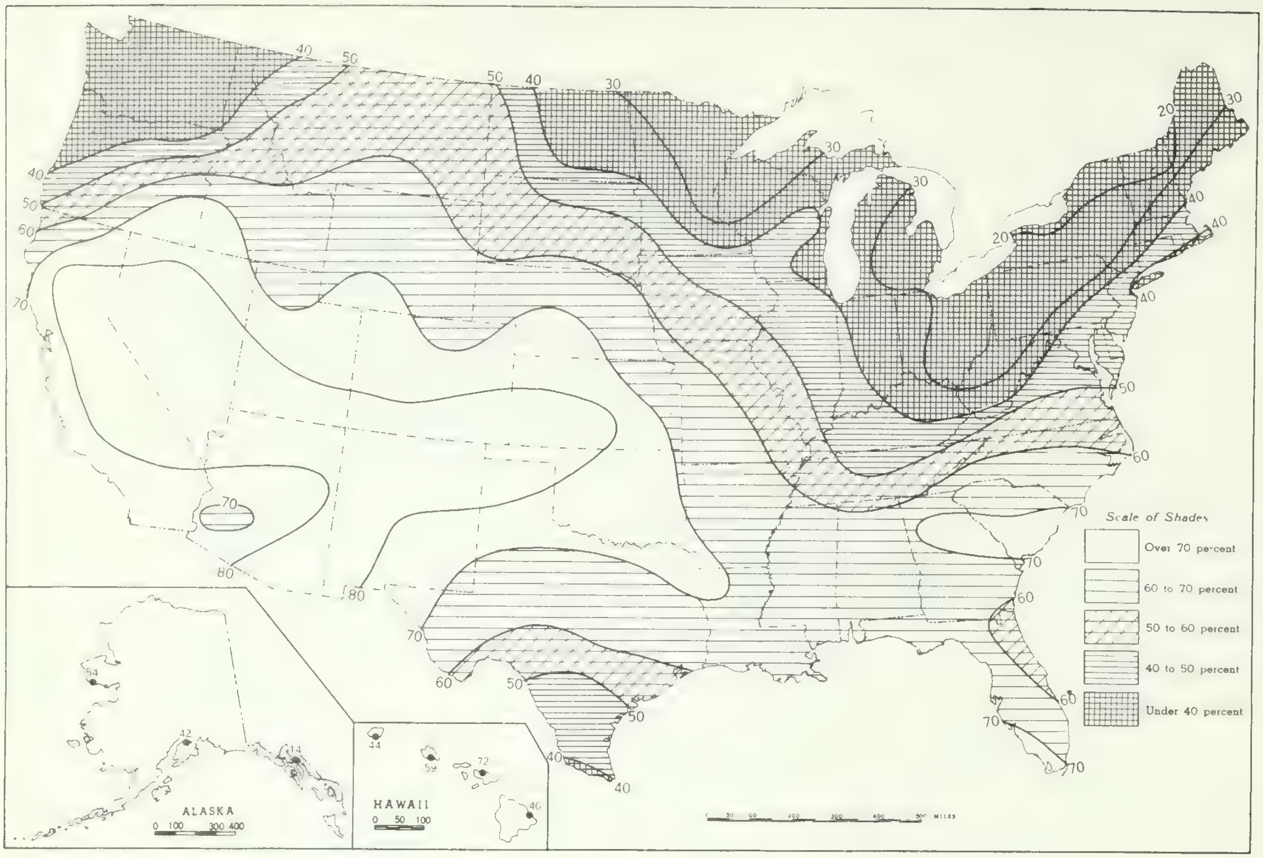


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., November 1969.

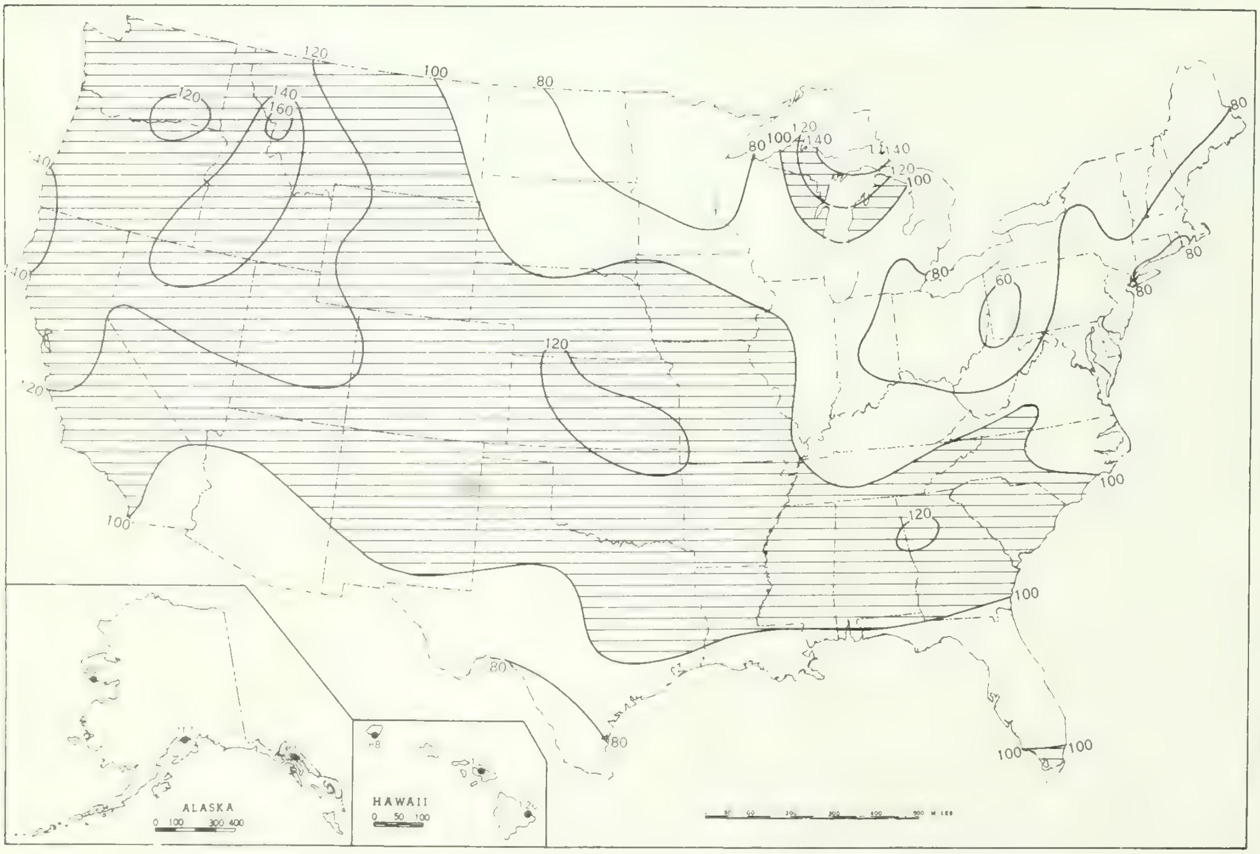


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, November 1969.

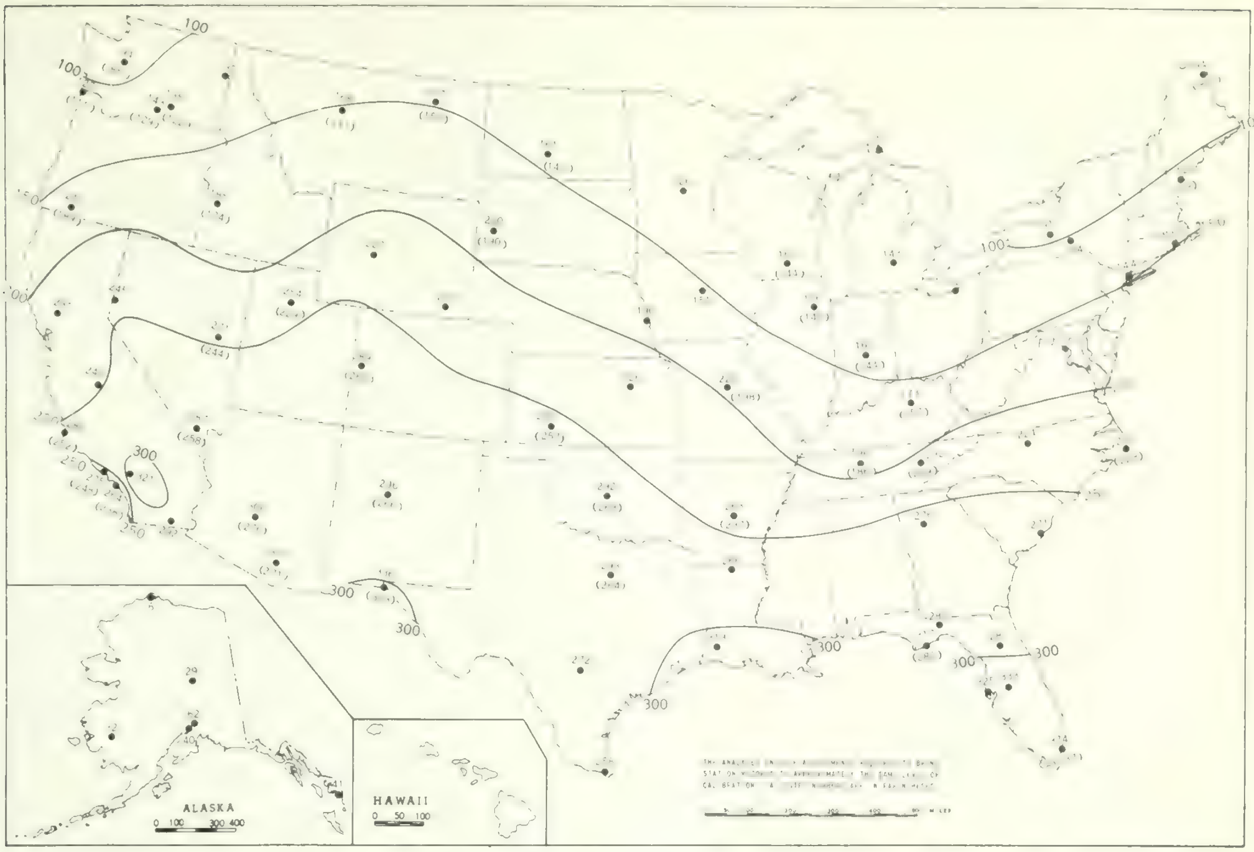


B. Percentage of Mean Monthly Sunshine, November 1969.

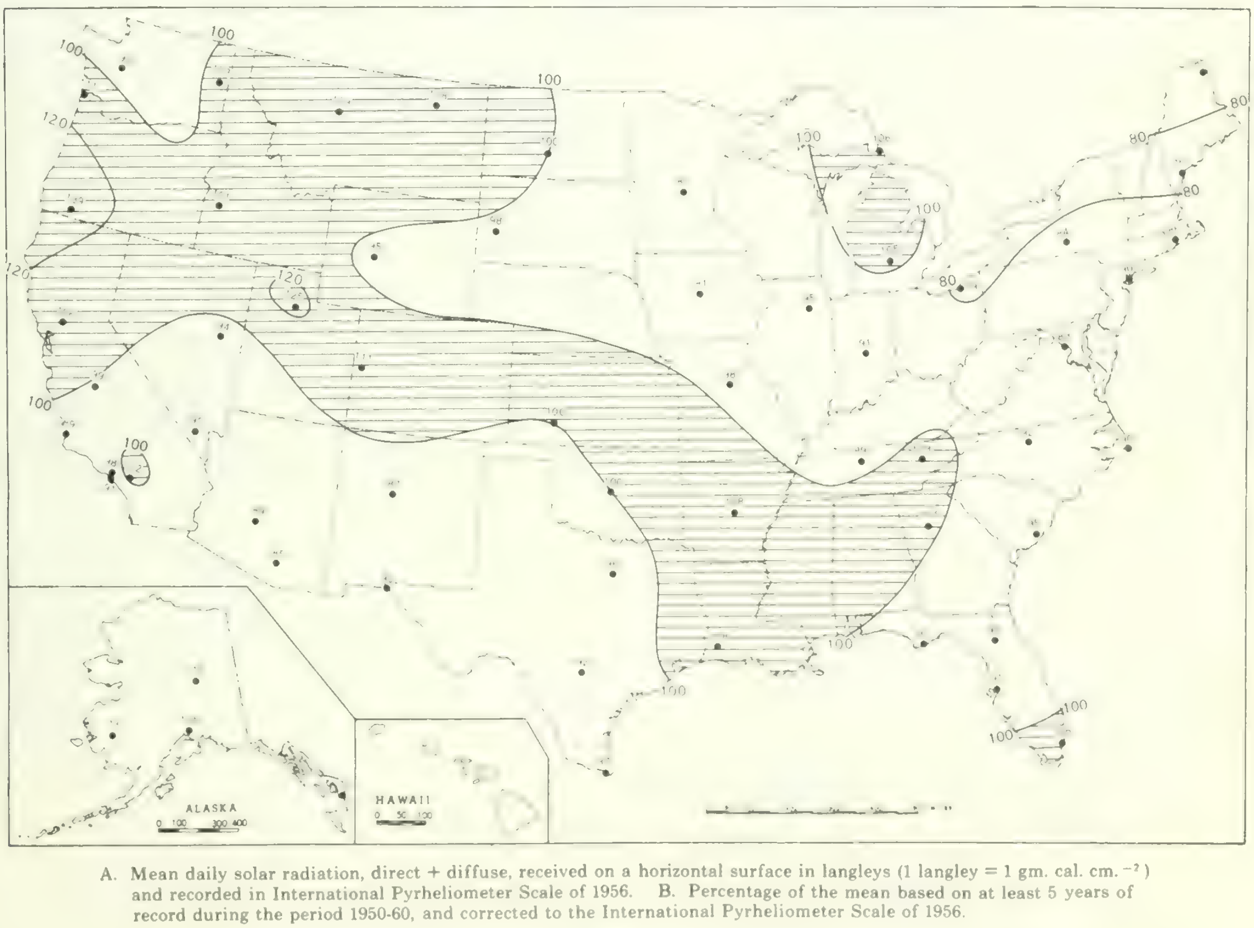


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, November 1969.

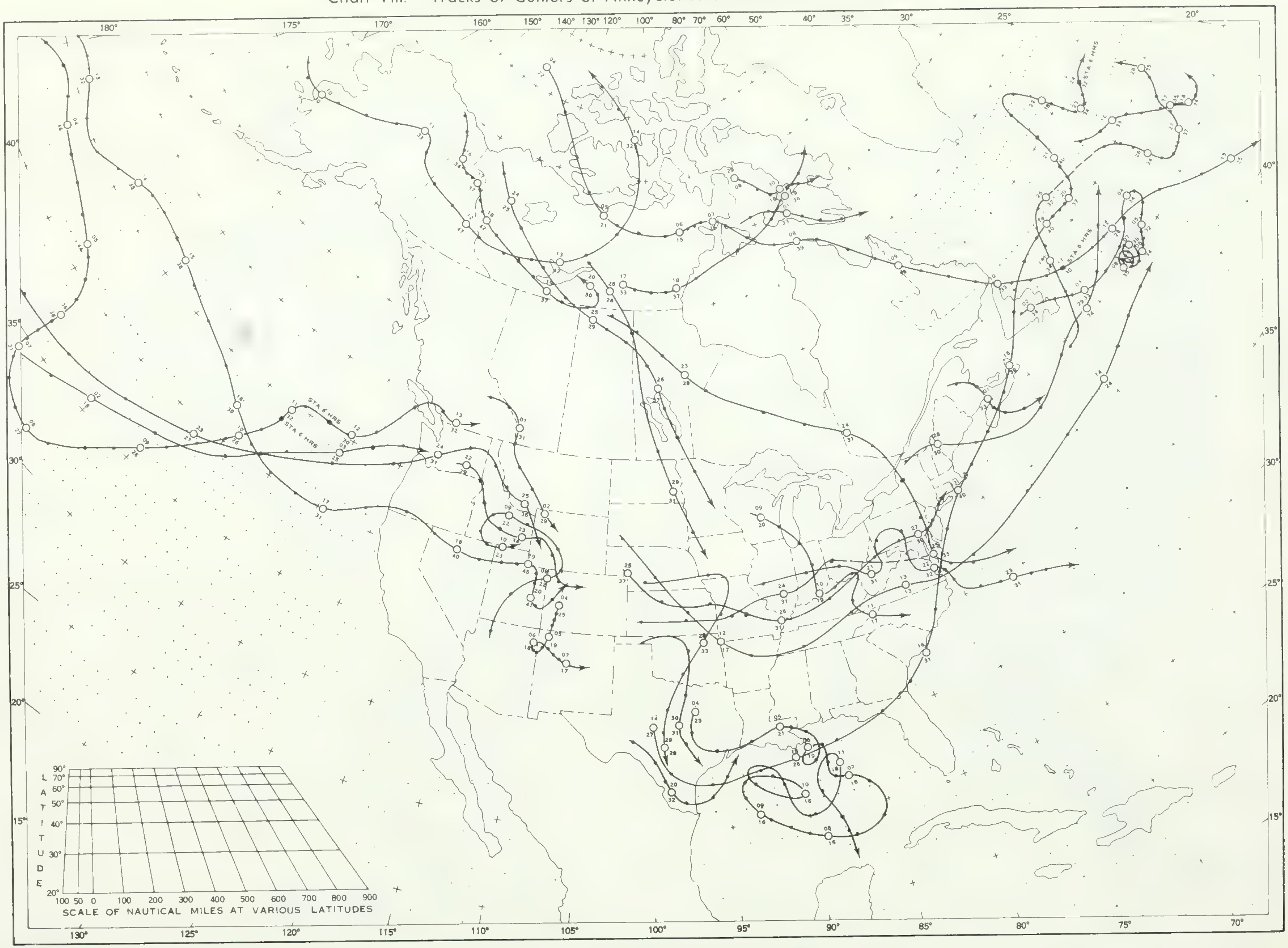


B. Percentage of Mean Daily Solar Radiation, November 1969.



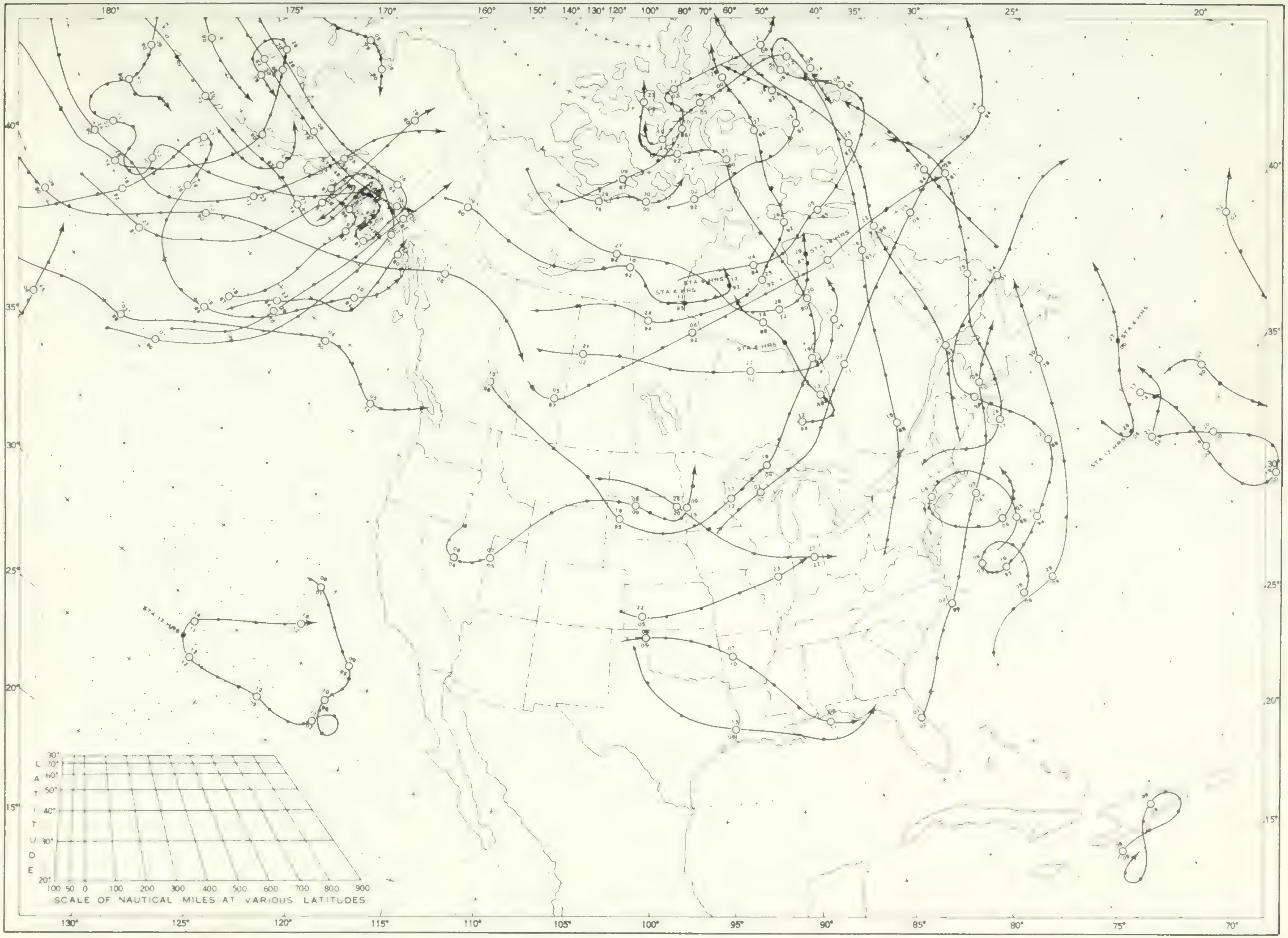
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, November 1969.



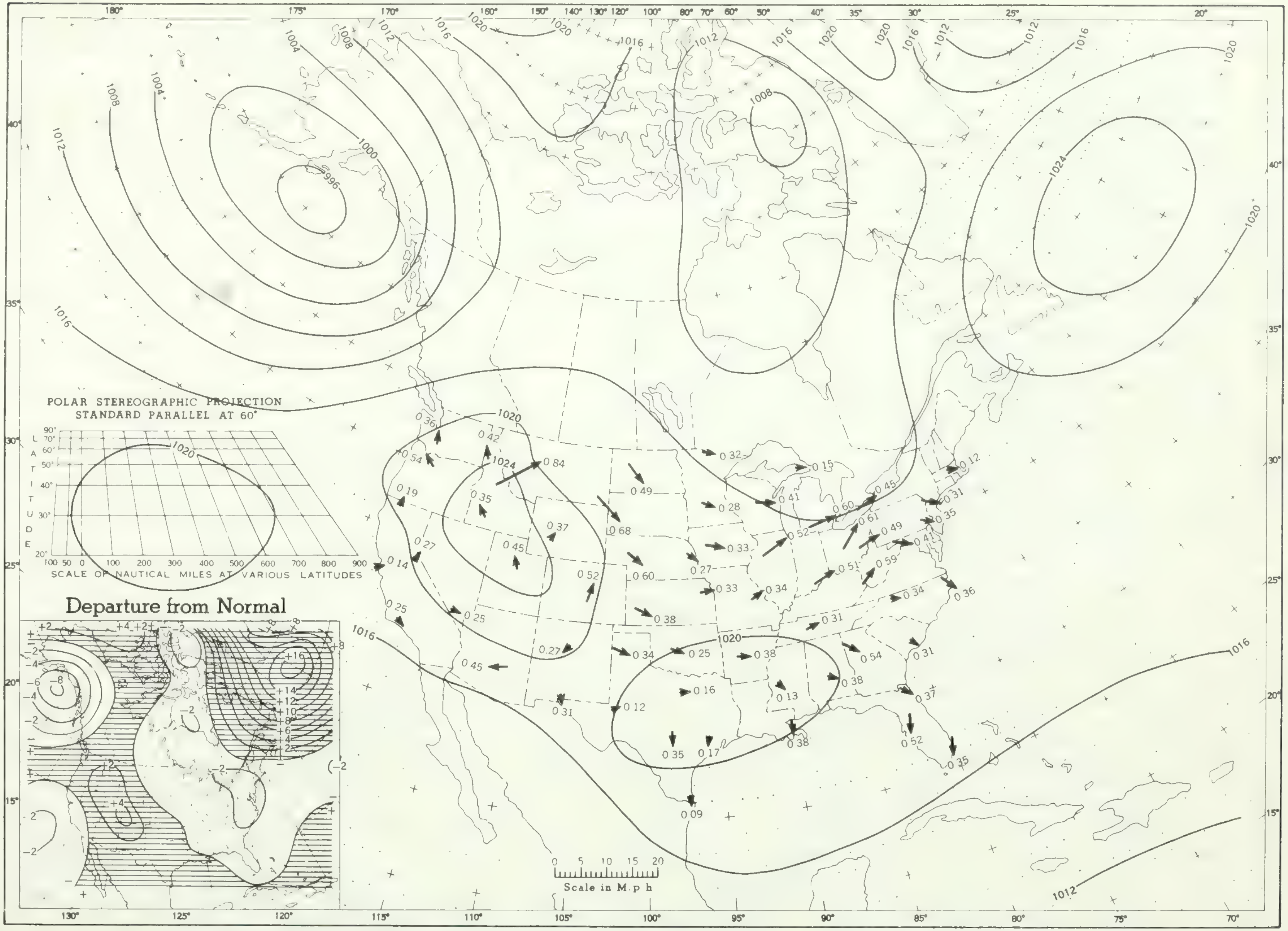
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, November 1969.



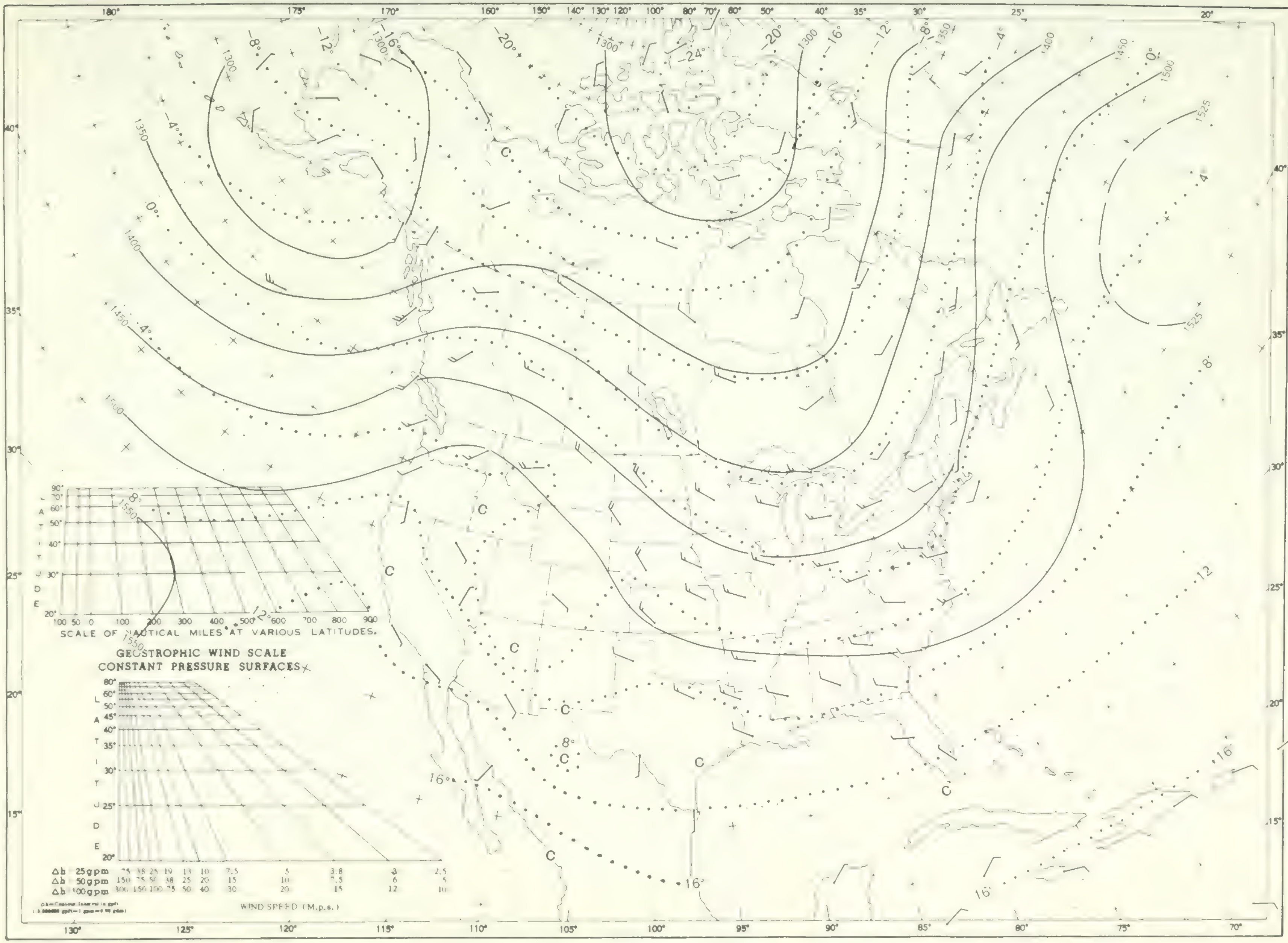
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, **November 1969**. Inset: Departure of Average Pressure (mb) from Normal, **November 1969**.



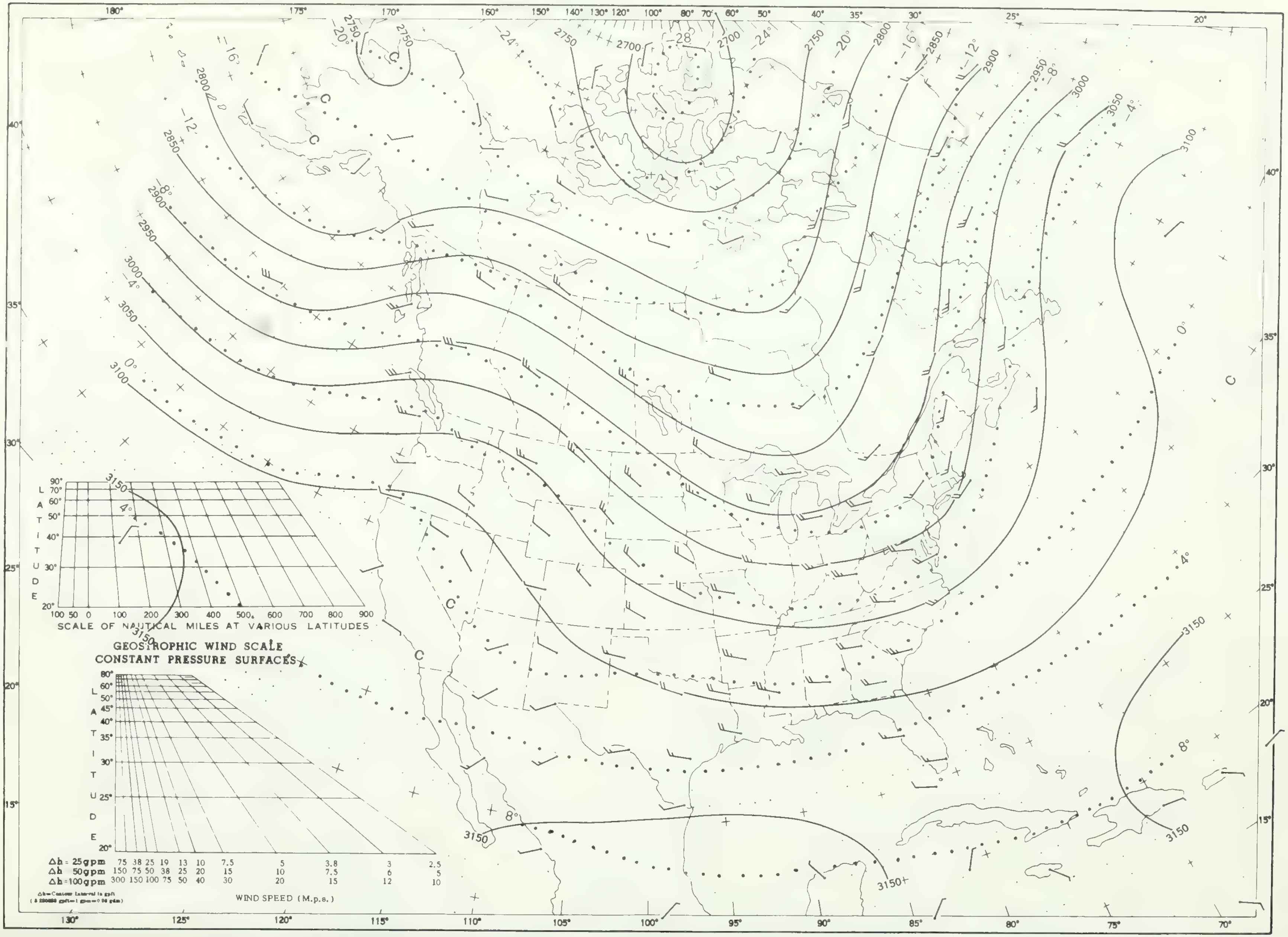
Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb Surface, 1200 GMT, **November 1969**. Average Height and Temperature, and Resultant Winds



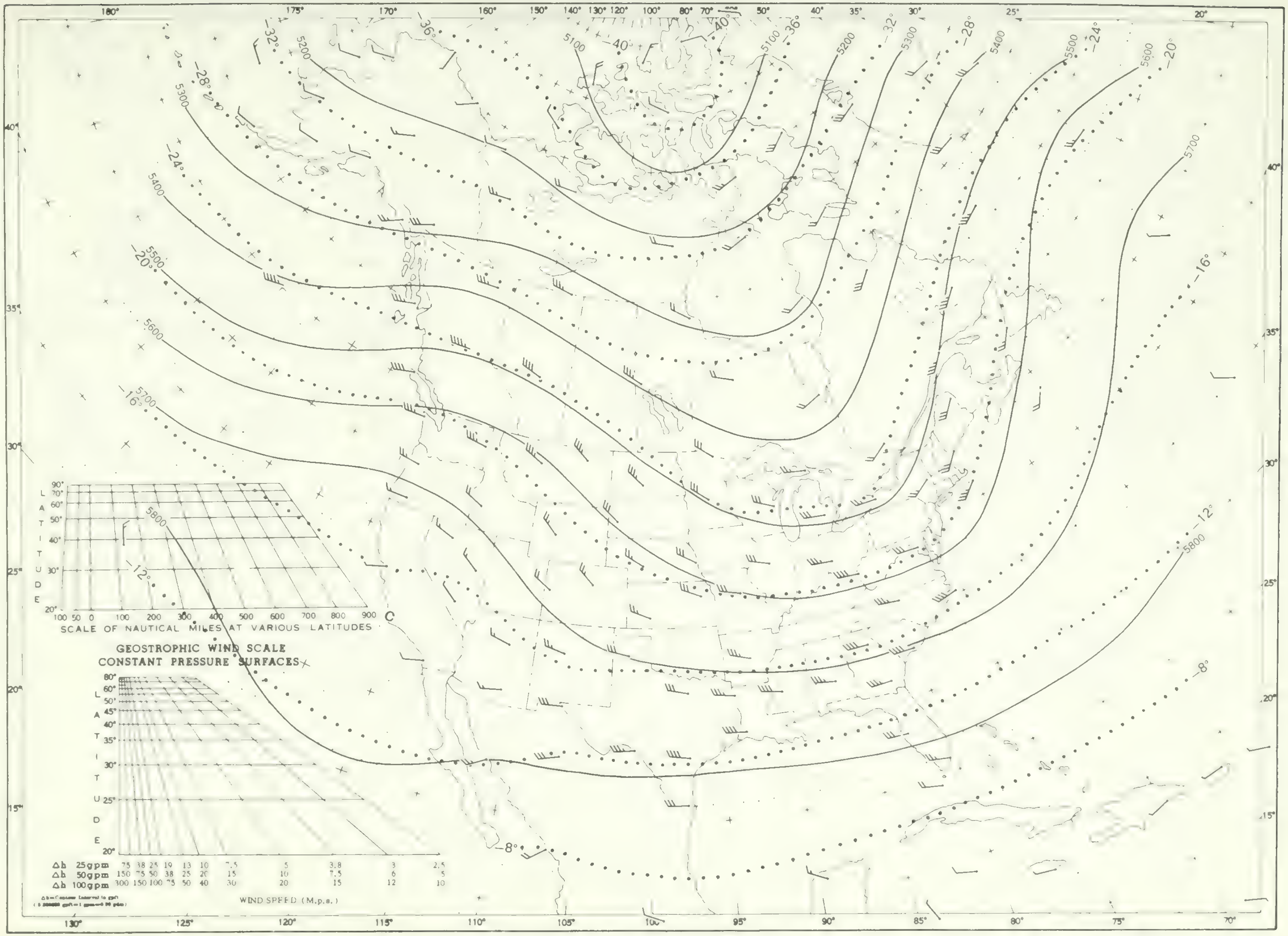
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb Surface, 1200 GMT, November 1969. Average Height and Temperature, and Resultant Winds



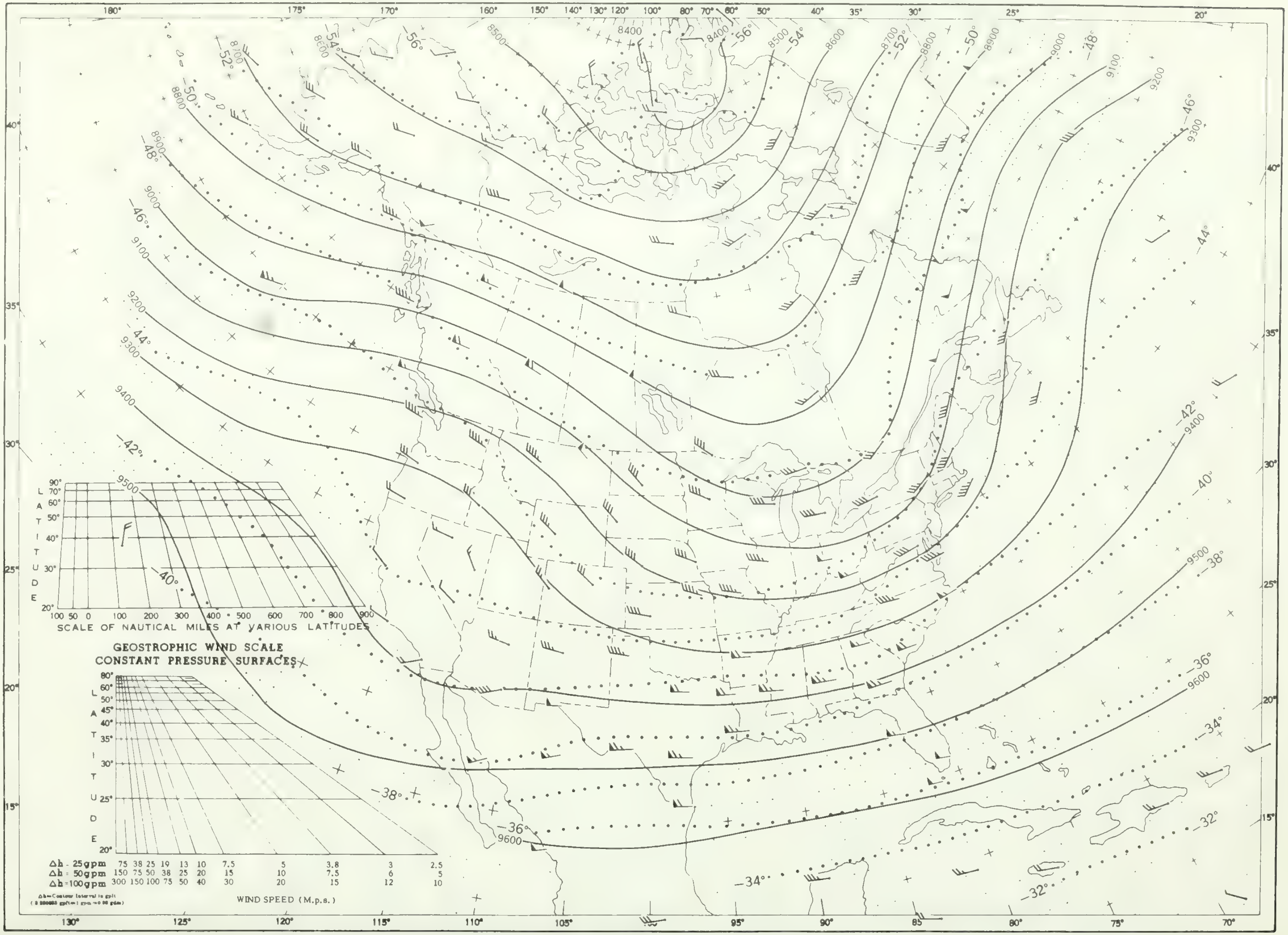
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, November 1969. Average Height and Temperature, and Resultant Winds.



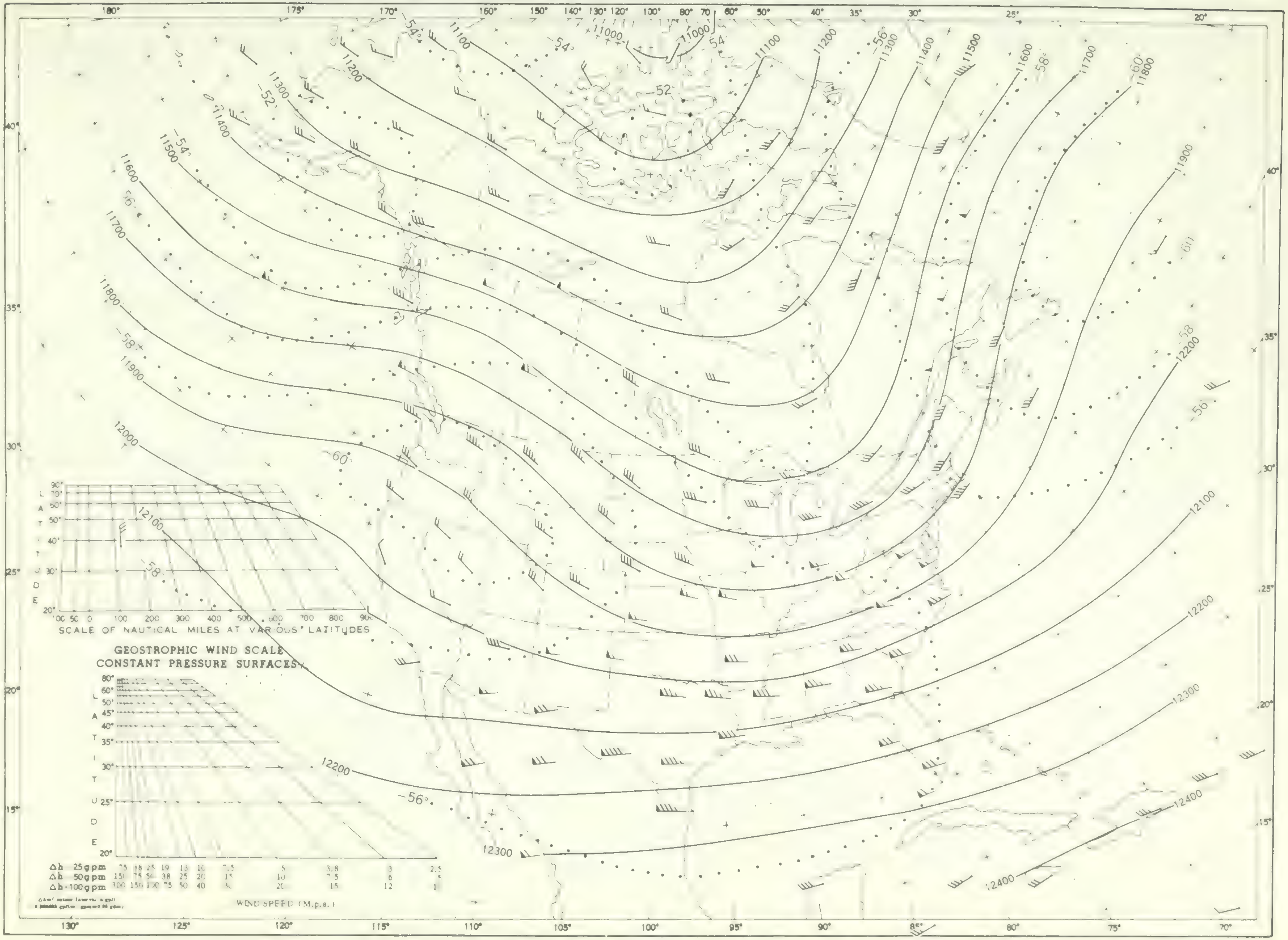
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, November 1969. Average Height and Temperature, and Resultant Winds.



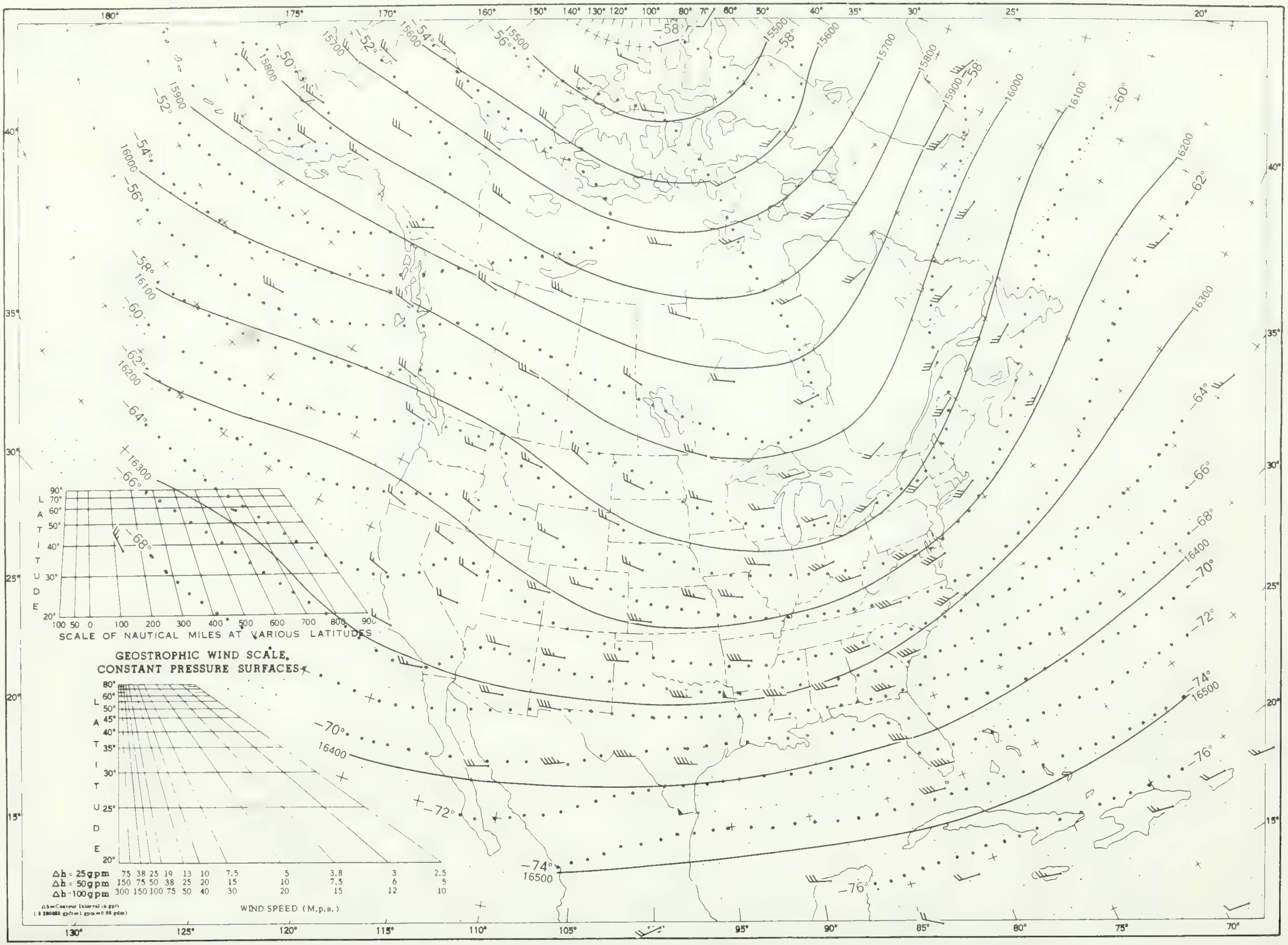
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb Surface, 1200 GMT, November 1969. Average Height and Temperature, and Resultant Winds



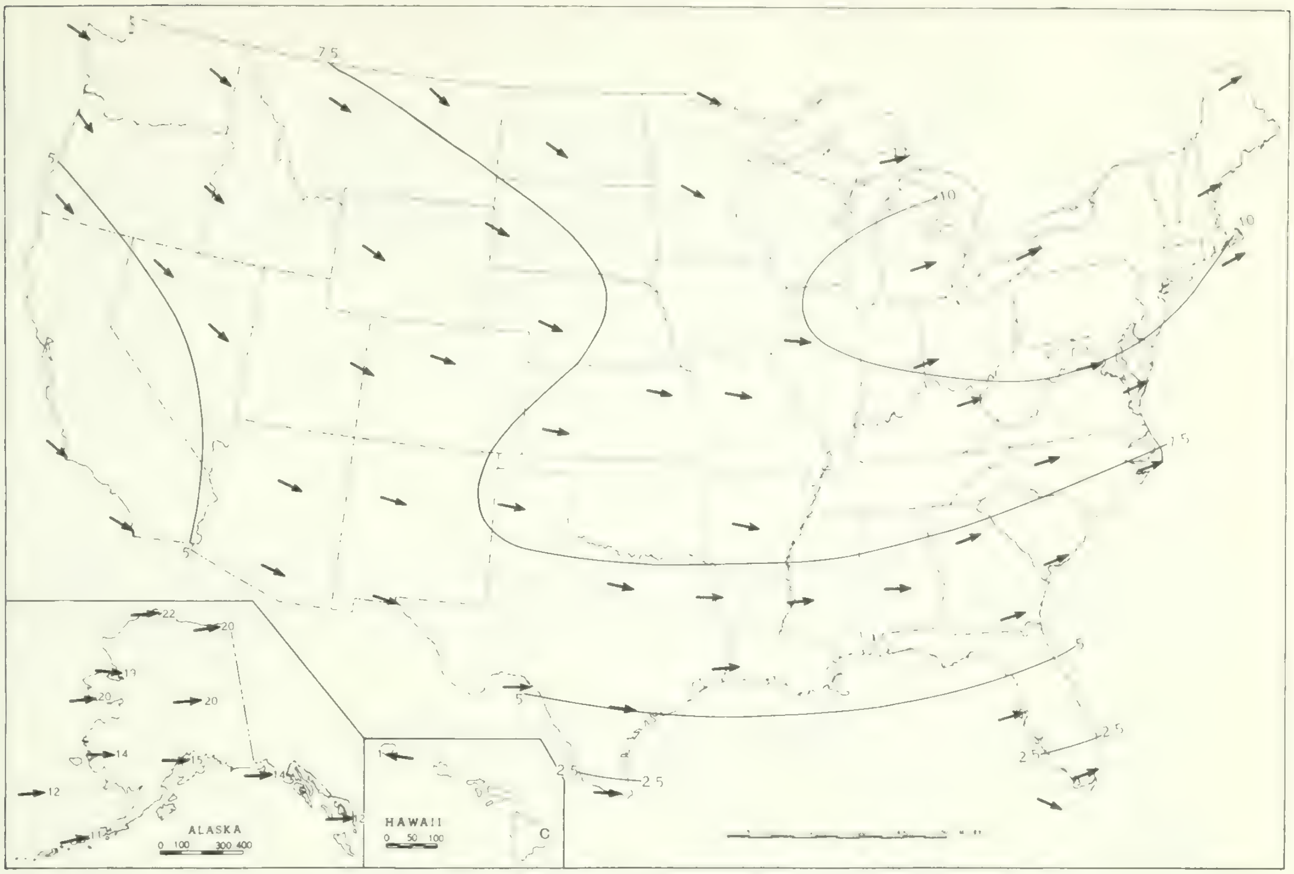
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, November 1969. Average Height and Temperature, and Resultant Winds.

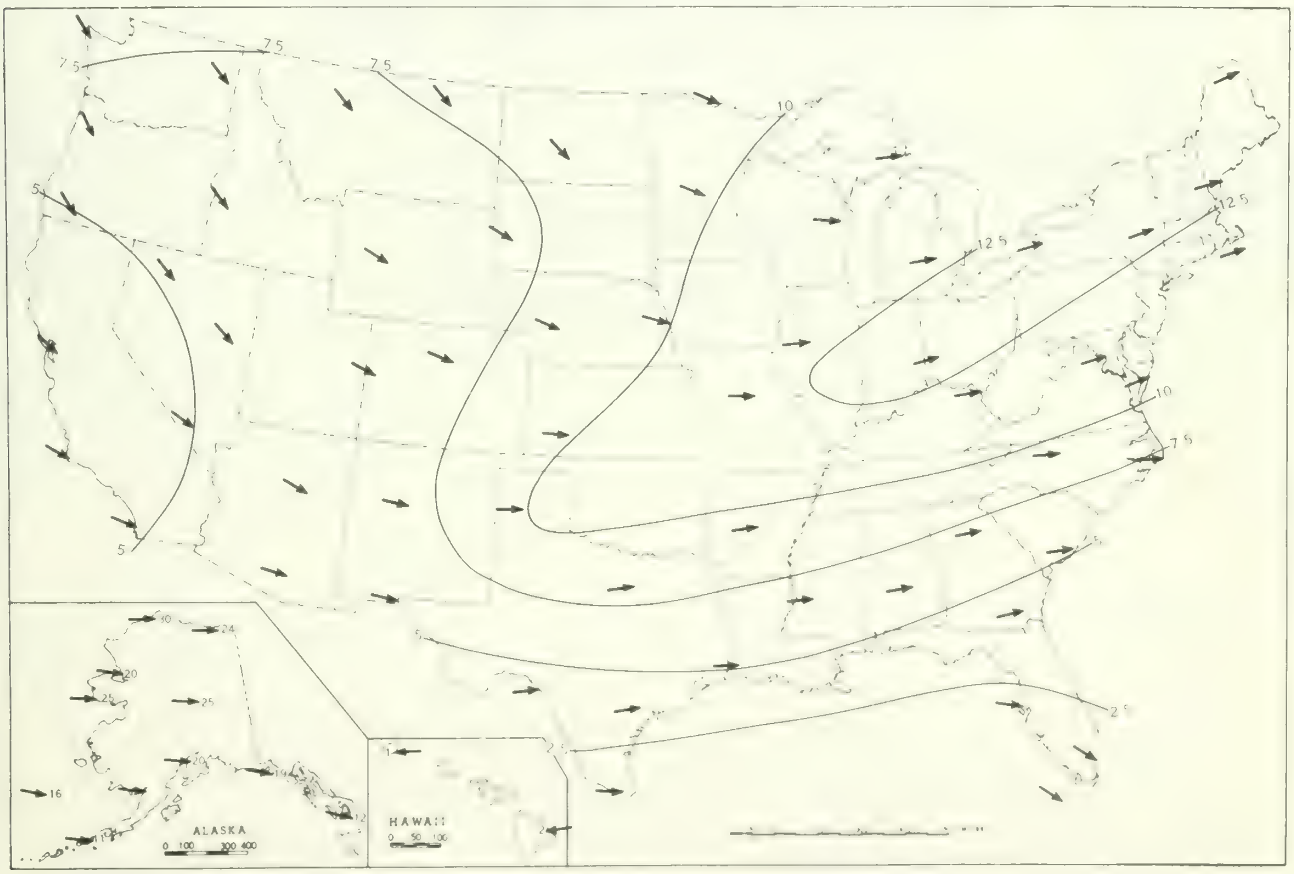


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, November 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, November 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-ESSA-Asheville, N. C. 3/20/70-1930

POSTAGE AND FEES PAID
UNITED STATES
DEPARTMENT OF COMMERCE
OFFICIAL BUSINESS

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DECEMBER 1969
Volume 20 No. 12

Asheville 1970

CONTENTS

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D.C. 20402"

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 12 DECEMBER 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. Precipitation totals ranged widely with many areas receiving above-normal amounts.
2. Warm temperatures prevailed in the West. The East averaged cooler than normal.

TEMPERATURE.--In general, temperatures averaged above normal from the Pacific Ocean to a line extending from Sault Ste. Marie, Mich., to central Nebraska, thence to Port Arthur, Tex., and below normal from that line eastward to the Atlantic Ocean. This is strikingly similar to the general temperature pattern in November. In the West, in December, a few small areas averaged more than 3° warmer than normal and a few small areas averaged slightly cooler than normal. In the East, a large area, which included the lower Missouri River Valley, the middle Mississippi River Valley, the Ohio River Valley and southeastward to the south Atlantic coast, averaged more than 3° colder than normal. Warm weather persisted in the West most of the month. The main exception was in the Northwest where the warm spell began with the second week of December. A cooling trend late in the month dropped temperatures sharply in the West, with subzero weather occurring in the central Rocky Mountains and subfreezing temperatures reaching the Mexican border near Douglas, Ariz.

Below-normal temperatures prevailed in the East throughout the month except in the second week when the Northeast averaged 3° to 18° warmer than normal, the departures increasing from Pennsylvania to northern Maine. Monthly temperatures in Maine averaged 3° to 6° above normal. After mid-December, the East became progressively colder until Christmas Day which, at some locations, was the coldest Christmas of record.

PRECIPITATION.--Many areas received above-normal rainfall in December. A few spots--the southwestern deserts, central Montana, southeastern Wyoming and nearby parts of Colorado and Nebraska, and southeastern Lower Michigan--received less than half their normal rainfall amounts. In contrast, southeastern Oregon, nearby parts of California and Nevada, and a number of areas in the Great Plains and the East received more than twice their normal December rainfall. Amounts ranged widely from no rain or light sprinkles in the southwestern deserts to more than 12 inches along portions of the northern Pacific coast. A large area from southeastern Texas to New England received from 4 to 6 inches or more of rain.

Rainy weather persisted along the north Pacific coast most of the month. Rains fell along the coast and in the nearby valleys with snow in the nearby mountains above about 3,000 feet in Washington and above 5,000 feet in parts of California. By the end of the month, snow depths had reached 50 to 80 inches in the Cascades.

About the middle of the first week of December, light snow fell in the northern and central Rocky Mountains and western Great Plains, with locally heavy accumulations of up to 7 inches in northwestern Kansas and to 9 inches in northern Missouri. Heavy snow fell from Minnesota to western New England in the first week of December, accumulating to about 20 inches at Duluth, Minn., 6 to 12 inches in Wisconsin, 12 inches in northeastern Ohio, 2 to 8 inches in New York, and 6 inches in western Connecticut. Generous rains, 2 to 4 inches, fell in the Southland from eastern Texas to western Alabama.

Stormy weather prevailed over much of the Nation in the second week of December. More rain and snow fell in the Pacific Northwest and snow fell across the Rocky Mountains to the upper Great Lakes. Rain fell in the central Great Plains, the lower Mississippi River Valley, along the Gulf of Mexico from Texas to Florida, and in the Atlantic Coast States. Tornadoes struck central Florida and generous precipitation fell in the Northeast with heavy snow at midmonth. More snow fell from Wisconsin and Indiana to New England in the third week of December. Rain or drizzle occurred in the Southeast.

The last week was especially stormy, particularly on Christmas Day when cold rain fell along the Pacific coast, tornadeos occurred in the Deep South, and heavy snow fell in the central Appalachians and began in the Northeast. The storm in the Northeast continued for several days, producing 20 to 28 inches of snow from the Finger Lakes to the Hudson and Champlain River Valleys and 2 to 4 feet in Vermont. Winds gusting to 50 m.p.h. piled 30-foot drifts in parts of Vermont. This storm became one of the worst blizzards in the 20th century in the Northeast.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

DECEMBER 1969

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Montgomery WBAP	77	30	Valley Head	13	20	Red Bay	12.78	Phenix City	3.21
Alaska	Sitka FAA Airport	59	19	Crooked Creek	-38	25	Whittier	57.53	Rikas Landing	0.00
Arizona	2 Stations	85	15	Heber Ranger Station	-10	31	Granville	2.80	7 Stations	.00
Arkansas	Texarkana FAA AP	75	13	2 Stations	10	31	Des Arc	9.59	Eureka Springs	2.96
California	Avila Beach	91	2	Bodie	-17	29	Honeydew 2WSW	36.74	27 Stations	.00
Colorado	Canon City	69	16+	Fraser	-40	29	Pyramid	4.09	3 Stations	.00
Connecticut	2 Stations	61	12+	Falls Village	-12	25	Groton	9.71	Falls Village	5.04
Delaware	do	63	11	Wilmington Porter Resvr	12	25	Bridgeville 1NW	8.75	Newark University Farm	6.16
Florida	La Belle	86	31	Fountain 3SSE	21	27+	Steinhatchee McCain Tr	8.60	Miami 12SSW	.07
Georgia	Fort Stewart	81	30	2 Stations	11	5	La Fayette	7.10	Savannah Beach	2.65
Hawaii	Kahuku 912, Oahu	99	10	Mauna Loa Slope Obs.,Hawaii	29	27	Puohokamoa 2 343, Maui	45.60	Kona Village 93.8, Hawaii	0.17
Idaho	3 Stations	65	21+	Island Park Dam	-23	29	Deadwood Dam	5.81	May RS	.14
Illinois	Sparta	68	13	Fulton Dam 13	-6	27	Brookport Dam 52	5.76	La Salle 1S	.54
Indiana	Mount Vernon	58	14	LaGrange Sewage Plant	-9	24	Evans Landing Dam 43	4.00	Auburn 2SSE	.37
Iowa	Sioux City WBAP	59	1	Le Mars 2N	-19	31	Allison	D 2.75	Centerville	.17
Kansas	Meade	73	22	2 Stations	-5	30	Cottonwood Falls	2.46	Hunter	.02
Kentucky	3 Stations	62	31+	Summer Shade	4	27	Middlesboro	9.03	Falmouth 5WNW	2.42
Louisiana	2 Stations	80	29+	Many	22	12	Leesville	10.74	LSU Ben-Hur Exp Sta	3.37
Maine	Woodland	60	12	Rangeley	-32	26+	Farmington	15.49	Fort Fairfield	3.39
Maryland	6 Stations	64	11+	Oakland 1SE	-10	21	Benson Police Barracks	9.50	Potomac Filter Plant	3.06
Massachusetts	Middleton	63	11	2 Stations	-20	25	Blue Hill WB	12.60	Adams	3.61
Michigan	Escanaba	46	2	Pellston FAA AP	-23	24	Watersmeet	5.85	2 Stations	.30
Minnesota	Beardsley	61	1	2 Stations	-27	22	Cedar	D 4.06	Wannaska 8SE	.49
Mississippi	2 Stations	78	30+	3 Stations	19	27+	Tibbee	12.53	Leaksville	3.87
Missouri	Cassville Ranger Sta	71	1	do	4	31	Kennett Radio KBOA	6.09	Coloma	.22
Montana	Roundup	69	1	Hebgen Dam	-25	28	Heron 2NW	3.67	5 Stations	T
Nebraska	Merriman	67	1	Wakefield	-18	30	Staplehurst	D 2.09	Ellsworth	.01
Nevada	Sunrise Manor Las Vegas	74	2	Wells	-17	29	Glenbrook	4.48	10 Stations	.00
New Hampshire	Nashua 2NNW	61	11	Colebrook 2E	-31	25	Mount Washington	17.23	North Stratford	4.03
New Jersey	3 Stations	63	11	2 Stations	-11	29+	Bass River St Forest	9.86	Phillipsburg	3.40
New Mexico	Carlsbad	79	13	Gavilan	-27	31	Sandia Crest	D 2.88	Mexican Springs	.05
New York	3 Stations	61	12+	Hinckley	-28	25	Cherry Valley 2NNE	11.68	Ellenburg Depot	2.02
North Carolina	4 Stations	76	31+	Waynesville 1E	6	27	Rosman	9.72	Red Springs	2.77
North Dakota	Mandan Ft Lincoln Park	67	1	Hannah 2N	-19	23	Wishek	2.10	Rolla	.17
Ohio	Ironton	54	7	Dorset	-12	25	Chilo Meldahl Dam	5.12	Danville 2W	.95
Oklahoma	Mangum Research Sta	83	22	Wewoka 3W	-3	31	Carnasaw Tower	6.84	Kenton	.15
Oregon	3 Stations	68	14+	2 Stations	-1	31+	Valsetz	20.75	McDermitt 26N	.43
Pennsylvania	do	62	11+	Clermont 4NW	-20	25	Mt Gretna 2SE	8.90	Scranton	1.84
Puerto Rico	8 Stations	91	29+	Cerro Maravilla	52	11	Pico Del Este	12.31	Mayaguez Nuclear Ctr	.70
Rhode Island	2 Stations	60	11	Kingston	0	25	Providence WBAP	10.75	Block Island WBAP	7.31
South Carolina	do	75	30	Ninety Nine Islands	11	5	Caesars Head 1NE	8.32	Sullivans Island	2.12
South Dakota	Belle Fourche	71	1	Centerville 6SE	-20	30	Lead 1SE	3.04	Wasta	.02
Tennessee	3 Stations	68	31+	Mountain City No 2	5	28	Dayton	11.16	Greeneville Exp Sta	4.23
Texas	Armstrong	87	19	Garcia Lake 12ENE	0	30	Beaumont Filter Plant	9.89	Brownsville WBAP	T
Utah	3 Stations	69	25+	Soldier Creek	-39	29	Alta	D 5.15	3 Stations	T
Vermont	Enosburg Falls	59	12	Enosburg Falls	-27	25	Mount Mansfield	8.69	do	4.59
Virginia	Boykins	73	30	Blacksburg 3SE	-5	27	Pennington Gap	9.08	Tangier Island	2.15
Washington	Walla Walla WB City	66	13	Winthrop 1WSW	-3	28	Quinault Ranger Sta	21.66	Sunnyside	1.26
West Virginia	2 Stations	63	31	Canaan Valley	-10	21	Canaan Valley	8.66	New Cumberland	2.92
Wisconsin	Hillsboro	54	3	4 Stations	-24	22	Plymouth	D 2.76	Madeline Island	.13
Wyoming	2 Stations	67	3+	Bondurant 3NW	-37	29	Snake River	4.30	13 Stations	T

+ And also on an earlier date or dates.

NOTE: Dates in the above table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊘	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%
ALABAMA															
BIRMINGHAM	620	994.2	1017.2	54	33	43.3	- 4.0	70	30	24	27	0	20	31	65
HUNTSVILLE	624	993.9	1017.5	51	32	41.3	- 2.3	68	30	23	20	0	19	32	71
MOBILE	211	1009.1	1017.4	64	44	53.7	- 0.4	74	29+	33	27+	0	0	43	71
MONTGOMERY	183	1010.2	1017.7	58	34	45.8	- 2.4	77	30	25	13+	0	15	33	67
ALASKA												B			
ANCHORAGE	114	989.2	994.2	34	23	28.4	14.9	47	20	6	13	0	28	22	75
ANNETTE	110	1003.1	1006.9	45	36	40.4	4.4	53	19	26	16	0	5	35	82
BARROW	31	1011.5	1012.1	- 4	-12	- 7.7	3.5	6	5	-26	29+	0	31	-12	82
BARTER ISLAND	39	1007.8	1009.8	- 1	-11	- 5.8	4.6	13	31+	-29	28	0	31	-11	74
BETHEL	125	986.5	992.1	20	5	12.4	7.6	39	6	-21	24	0	31	9	86
BETTLES	644	977.3	1003.4	18	3	10.1		33	5	-24	23	0	31	4	74
BIG DELTA	1268			23	8	15.6		45	29	-17	23	0	31		
COLD BAY	96	982.4	985.8	35	28	31.3	2.5	41	6	13	14	0	23	27	83
FAIRBANKS	436	982.4	1000.2	15	- 7	4.0	11.7	42	29	-25	12	0	31	- 6	63
GULKANA	1572	941.8	1002.4	16	2	8.9		37	31+	-24	12	0	31	3	77
HOMER	67			38	29	33.4		50	20	12	13	0	20		
ILIAMNA	186			33	22	27.5		46	18	- 5	14	0	24		
JUNEAU	12	1004.4	1005.1	40	31	35.1	6.7	46	2	15	17	0	15	33	92
KING SALMON	49	986.5	988.3	32	21	26.2	13.0	42	19+	- 3	24	0	25	18	72
KOTZEBUE	10	1000.3	1000.9	16	2	9.0	12.6	34	20	-18	16	0	31	3	76
MC GRATH	344	983.1	996.4	14	- 4	4.9	11.9	39	20	-25	25	0	31	- 1	72
NOME	13	995.6	996.5	23	6	14.4	8.1	43	20	-19	14	0	31	5	65
ST. PAUL ISLAND	22	988.2	988.9	34	25	29.4	3.0	39	21	14	31	0	29	26	85
SHEMYA	122	988.8	992.5	34	25	29.6	- 1.8	38	2	18	16+	0	31	22	72
SUMMIT	2401	909.6	998.8	26	11	18.7		42	19	-10	23	0	31	13	79
TALKEETNA	345	982.4	995.8	32	17	24.3	14.7	41	7	-10	13	0	30	17	72
UNALAKLEET	15			22	9	15.6		40	20	-16	16	0	31		
YAKUTAT	28	999.3	1000.5	40	29	34.5	6.4	51	17	14	17	0	20	30	84
ARIZONA															
FLAGSTAFF	7006	786.3	1018.3	47	20	33.3	2.9	64	13	0	31	0	31	16	57
PHOENIX	1117	976.6	1016.0	68	42	54.8	3.2	79	15	31	31	0	1	37	58
TUCSON	2584	926.5	1015.3	65	40	52.4	0.5	81	15	24	31	0	4	33	55
WINSLOW	4895	851.7	1019.4	51	24	37.4	4.9	67	21	2	30	0	27	22	61
YUMA	194	1008.8	1016.2	68	45	56.5	1.5	78	21	33	31+	0	0	35	51
ARKANSAS															
FORT SMITH	447	1001.0	1017.9	51	32	41.2	- 1.1	68	1	21	30	0	20	30	68
LITTLE ROCK	257	1008.1	1017.8	50	32	40.7	- 1.2	66	1	26	24+	0	18	31	71
CALIFORNIA															
BAKERSFIELD	475	1002.0	1019.9	63	40	51.1	2.3	75	20+	28	30	0	4	38	64
BISHOP	4108	875.4		57	22	39.3	0.0	67	4	11	10	0	31		
BLUE CANYON	5280			46	35	40.2	- 0.1	59	5+	22	27	0	12		
EUREKA C	43			57	45	51.3	2.4	65	20+	36	27	0	0		
FRESNO	328	1008.1	1020.0	58	35	46.2	- 0.8	71	13	24	30	0	16	40	84
LONG BEACH	34	1016.6	1018.0	69	48	58.2	2.2	84	2	36	31+	0	0	43	65
LOS ANGELES	97	1013.5	1017.3	66	51	58.8	1.9	82	2	39	31	0	0	44	64
LOS ANGELES C	270			67	52	59.2	1.0	81	2	40	30	0	0		
MT SHASTA R	3544	893.0	1018.9	45	31	38.0	2.1	56	1	22	5	0	20	31	79
OAKLAND	6	1019.3	1019.6	59	47	53.0	3.5	64	20	38	28+	0	0	48	84
RED BLUFF	342	1006.4	1019.3	58	41	49.4	2.3	71	1	27	31	0	5	39	72
SACRAMENTO	17	1018.3	1019.2	56	40	48.0	1.6	65	20+	28	1	0	6	43	85
SANDBERG R	4517	863.2		52	36	43.8	1.1	63	23	21	28	0	8	23	52
SAN DIEGO	13	1016.6	1017.5	67	52	59.1	2.0	82	2	40	29	0	0	44	60
SAN FRANCISCO	8	1019.0	1019.5	60	47	53.7	3.6	65	20	39	31+	0	0	46	78
SAN FRANCISCO U	52			60	51	55.8	3.3	66	1	45	31+	0	0		
SANTA MARIA	236			65	39	52.2	- 0.2	80	2	27	29	0	3		
STOCKTON	22	1019.0	1020.1	57	40	48.2	2.3	68	20	27	1	0	8	42	82

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																	
BIRMINGHAM	6.07	1.05	2.19	7	2	T	T	1.4	31	28	W	30	10	5	16	6.0	51
HUNTSVILLE	9.48	4.57	5.04	9	2	T	T	1.6	34	32	13	6	6	8	17	6.7	
MOBILE	5.58	0.12	1.75	11	3	0.0	0	2.1	1	25	17	30+	9	9	13	6.0	
MONTGOMERY	3.88	- 0.93	1.53	9	3	T	T	2.5	29	32	5	30	14	3	14	5.3	58
ALASKA																	
ANCHORAGE	0.94	0.00	0.33	12	0	8.7	5	0.7	1	26	16	29	6	0	25	8.0	23
ANNETTE	16.25	4.14	3.13	26	0	T	0	8.2	11	36	10	2+	1	7	23	8.8	
BARROW	0.12	- 0.05	0.06	5	0	1.3	4	9.8	6	31	6	25	Z	Z	Z		
BARTER ISLAND	0.16	- 0.13	0.05	6	0	2.1	7	3.7	8	40	9	3	Z	Z	Z		
BETHEL	0.55	- 0.47	0.28	6	0	11.8	11	8.2	4	33	4	27	4	8	19	7.5	
BETTLES	0.50		0.19	9	0	11.3	13	6.3	36	26	7	24	6	4	21	7.9	
BIG DELTA	T		T	0	0	T	1			38	11	24	5	12	14	6.6	
COLD BAY	2.33	- 0.26	0.66	22	0	7.2	3	3.5	33	32	7	24+	1	3	27	8.8	
FAIRBANKS	T	- 0.54	T	0	0	T	9	3.1	1	28	4	23	5	7	19	7.3	
GULKANA	0.07		0.04	5	0	3.1		2.0	17	40	17	29	3	6	22	8.0	
HOMER	7.85	5.22	1.33	22	0	24.1	14						4	4	23	8.3	
ILIAMNA	1.27		0.35	13	0	6.5	4						3	7	21	7.9	
JUNEAU	4.36	0.14	1.13	21	0	0.7	T	8.3	11	30	12	31	1	5	25	9.1	16
KING SALMON	0.57	- 0.45	0.15	9	1	1.5	1	6.3	6	35	7	18+	3	6	22	8.2	
KOTZEBUE	0.35	0.06	0.15	8	0	7.4	9	6.3	6	32	7	23	3	9	19	7.6	
MC GRATH	0.63	- 0.38	0.21	8	0	12.8	12	1.1	33	23	5	23	3	2	26	8.5	
NOME	0.05	- 0.94	0.04	3	0	1.3	2	8.0	4	31	5	22	7	6	18	6.9	21
ST. PAUL ISLAND	0.98	- 0.85	0.15	21	0	8.7	4	8.3	3	45	36	18	2	7	22	8.3	
SHEMYA	1.66	- 0.48	0.47	17	0	13.3	6	5.4	33	54	15	13	1	7	23	8.2	
SUMMIT	1.09		0.33	11	0	16.4	30	9.3	3	32	4	14	6	4	21	7.4	
TALKEETNA	1.19	- 0.43	0.31	7	0	12.4	8	5.0	3	24	2	23	5	7	19	7.4	
UNALAKLEET	0.21		0.12	6	0	3.1	5			45	9	22	7	4	20	7.1	
YAKUTAT	16.94	4.67	2.96	26	0	5.3	2	7.3	11	35	11	24+	2	2	27	8.9	
ARIZONA																	
FLAGSTAFF	0.46	- 1.19	0.25	3	0	4.6	1	1.0	21	21	6	28	13	[illegible]	9	[illegible]	
PHOENIX	0.68	- 0.17	0.43	5	0	0.0	0	2.6	14	30Y	NNW	5	14	8	9	4.6	77
TUCSON	0.82	- 0.10	0.60	5	1	T	0	3.0	15	34	W	5	15	5	11	4.6	84
WINSLOW	0.40	- 0.12	0.23	5	1	2.4	2	2.7	26	29	24	26	14	8	9	5.1	
YUMA	0.67	0.35	0.67	2	0	0.0	0	3.1	1	35	N	28	16	[illegible]	[illegible]	3.6	78
ARKANSAS																	
FORT SMITH	4.16	1.34	2.26	11	1	2.4	2	2.5	7	26	NW	1	4	11	16	[illegible]	[illegible]
LITTLE ROCK	8.10	4.01	3.26	12	2	T	T	2.0	1	29	NW	23	8	6	17	[illegible]	51
CALIFORNIA																	
BAKERSFIELD	0.16	- 0.81	0.06	4	0	0.0	0	1.7	8	[illegible]	[illegible]	25+	11	7	13	5.1	
BISHOP	0.20	- 0.98	0.20	1		0.0	0						12	9	10	4.9	
BLUE CANYON	19.38	9.14	4.52	13		31.5	18			33	21	21	10	3	18	6.5	
EUREKA C	9.60	2.89	2.65	18		0.0	0			42	SE	11	8	2	21	7.1	45
FRESNO	1.14	- 0.83	0.45	4	0	0.0	0	1.6	10	24	NW	21	8	7	16	6.2	56
LONG BEACH	0.06	- 1.91	0.05	2	0	0.0	0	1.5	31	33	1	28	9	11	11	5.4	
LOS ANGELES	0.01	- 2.38	0.01	1	0	0.0	0	1.8	31	41Y	N	29	12	11	8	4.9	
LOS ANGELES C	0.06	- 2.81	0.04	2		0.0	0			27	NW	26	14	11	6	4.3	63
MT SHASTA R	13.09	6.87	3.98	18		9.6	3	1.7	12								
OAKLAND	4.33	0.75	1.59	11	0	0.0	0	2.3	16	32	17	19	10	6	15	6.0	
RED BLUFF	6.60	2.39	1.83	16	0	0.0	0	1.7	19	47	SE	21	10	5	16	6.3	[illegible]
SACRAMENTO	4.41	1.17	1.99	12	0	0.0	0	2.1	15	33	N	27	9	7	15	[illegible]	57
SANDBERG R	0.39	- 2.10	0.30	3		3.8	3	6.7	35	31	35	26+	10	10	11	5.2	
SAN DIEGO	0.46	- 1.59	0.40	4	0	0.0	0	3.3	32	23	NW	26	15	8	8	4.5	74
SAN FRANCISCO	4.59	0.50	1.52	12	0	0.0	0	1.8	21	39	18	19	9	6	16	[illegible]	
SAN FRANCISCO U	6.15	1.88	3.00	13		0.0	0			29	SW	19					[illegible]
SANTA MARIA	0.29	- 2.29	0.12	4		0.0	0						12	9	10	4.7	
STOCKTON	2.43	- 0.23	0.61	10	0	0.0	0	2.8	15	30	36	27	9	6	16	6.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	°F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	769.7		37	3	19.6	0.4	52	2+	-16	31	0	31			0.41	0.16	0.21	4		7.6	3						11	8	12	5.6	
COLORADO SPRINGS	6145	808.7	1018.6	43	18	30.8	- 0.9	63	14	- 2	29	0	31	15	58	0.32	0.08	0.23	5	0	7.3	5	4.0	1	35	[illegible]	22	10	5	16	6.3	
DENVER	5283	834.1	1016.0	46	19	32.5	0.9	67	14	0	29	0	31	19	65	0.32	- 0.15	0.15	7	0	3.1	2	2.3	22	42	SW	22	10	3	18	6.1	55
GRAND JUNCTION	4843	853.0	1020.4	42	23	32.7	3.6	53	21+	10	29	0	31	19	60	0.36	- 0.21	0.18	6	0	4.8	2	1.8	8	19	NW	26	10	7	14	6.9	62
PUEBLO	4684	854.0	1016.6	52	22	36.8	3.6	67	14+	- 1	30+	0	29	20	58	0.50	0.20	0.23	5	0	5.9	3	1.5	31	45	NW	22	10	8	13	5.6	68
CONNECTICUT																																
BRIDGEPORT	7	1011.2	1011.9	39	27	32.7	- 0.5	58	11	11	25	0	24	20	61	6.55	3.04	1.74	13	0	11.6	8	9.6	35	40	34	27	11	3	17	6.3	
HARTFORD	169	1004.7	1011.6	33	20	26.9	- 2.0	59	11	1	18	0	27	20	74	8.36	4.89	2.04	16	0	35.4	16	7.0	33	30	NW	28	7	6	18	7.0	54
DELAWARE																																
WILMINGTON	74	1010.5	1013.6	39	26	32.7	- 2.4	59	10	16	25	0	27	24	71	7.90	4.87	2.22	11	0	6.8	4	6.5	30	35	28	27	8	6	17	6.7	
DIST.OF COLUMBIA																																
WASH NATL AP	10	1012.5	1014.8	43	30	36.3	- 1.8	59	11	20	25+	0	21	23	61	6.54	3.76	1.61	9	0	6.8	4	6.7	32	45	NW	27	7	8	16	6.5	40
FLORIDA																																
APALACHICOLA U	13			62	46	53.9	- 1.9	71	19	35	5	0	0			5.52	2.56	1.78	8	4	0.0	0			31	NW	25	16	7	8	4.0	62
DAYTONA BEACH	31	1016.6	1017.8	67	46	56.5	- 3.8	78	30+	36	28+	0	0	45	69	5.03	3.08	4.01	8	4	0.0	0	3.2	27	23	19	30+	18	5	8	3.9	
FORT MYERS	15	1017.6	1017.8	71	51	61.0	- 4.0	81	9	40	5	0	0	52	75	3.95	2.66	3.00	4	1	0.0	0	1.1	1	23	32	26	20	8	3	2.8	
JACKSONVILLE	24	1016.3	1017.4	65	42	53.5	- 2.6	79	30	32	23	0	1	43	73	3.87	1.65	1.88	8	4	0.0	0	4.3	26	37	SW	10	15	11	5	3.9	75
KEY WEST	4	1016.6	1017.2	74	64	69.2	- 1.4	80	31+	54	15	0	0	59	72	0.78	- 0.91	0.40	7	1	0.0	0	3.7	5	27	NW	26+	17	10	4	3.5	77
LAKELAND U	214			69	50	59.1	- 3.3	79	31	38	13	0	0			4.46	2.60	2.77	7		0.0	0						17	9	5	3.4	73
MIAMI	7	1016.9	1017.3	75	57	65.9	- 2.2	82	10	44	27	0	0	55	68	1.15	- 0.52	1.09	3	1	0.0	0	1.1	33	23	30	26	19	4	8	3.7	
ORLANDO	108	1013.5	1017.8	69	48	58.7	- 2.2	81	31	37	14	0	0	49	75	4.66	2.77	3.61	6	3	0.0	0	2.6	29	25	30	22	18	7	6	2.6	
PENSACOLA	112	1012.9	1017.2	62	44	53.4	- 0.9	73	30	35	13	0	0	41	67	4.39	0.17	1.37	9	4	0.0	0	0.4	2	25	18	6	9	9	13	5.8	
TALLAHASSEE	55	1015.2	1017.7	65	35	49.9	- 4.2	76	30	25	28+	0	19	40	76	5.77	2.33	2.00	7	3	0.0	0	1.5	32	32	15	7	13	8	10	4.6	
TAMPA	19	1017.3	1017.6	69	47	58.1	- 4.2	77	29+	33	14	0	0	48	74	5.17	3.28	3.28	9	6	0.0	0	1.0	36	25	33	26	14	10	7	4.2	77
WEST PALM BEACH	15	1016.6	1017.3	73	52	62.7	- 5.5	82	31	39	27	0	0	52	70	1.16	- 1.41	0.80	4	1	0.0	0	2.3	28	35	27	22	21	2	8	3.6	
GEORGIA																																
ATHENS	802	986.5	1017.2	52	33	42.3	- 2.3	69	30	22	5	0	17	29	63	3.88	- 0.65	1.03	9	0	T	T	4.2	28	25	19	30	10	9	12	5.6	
ATLANTA	1010	979.0	1016.7	51	32	41.7	- 3.1	71	30	23	5	0	17	28	63	3.27	- 1.11	1.11	8	0	T	T	3.9	30	30	SW	30	9	7	15	6.1	53
AUGUSTA	136	1010.8	1016.2	56	31	43.6	- 3.6	71	30+	17	5	0	17	31	67	3.76	0.43	1.56	8	1	T	0	3.9	27	23	30	26	15	5	11	5.0	
COLUMBUS	385	1003.1		57	34	45.4	- 2.3	74	30	26	18+	0	19	32	64	5.09	0.53	1.33	8	3	T	0	2.6	30	23	25	30	15	2	14	5.2	
MACON	354	1004.1	1017.3	58	34	46.4	- 2.6	75	30+	24	18	0	15	33	66	4.91	0.86	1.47	8	2	0.0	0	3.5	29	31	W	21	13	7	11	5.0	62
ROME	637			49	30	39.5	- 2.9	70	30	19	18	0	21			5.97	0.84	1.88	9		T	T										
SAVANNAH	46	1014.9	1016.7	60	35	47.7	- 3.7	77	30	25	5	0	13	35	69	3.43	0.62	1.51	8	0	0.0	0	3.8	27	31	W	22	14	8	9	4.6	69
HAWAII																																
HILO	27	1015.6	1016.9	80	63	71.5	0.0	85	4	57	21+	0	0	64	80	8.10	- 7.08	2.39	21	1	0.0	0	1.1	20	20	NW	19	9	12	10	5.6	45
HONOLULU	7	1016.3	1016.6	84	69	76.5	2.9	87	7+	62	22	0	0	64	69	1.34	- 1.65	0.38	10	0	0.0	0	7.3	4	35	NE	25	12	16	3	4.6	60
KAHULUI	48	1013.9	1016.3	81	64	72.7	0.0	85	1	53	23+	0	0	64	77	5.81	3.11	3.04	13	1	0.0	0	7.1	5	29	NE	25+	15	11	5	3.9	69
LIHUE	103	1012.5	1017.8	79	68	73.3	1.1	84	3	60	21	0	0	65	77	5.91	0.73	3.66	16	0	0.0	0	7.7	3	32	NE	28+	8	16	7	5.5	47
IDAHO																																
BOISE	2838	918.4	1020.8	41	28	34.6	2.4	59	21	14	28	0	21	27	74	1.77	0.45	0.44	14	0	4.8	2	4.2	12	27	SE	21	7	2	22	7.5	36
LEWISTON	1413			39	31	35.0	0.1	53	12	25	10+	0	22			1.50	0.13	0.65	17		5.5	2						1	3	27	9.2	
POCATELLO	4454	864.5	1021.5	36	21	28.5	1.1	54	21	0	28	0	27	21	72	1.10	0.10	0.27	12	0	7.1	3	4.5	21	43	SW	21	2	4	25	8.6	25
ILLINOIS																																
CAIRO U	314			42	30	36.0	- 3.5	58	13	19	26	0	22			4.71	1.04	1.27	14		10.5	6			24	N	29+	9	7	15	6.3	41
CHICAGO O HARE	658	992.2	1017.6	34	22	28.0	0.6	46	2	13	12	0	30	21	74	1.18	- 0.65	0.50	9	0	19.3	11	1.7	29	25	21	2	2	5	24	8.0	
CHICAGO MIDWAY	607	994.2	1017.5	34	23	28.7	- 0.4	48	2	10	24	0	30	21	72	1.78	- 0.12	0.82	9	0	20.2	10	2.4	28	37	NW	18	2	7	22	8.2	21
MOLINE	582	995.9	1018.5	32	17	24.3	- 2.6	51	2	- 5	27	0	30	19	78	1.52	- 0.13	0.59	13	0	15.4	6	2.8	28	29	NW	14+	2	9	20	7.8	42
PEORIA	652	993.6	1018.5	32	19	25.8	- 3.3	52	2	2	27	0	31	20	76	1.13	- 0.81	0.59	11	0	11.0	5	1.7	30	30	NW	14	3	7	21	7.8	39
ROCKFORD	724	989.5	1017.5	32	17	24.2	- 1.4	47	2	2	26+	0	30	19	75	1.20	- 0.50	0.50	9	0	16.0	10	1.8	30	23	32	18	2	9	20	8.0	
SPRINGFIELD	588	995.3	1018.3	34	22	28.2	- 3.8	55	2	4	26	0	31	23	80	1.39	- 0.50	0.52	13	0	10.2	5	2.3	30	31	NW	14	5	6	20	7.5	31

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
INDIANA																																
EVANSVILLE	381	1003.4	1018.0	39	24	31.5	- 4.6	57	13	8	27	0	30	24	72	3.19	0.11	0.95	10	0	7.7	5	2.6	32	26	W	22	5	5	21	7.8	38
FORT WAYNE	791	986.5	1017.3	33	21	27.2	- 1.2	43	2	- 1	24	0	31	21	74	1.00	- 1.09	0.38	10	0	8.0	4	2.4	30	32	W	8	4	4	23	8.2	32
INDIANAPOLIS	792	987.1	1017.2	35	22	28.2	- 2.9	49	2	2	24	0	31	23	81	2.04	- 0.64	0.82	10	0	12.9	8	1.8	30	28	NW	3	2	6	23	8.2	19
SOUTH BEND	773	988.2	1017.0	33	22	27.5	- 1.2	43	2	- 3	24	0	31	23	81	1.25	- 0.94	0.42	15	0	17.1	7	1.4	27	22	29	18+	1	3	27	8.9	
IOWA																																
BURLINGTON	692			32	18	25.1	- 3.3	52	2	3	27	0	31	24	83	1.15	- 0.45		10	0	13.3		2.4	31	29	33	14	4	7	20	7.8	
DES MOINES	938	983.1	1019.3	30	17	23.8	- 1.5	50	1	2	26	0	31	17	75	1.01	- 0.13	0.46	10	0	12.0	6	2.4	32	26	E	27+	3	9	19	7.5	36
DUBUQUE	1056	977.3		27	13	20.4	- 3.1	44	2	- 3	20	0	31			1.89	- 0.01	0.85	13		21.4	15						1	9	21	8.4	
SIOUX CITY	1095	977.7	1019.4	30	13	21.7	- 3.3	59	1	-10	30	0	31	18	84	1.35	0.61	0.65	10	0	15.8	10	1.1	33	29	NW	25	3	6	22	7.9	38
WATERLOO	868	985.8	1018.9	26	9	17.3	- 5.9	44	2+	- 9	27	0	31	14	85	1.95	0.82	0.92	11	0	19.5	11	2.7	30	39	32	13	2	8	21	8.0	
KANSAS																																
CONCORDIA	1470	963.8	1018.4	39	21	30.1	- 1.9	59	14+	5	31+	0	30	24	81	0.57	- 0.14	0.33	4	0	4.0	3	1.5	32	27	NW	22	7	3	21	7.4	43
DODGE CITY	2582	924.1	1017.2	46	26	35.9	1.2	67	13	9	30	0	29	25	72	0.19	- 0.28	0.16	4	0	0.3	T	4.1	33	37	W	22	7	6	18	6.7	51
GOODLAND	3654	886.6	1016.5	44	22	33.0	2.6	63	14	8	29	0	31	22	70	0.26	- 0.18	0.08	7	0	6.1	1	4.2	28	38	33	22	9	7	15	6.1	
TOPEKA	877	986.1	1019.2	37	23	29.9	- 3.5	61	2	8	12	0	30	24	78	1.24	- 0.15	0.54	9	0	9.4	4	2.2	35	32	NW	23	5	3	23	7.7	29
WICHITA	1321	968.8	1018.0	43	26	34.6	- 1.2	63	13	14	31+	0	28	26	73	1.36	0.42	0.80	9	0	3.5	2	2.9	2	31	N	6	7	7	17	7.1	40
KENTUCKY																																
COVINGTON	869	984.4	1017.0	37	24	30.6	- 2.7	50	7	16	5	0	27	22	72	2.59	- 0.16	1.18	12	0	6.0	5	2.3	31	29	24	7	1	9	21	8.3	
LEXINGTON	966	980.7	1017.3	39	26	32.7	- 3.2	52	13	16	5	0	27	24	71	4.15	0.70	1.48	11	0	5.2	4	1.9	28	23	23	7	4	7	20	7.9	
LOUISVILLE	477	999.3	1017.3	40	27	33.5	- 2.8	55	13	19	5	0	26	24	69	3.69	0.47	1.41	13	0	7.7	3	2.6	31	31	SW	7	4	10	17	7.7	43
LOUISIANA																																
ALEXANDRIA	92	1013.2	1017.5	60	37	48.2	- 3.1	72	15	26	26	0	11			7.28	1.55	4.14	13	7	0.0	0	1.4	36	35	30	29	11	6	14	5.9	
BATON ROUGE	64	1014.6	1017.2	63	42	52.4	- 1.3	75	29+	32	13	0	1	43	76	3.79	- 1.31	1.69	9	2	0.0	0	.9	6	24	17	29	7	8	16	6.5	
LAKE CHARLES	9	1015.9	1016.8	64	41	52.5	- 2.1	75	15	32	26	0	1	47	84	5.57	- 0.19	3.53	10	2	0.0	0	1.1	6	29	18	6	7	8	14	6.2	
NEW ORLEANS	4	1016.9	1017.7	66	43	54.5	- 0.9	78	29+	36	13	0	4	45	73	5.26	1.16	1.62	10	3	0.0	0	0.5	1	32	17	6	8	9	14	6.0	
SHREVEPORT	254	1007.5	1016.9	58	39	48.3	- 1.3	71	15+	27	26	0	5	39	74	3.95	- 0.99	1.57	10	2	T	T	1.0	7	25	34	[illegible]	8	8	15	6.5	[illegible]
MAINE																																
CARIBOU	624	987.1		28	15	21.9	6.4	56	11	-12	24	0	28			3.59	1.16	0.92	13		28.6	22						7	5	19	7.4	
PORTLAND	47	1008.1	1010.5	36	22	28.7	2.9	55	11	0	25	0	26	21	73	9.69	5.84	3.82	14	2	24.7	17	4.4	34	32	NE	27	7	5	19	7.4	37
MARYLAND																																
BALTIMORE	148	1008.8	1014.5	42	29	35.2	- 0.6	58	11+	16	21	0	24	22	60	7.44	4.45	1.80	11	0	9.0	5	7.0	[illegible]	42	NW	27	[illegible]	7	16	6.6	[illegible]
MASSACHUSETTS																																
BLUE HILL OBS	629			35	22	28.9	- 1.1	59	11	5	25	0	27			12.60	8.64	5.68	13		21.0	7			58	5	11					44
BOSTON	15	1009.5	1010.5	39	28	33.4	0.1	60	11	12	25	0	23	24	70	9.74	6.11	4.17	15	0	12.6	4	7.4	31	38	NE	26	7	8	16	6.7	44
NANTUCKET	43	1009.8		42	30	36.1	0.0	57	11	20	17+	0	23			9.74	5.81	4.26	17		4.8	2			42	N	2	2	11	18	7.5	[illegible]
WORCESTER	986	972.9	1011.0	32	19	25.3	- 1.9	58	11	3	25	0	27	17	71	7.69	4.10	2.59	16	0	29.5	13	6.9	31	36	31	28	7	5	19	6.9	
MICHIGAN																																
ALPENA	689	990.5	1016.7	30	16	22.6	- 1.5	40	2	-10	24	0	31	19	81	1.26	- 0.58	0.32	14	0	25.4	9	2.4	29	25	E	7	1	3	27	8.9	20
DETROIT	619			33	23	27.6	- 2.3	43	7	1	24	0	30	18	69	1.42	- 0.66	0.58	10	0	12.1		4.2	31	23	33	1					
DETROIT M WAYNE CO	633	991.2	1016.1	33	20	26.4	- 2.5	42	7	4	24	0	29	19	73	1.33	- 0.59	0.52	10	0	10.0	5	3.9	32	27	SW	7+	2	7	22	8.0	30
FLINT	771	987.5	1016.2	31	19	25.4	- 2.1	44	9	1	24	0	30	19	74	0.44	- 1.36	0.13	11	0	6.1	3	2.3	30	22	36	1	1	6	24	8.6	
GRAND RAPIDS	784	986.5	1016.6	32	18	25.0	- 2.0	41	2	- 8	24	0	31	20	77	0.66	- 1.37	0.16	11	0	11.8	6	1.5	30	28	NW	18	1	5	25	8.6	28
HOUGHTON LAKE	1149	973.2	1016.7	29	14	21.6	- 1.9	39	2	-15	24	0	31	17	79	0.94	- 0.73	0.32	13	0	20.0	8	1.5	32	21	32	3+	4	3	24	8.8	
LANSING	841	983.7	1016.6	33	19	25.8	- 1.7	42	11+	- 4	24	0	31	21	79	0.53	- 1.46	0.15	10	0	6.1	3	2.3	29	29	NW	18+	2	4	25	8.5	12
MARQUETTE	677			30	21	25.6	1.5	42	2	13	31+	0	31			2.11	0.19	0.39	22		30.9	15			35	SW	2	[illegible]	5	26	9.1	29
MUSKEGON	625	992.9	1016.7	32	21	26.3	- 3.6	43	2	- 5	24	0	31	21	79	1.28	- 0.72	0.28	16	0	17.7	6	1.3	34	28	32	18	2	8	21	8.4	
SAULT STE MARIE	721	988.5	1016.3	26	13	19.6	- 1.3	41	2	- 8	24+	0	31	13	73	1.40	- 0.88	0.34	15	0	16.8	11	2.1	5	40	NW	2	6	4	21	7.4	41
MINNESOTA																																
DULUTH	1428	963.8	1017.5	24	11	17.5	3.5	42	2	-12	22	0	31	13	79	2.67	1.51	0.74	20	0	38.8	26	2.2	28	40	NW	2	3	5	23	8.2	26
INTERNATIONAL FALLS	1179	972.2	1017.3	22	7	14.4	5.0	42	1	-19	22	0	31	12	86	1.08	0.24	0.42	15	0	14.0	14	1.7	23	21	16	24+	5	1	25	8.5	
MINNEAPOLIS	834	986.8	1018.5	28	13	20.3	2.2	45	1	0	27+	0	30	17	85	2.06	1.20	0.67	17	0	33.2	19	1.8	27	26	NW	13	1	8	22	8.2	15

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MINNESOTA																																
ROCHESTER	1297	968.2	1018.0	26	11	18.7	0.1	43	1	- 4	26	0	30	14	77	1.66	0.69	0.57	12	0	30.6	20	3.7	26	30	32	13	2	5	24	8.2	
ST CLOUD	1034	978.7	1018.3	26	10	17.8	1.2	46	1	- 8	22	0	31		76	2.04	1.31	0.51	16		25.0	18						1	9	21	6.1	
MISSISSIPPI																																
JACKSON	310	1005.4	1017.5	59	35	47.1	- 2.3	74	15	28	27+	0	13	39	78	7.22	1.92	2.25	7	5	T	0	0.4	1	26	SE	27+	10	7	14	6.2	52
MERIDIAN	290	1006.4	1017.7	59	34	46.6	- 1.7	72	29	25	27	0	16	37	75	5.39	0.08	2.22	8	4	0.0	0	1.4	30	22	12	6	11	5	15	5.9	
MISSOURI																																
COLUMBIA	887	985.1	1018.5	37	25	31.0	- 2.8	57	2	17	20	0	30	24	79	1.35	- 0.61	0.72	10	0	8.5	3	1.7	33	29	NW	23	5	7	19	7.6	41
KANSAS CITY	742	990.9	1018.8	39	27	33.1	- 2.7	62	2	16	31	0	26	25	75	0.72	- 0.81	0.19	8	0	3.8	2	1.8	36	26	NE	15	4	6	21	7.5	39
ST JOSEPH	811			40	25	32.1	0.6	60	2	9	31	0	28			•							2.0	34	21	33	23+	3	10	18	7.3	
ST LOUIS	535	997.6	1018.7	39	25	32.1	- 2.7	65	13	15	27+	0	30	25	77	1.99	0.02	0.52	15	1	10.2	6	2.2	30	26	W	23+	3	9	19	7.6	31
SPRINGFIELD	1268	971.2	1018.0	41	26	33.6	- 3.1	63	13	14	26	0	27	26	77	2.66	0.47	0.74	10	0	13.9	7	0.6	20	34	SE	27	5	6	20	7.5	35
MONTANA																																
BILLINGS	3567	889.9	1017.3	39	23	31.0	2.6	56	1	5	9	0	29	19	66	0.31	- 0.28	0.10	8	0	2.3	1	7.6	26	37	NW	22	5	9	17	7.0	37
GLASGOW	2284	932.6	1017.4	31	14	22.8	5.1	54	1	- 1	11	0	31	16	78	0.36	- 0.09	0.22	8	0	4.1	2	1.8	1	30	31	22	6	8	17	7.0	
GREAT FALLS	3662	886.6	1017.8	38	22	29.9	2.6	60	1	7	9+	0	28	19	67	0.40	- 0.20	0.16	9	0	4.3	3	8.1	23	32	SW	23	6	6	19	7.1	45
HAVRE	2584	922.5	1017.3	35	10	22.4	1.5	58	1	- 7	9	0	31	15	73	0.24	- 0.23	0.09	5	0	3.9	2	4.3	25	32	SW	23	3	10	18	7.3	44
HELENA	3828	880.5	1020.3	36	16	25.9	1.7	48	12	2	7	0	30	19	78	0.31	- 0.22	0.10	4	0	6.1	3	4.4	26	37	W	22	6	5	20	7.2	59
KALISPELL	2965	912.6	1020.6	32	20	26.2	1.2	45	13	- 4	28	0	30	22	84	1.21	- 0.12	0.31	17	0	14.4	5	0.5	24	17	18	23+	2	1	28	9.1	
MILES CITY	2629	921.1	1017.1	35	16	25.7	2.5	60	1	0	29	0	31	17	70	1.33	0.96		13	0	10.5		3.7	30								
MISSOULA	3190	905.9	1021.6	32	20	26.0	2.5	42	12	7	3	0	30	23	90	0.92	- 0.16	0.30	11	0	8.6	5	0.7	31	22	SE	23	1	5	25	8.8	24
NEBRASKA																																
GRAND ISLAND	1841	950.2	1018.9	35	16	25.7	- 1.5	59	1	-10	30	0	31	19	78	0.82	0.26	0.44	8	0	10.7	6	2.4	29	28	34	21	5	5	21	7.4	
LINCOLN U	1150			35	19	27.0	- 3.6	59	1	-10	31	0	29			1.23	0.33	0.52			15.8	8			36	S	22	5	7	19	7.3	54
NORFOLK	1544			33	14	23.1	- 2.1	60	1	-11	30	0	31			1.14	0.41	0.78	9		12.8	8						6	8	17	7.1	
NORTH PLATTE	2775	917.0	1017.9	41	16	28.4	1.0	61	14	0	30	0	31	20	78	0.10	- 0.30	0.04	6	0	1.8	1	1.5	32	38	NW	22	8	6	17	6.5	55
OMAHA	977	982.4	1019.1	33	16	24.8	- 3.4	57	1	2	31+	0	30	19	76	1.80	1.00	0.99	12	0	19.9	9	1.5	35	24	SE	22+	5	7	19	7.5	54
SCOTTSBLUFF	3957	878.1	1017.6	44	17	30.8	2.2	63	17+	- 2	29	0	31	18	65	0.32	- 0.08	0.19	7	0	2.9	1	5.2	32	35	33	22	8	7	16	6.3	
VALENTINE	2587			38	15	26.1	1.0	65	1	- 4	29	0	31			0.27	- 0.07	0.12	5		3.3	2			35	NW	22	11	3	17	6.2	49
NEVADA																																
ELKO	5050	845.9	1021.7	38	16	27.1	0.7	54	21	- 9	29	0	30			1.83	0.82	0.67	11	0	11.1	4	0.8	25	29	24	10	5	8	18	7.4	
ELY	6253	809.0	1019.9	43	17	29.8	3.0	60	13	- 2	29	0	31	17	64	0.59	- 0.09	0.22	8	0	2.6	1	2.4	22	28	SE	21	6	7	18	7.1	44
LAS VEGAS	2162	941.1	1018.7	58	33	45.8	0.7	67	25	22	31	0	13	19	37	T	- 0.40	T	0	0	T	0	3.2	30	30	N	29+	16	4	11	4.6	90
RENO	4404	866.9	1019.3	51	22	36.7	4.8	70	13	10	5+	0	24	16	47	2.07	0.99	0.60	8	0	2.8	3	1.8	21	35	W	25+	7	7	17	6.6	88
WINNEMUCCA	4301	869.6	1021.3	45	19	31.8	2.0	63	21	3	31+	0	28	21	68	2.07	1.13	0.95	9	0	6.2	5	1.9	16	38	SW	21	5	5	21	7.7	46
NEW HAMPSHIRE																																
CONCORD	342	998.3	1011.4	32	15	23.7	- 1.3	60	11	-17	25	0	28	17	76	7.10	3.85	3.31	14	0	20.7	14	5.7	31	34	NW	29	5	9	17	7.1	45
MT WASHINGTON OBS	6262			18	4	10.7	1.9	39	11	-13	23	0	31			17.23	10.92	8.64	19	0	84.9	19			130Y	E	27	3	5	23	8.1	36
NEW JERSEY																																
ATLANTIC CITY	64	1010.2	1012.5	42	27	34.5	- 2.1	59	11+	16	25+	0	24	25	71	7.33	4.11	2.20	12	0	0.6	T	7.9	30	36	29	27	7	6	18	6.8	37
ATLANTIC CITY U	11			44	32	37.9	- 0.4	58	11	23	25	0	19			6.55	3.07	2.39	11						46	NW	27					
NEWARK	7	1011.2	1012.3	39	27	33.1	- 1.6	57	11	13	25	0	26	22	64	4.97	1.75	1.31	16	0	8.5	6	8.1	31	39	30	27	8	7	16	6.7	
TRENTON U	56			39	28	33.5	- 1.7	62	11+	13	25	0	24			6.86	3.99	1.85	16		10.8	8			36	NW	27	7	7	17	6.7	41
NEW MEXICO																																
ALBUQUERQUE	5311	837.5	1017.1	52	27	39.1	2.1	65	22	8	30	0	28	20	51	0.72	0.26	0.50	6	0	1.1	T	1.0	36	38	E	28	12	8	11	5.4	74
CLAYTON	4969			50	22	36.1	0.1	67	22+	3	30	0	31			0.64	0.29	0.41	4		3.6	3						10	7	14	5.9	
ROSWELL	3617			56	26	41.0	2.0	76	13	- 2	31	0	28			1.78	1.24	0.87	6		13.9	8			31	SW	27					61
NEW YORK																																
ALBANY	275	1002.4	1013.6	30	14	21.6	- 4.9	57	11	-22	25	0	28	18	83	6.51	3.92	1.51	19	0	57.5	36	5.7	31	31	W	27	5	6	20	7.7	38
BINGHAMTON	1590	952.6	1013.3	28	19	23.5	- 3.3	47	11	- 8	25	0	30	18	79	4.85	2.29	1.06	21	0	59.6	33	4.5	31	32	NW	28	2	4	25	8.7	32
BUFFALO	705	988.5	1014.9	31	19	24.8	- 2.9	41	7	- 2	25	0	29	20	81	3.09	0.09	1.19	23	0	23.4	9	3.4	32	33	SW	11	2	6	23	8.4	27
J.F. KENNEDY	13	1011.5	1012.2	41	30	35.2	0.3	61	11	17	25	0	22	24	65	6.16	2.93	1.58	14	0	6.3	4	9.1	32	46	6	26	8	7	16	6.5	

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW YORK																																
NEW YORK C	132	1008.5	1011.7	38	28	33.4	- 2.5	60	11	14	25	0	24	24	71	7.07	3.81	1.77	16	0	6.8	6	6.6	33	42	NE	26					41
NEW YORK LA GUARDIA	11	1010.5	1012.4	39	29	33.8	- 2.6	59	11	14	25	0	23	22	63	5.30	1.91	1.31	15	0	8.1	6	8.0	33	38	NW	27+	7	9	15	6.5	
ROCHESTER	547	994.6	1015.5	31	19	25.1	- 3.6	43	8	- 5	25	0	28	19	77	3.66	1.28	1.13	18	0	42.0	14	4.0	29	30	NW	27	2	1	28	8.7	19
SYRACUSE	410	999.0	1014.3	30	18	23.8	- 4.0	48	11	- 3	25	0	30	16	71	3.42	0.27	0.61	24	0	52.5	23	3.0	29	30	NW	28	3	3	25	8.7	35
NORTH CAROLINA																																
ASHEVILLE	2140	937.4	1015.1	45	28	36.5	- 1.4	62	30	16	18	0	22	26	72	4.63	1.01	1.36	12	0	10.9	7	6.0	35	32	35	1	12	4	15	5.8	57
CAPE HATTERAS R	7	1014.2	1014.8	54	38	46.1	- 2.1	67	30+	28	18	0	4	36	70	5.27	0.69	1.64	8	3	0.0	0	6.1	31	39	S	1	12	6	13	[illegible]	47
CHARLOTTE	736	987.5	1015.5	49	30	39.5	- 3.2	68	30	18	5	0	22	27	64	4.87	1.25	1.91	8	0	T	T	2.0	30	28	SW	31	14	6	11	5.1	68
GREENSBORO	897	983.1	1015.5	47	30	38.5	- 1.4	64	31+	17	21	0	22	26	65	4.93	1.80	1.64	7	0	1.6	1	3.3	29	32	W	14	11	10	10	5.3	53
RALEIGH	434	999.0	1015.1	48	28	37.7	- 4.2	72	30	14	17	0	23	25	65	3.31	0.29	1.04	8	0	0.0	0	4.4	29	29	24	31	12	8	11	5.2	60
WILMINGTON	28	1014.2	1015.6	56	34	44.9	- 3.3	72	30	23	5	0	16	33	68	3.86	0.44	1.32	7	2	0.0	0	3.7	29	32	SW	25+	12	9	10	5.2	64
NORTH DAKOTA																																
BISMARCK	1647	936.6	1018.2	28	7	17.6	- 0.2	62	1	-13	26	0	31	12	74	0.79	0.43	0.24	12	0	13.7	7	2.4	32	26	NW	8	4	6	21	7.7	34
FARGO	896	983.7	1018.2	24	7	15.6	1.2	53	1	-10	22+	0	31	12	83	0.81	0.23	0.23	11	0	9.5	7	2.0	27	30	SE	24	5	8	18	7.1	40
WILLISTON	1899	946.[illegible]	1017.[illegible]	29	8	18.6	2.4	56	1	-15	26	0	31	14	78	0.48	- 0.02	0.31	9	0	5.3	4	3.0	31	26	W	24	4	4	23	8.0	34
OHIO																																
AKRON	1208	969.9	1015.8	34	20	26.9	- 3.6	42	8+	8	28	0	29	20	74	2.73	0.46	0.58	22	0	17.1	7	3.8	29	24	32	1	0	7	24	8.9	
CINCINNATI [illegible]	761			36	25	30.4	- 4.9	48	7	17	24	0	31			2.47	- 0.30	1.08	13		5.5	5			23	W	14					35
CLEVELAND	777	986.1	1016.4	32	22	27.2	- 3.3	42	9	7	28	0	27	18	68	2.46	0.12	0.64	19	0	17.4	7	3.2	28	35	NE	31	0	3	28	9.2	10
COLUMBUS	812	986.1	1017.1	34	20	26.8	- 4.7	47	7	3	28+	0	29	21	76	2.30	- 0.04	0.46	15	0	9.7	5	2.9	29	29	SW	2	1	8	22	8.5	21
DAYTON	1002	979.3	1016.8	35	23	28.9	- 2.4	49	7	8	24	0	29	22	75	1.83	- 0.54	0.70	12	0	10.1	5	2.7	29	29	SW	2+	1	9	21	8.2	16
MANSFIELD	1295			32	20	26.0	- 3.2	45	7	8	16	0	31	19	76	1.55	- 1.10	0.55	16	0	11.7	5	3.6	28	25	22	2	3	5	23	8.6	
TOLEDO	669	991.2	1017.3	33	18	25.7	- 2.6	43	7	- 2	24	0	31	18	71	2.10	0.15	0.61	11	0	19.0	8	3.4	30	28	NW	1	1	9	21	8.0	37
YOUNGSTOWN	1178	971.6	1015.6	30	19	24.6	- 4.8	38	9	4	24	0	31	21	83	2.84	0.16	0.63	24	0	21.2	6	3.0	30	30	29	18	[illegible]	2	29	9.4	
OKLAHOMA																																
OKLAHOMA CITY	1285	969.9	1017.3	51	30	40.4	0.1	70	22+	8	31	0	19	30	70	1.44	0.03	0.94	7	0	4.2	4	1.9	3	45	NW	22	8	[illegible]	17	[illegible]	46
TULSA	650	993.2	1018.1	49	30	39.3	- 0.3	67	2	0	31	0	19	29	70	1.62	0.00	0.95	8	0	5.8	6	1.5	6	30	NW	22	5	10	16	[illegible]	44
OREGON																																
ASTORIA	8	1014.6	1015.2	50	38	44.1	1.0	59	13	29	1	0	6	40	85	11.69	- 1.96	2.58	26	2	0.0	0	4.6	11	31	17	22	1	5	25	8.7	
BURNS	4151	873.7	1017.8	40	23	31.1	2.0	51	14	10	31	0	26	26	81	3.10	1.67	0.64	14		10.3	6	1.3	29				4	5	22	7.9	
EUGENE	359	1003.4	1017.2	49	38	43.1	1.3	64	13	27	2	0	8	40	91	11.68	5.07	2.58	21	0	0.0	0	4.2	16	37	16	11	[illegible]	5	26	9.1	
MEACHAM	4050	876.4	1019.3	35	27	31.1	1.3	49	1	18	28	0	26			5.03	0.50	0.96	21		28.1	15			33	33	26	5	2	24	8.1	
MEDFORD	1298	970.9	1019.3	47	33	39.7	2.8	65	13	19	2+	0	14	36	89	5.44	2.06	1.72	19	0	0.4	T	1.5	19	23	14	19	2	5	24	8.7	
PENDLETON	1482	965.1	1020.2	41	29	34.9	- 1.6	60	13	20	10+	0	21	32	90	1.88	0.39	0.69	17	0	3.5	2	0.6	23	28	27	21	2	4	25	8.8	
PORTLAND	21	1015.9	1017.3	48	38	42.9	1.6	56	14+	24	1	0	3	38	84	8.12	1.74	1.41	21	0	0.0	0	6.6	13	40	SW	11	3	1	27	8.8	17
SALEM	196	1009.8	1017.1	49	35	41.9	0.4	61	13	18	2	0	8	38	88	9.23	1.86	2.01	24	1	0.0	0	3.7	18	[illegible]	19	11	1	7	23	[illegible]	
SEXTON SUMMIT R	4836	882.8	1016.9	43	34	38.6	1.8	56	1	27	28+	0	13			14.05	9.29	3.63	21		13.3	8			46	18	11	5	5	21	7.6	
PACIFIC AREA																																
JOHNSTON	7	1013.9	1014.4	83	73	78.2	0.1	85	3	70	29+	0	0	70	74	1.59	- 1.41	0.57	19	0	0.0	0	17.2	7	38	E	3+	15	14	2	4.0	71
KOROR R	94	1005.8	1009.3	88	76	81.8	0.9	91	26	73	29+	6	0	76	86	6.32	- 5.40	1.50	24	1	0.0	0	3.3	7	26	E	7	0	5	26	9.2	65
KWAJALEIN	8	1008.5	1009.2	87	78	82.6	1.8	88	22+	76	31+	0	0	74	76	2.68	- 6.28	0.68	17	0	0.0	0	17.9	7	32	8	9	0	2	29	9.7	
MAJURO	10	1008.8	1009.1	85	77	81.3	1.0	87	30+	75	23+	0	0	75	79	7.21	- 3.91	1.15	25	1	0.0	0	13.9	7	28	E	13	2	5	24	8.3	39
PAGO PAGO	12	1008.5	1008.8	86	75	80.5		90	5	70	31+	1	0	75	83	16.68		5.09	20	8	0.0	0	4.5	13	19	SE	27	2	10	19	7.5	51
PONAPE R	123	1003.4	1008.6	88	74	80.7	0.5	91	4	70	11+	2	0	75	82	15.00	- 3.34	3.57	26	2	0.0	0	6.7	10	29	NE	8	0	5	26	8.9	41
TAGUAC GUAM R	361	997.6	1010.2	85	74	79.3	0.6	87	21+	71	22+	0	0	74	85	10.11	4.00	4.78	26	2	0.0	0	9.6	10	29	E	19	1	13	17	7.8	50
TRUK MOEN ISLAND	5	1008.1	1008.6	87	77	81.8	1.0	90	21+	73	7	2	0	76	82	10.39	- 2.85	2.26	23	1	0.0	0	8.6	7	26	NE	2	0	2	[illegible]	[illegible]	66
WAKE	11	1014.9	1015.2	84	74	79.1	0.2	87	5	70	23	0	0	71	80	4.74	2.92	1.03	16	1	0.0	0	16.2	8	43	E	10	9	14	8	7.7	61
YAP R	44	1006.8	1008.7	87	75	80.8	- 0.2	89	22+	73	21+	0	0	76	85	8.32	- 1.84	2.76	25	0	0.0	0	4.4	8	21	NE	16+	3	10	18	7.5	59
PENNSYLVANIA																																
ALLENTOWN	387	999.0	1013.4	35	22	28.4	- 2.9	58	11	4	25	0	30	21	75	6.43	3.16	1.74	16	0	20.0	12	5.8	31	40	30	27	4	8	19	7.2	
ERIE	731	987.8	1015.6	31	21	25.8	- 4.9	41	9	2	24	0	31	19	76	2.43	- 0.18	0.95	19	0	21.9	6	2.5	32	31	3	31	1	3	27	9.2	
HARRISBURG	338	1001.0	1014.3	37	26	31.4	- 1.6	54	11	8	25	0	29	21	66	6.46	3.55	1.64	13	0	28.3	15	6.4	31	32	NW	27	7	3	21	7.4	42
PHILADELPHIA	5	1011.9	1012.7	39	28	33.5	- 0.4	62	10	17	25	0	26	23	68	7.23	4.29	1.75	13	0	7.5	4	6.4	31	43	NW	27	7	8	16	6.8	45

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PENNSYLVANIA																																
PITTSBURGH	1137	969.9	1015.2	33	21	26.7	- 4.0	41	9	4	25	0	28	19	71	3.95	1.55	1.02	24	0	20.6	6	5.5	29	30	24	31	1	3	27	9.1	13
SCRANTON	930	978.7	1014.0	31	21	25.7	- 3.7	53	11	- 7	25	0	28	19	76	3.42	0.95	0.83	20	2	33.9	23	4.7	31	33	E	10	1	8	22	8.3	31
WILLIAMSPORT	524	994.9	1014.7	36	21	28.5	- 1.9	52	11	-10	25	0	29	22	77	5.63	2.59	2.02	17	0	35.5	21	5.3	29	28	29	27	3	6	22	8.0	
RHODE ISLAND																																
BLOCK ISLAND	110			40	29	34.4	- 1.5	57	11	18	25	0	21			7.31	3.72	2.99	16		1.5	T										
PROVIDENCE	51	1008.5	1010.9	37	24	30.5	- 1.5	60	11	8	25	0	26	21	70	10.75	7.13	3.85	15	1	15.4	7	7.6	33	32	16	11	6	9	16	6.7	43
SOUTH CAROLINA																																
CHARLESTON	40	1014.6	1016.4	58	35	46.5	- 3.5	70	30	22	5	0	15	34	65	3.52	0.67	1.60	9	1	T	0	3.3	28	39Y	S	25	12	10	9	4.9	69
CHARLESTON U	9			57	41	49.2	- 2.5	66	30+	31	5	0	2			3.00	0.26	1.44	7		0.0	0			35	SE	7					
COLUMBIA	213	1008.1	1016.3	56	32	44.1	- 2.3	71	30	17	5	0	17	32	67	4.51	0.99	2.58	8	0	T	T	3.3	29	25	31	26	15	5	11	4.8	62
GNVLE-SPARTANBURG	957	980.7	1015.1	51	32	41.4	- 2.2	66	30	16	5	0	21	29	65	4.60	0.57	1.51	7	0	T	T	2.3	32	29	W	14	13	6	12	5.3	59
SOUTH DAKOTA																																
ABERDEEN	1296	969.5	1018.5	28	9	18.5	0.4	62	1	-17	30	0	31	14	83	0.71	0.10	0.26	10	0	12.0	7	1.9	29	22	16	4+	8	2	21	7.1	
HURON	1281	969.9	1018.3	31	12	21.7	2.9	62	1	-12	29	0	31	14	71	0.59	0.03	0.35	9	0	12.2	7	1.5	25	27	NW	13	7	2	22	7.5	55
RAPID CITY	3162	902.8	1017.2	39	17	28.2	1.0	69	1	- 4	29	0	31	16	65	0.57	0.27	0.26	6	0	5.7	3	5.8	34	56	NW	22	11	3	17	6.3	53
SIOUX FALLS	1418	964.8	1018.5	29	10	19.5	- 1.6	56	1	-16	30	0	31	16	82	1.18	0.44	0.70	8	0	15.2	12	2.1	28	23	18	17+	4	10	17	7.3	
TENNESSEE																																
BRISTOL	1507	960.7	1016.2	42	27	34.5	- 3.8	60	31+	14	28	0	23	26	75	5.78	2.57	2.95	11	2	9.7	10	2.9	28	29	26	31	3	9	19	7.9	
CHATTANOOGA	665	991.5	1016.9	44	27	35.8	- 6.7	65	30	18	18+	0	25	27	72	7.98	2.79	3.60	10	2	5.1	3	2.7	33	24	W	30	8	5	18	6.8	40
KNOXVILLE	980	981.0	1016.7	45	30	37.7	- 3.9	65	30	19	18	0	17	27	68	7.74	3.51	4.89	13	2	8.9	5	3.0	32	30	W	31	6	4	21	7.6	27
MEMPHIS	258	1007.5	1017.8	48	32	40.1	- 2.4	62	13	25	16	0	18	31	71	7.05	2.12	2.64	9	3	0.1	T	1.9	36	23	N	29	11	3	17	6.2	54
NASHVILLE	590	994.9	1017.3	45	30	37.3	- 4.1	62	13	19	27	0	21	29	74	8.03	3.84	2.50	11	2	3.8	1	2.3	31	26	SE	7	6	5	20	7.3	34
OAK RIDGE R	905			43	30	36.5	- 3.6	62	30	20	18	0	23			8.54	2.64	5.12	13		8.1	5			32Y		30+	6	4	21	7.4	
TEXAS																																
ABILENE	1762	993.6	1016.1	60	36	47.7	1.6	77	22	21	31	0	10	35	67	2.48	1.22	1.27	6	2	3.1	2	2.4	22	34	S	26	12	6	13	5.4	65
AMARILLO	3604	889.9	1015.5	51	26	38.4	- 0.9	74	22	7	30	0	29	24	65	0.83	0.06	0.66	5	0	7.1	6	2.3	30	47	W	22	8	9	14	6.0	54
AUSTIN	597	994.2	1016.6	65	43	53.8	1.1	74	15	25	31	0	3	43	71	4.29	1.76	2.61	5	1	0.0	0	2.1	33	30	NW	6	13	5	13	5.1	64
BROWNSVILLE	19	1015.6	1016.0	76	55	65.3	2.4	81	28+	40	7	0	0	56	75	T	- 1.72	T	0	0	0.0	0	2.0	19	38	N	6	11	10	10	5.6	67
CORPUS CHRISTI	41	1014.6	1016.2	71	52	61.2	2.0	80	27	37	30	0	0	54	82	1.87	- 0.21	0.65	7	0	0.0	0	1.0	9	42	W	6	9	8	14	5.8	55
DALLAS	481	999.0	1016.7	60	41	50.3	2.2	74	13	25	31	0	3	38	68	3.21	0.54	1.71	5	1	T	T	1.1	7	29	NW	29	13	4	14	5.6	56
DEL RIO	1026	980.0	1016.6	65	43	54.0	1.7	75	22+	30	31	0	3	45	75	1.18	0.36	0.82	5	3	T	0	1.4	2	43	29	6	14	5	12	4.8	
EL PASO	3918	882.2	1015.6	61	36	48.6	4.5	73	24+	22	31	0	9	28	49	0.69	0.20	0.42	4	0	1.9	1	2.3	27	45	SW	27	16	8	7	4.1	79
FORT WORTH	537	995.9	1016.9	61	39	49.9	2.2	75	13	23	31	0	4	40	76	2.75	0.40	1.44	6	2	T	T	1.0	33	25	3	29	12	5	14	5.7	
GALVESTON U	7			65	54	59.1	1.9	75	15	37	31	0	0			4.31	0.42	2.81	7		0.0	0			35	NW	6					43
HOUSTON	96	1013.2	1017.0	67	43	55.2	1.8	77	15+	29	31+	0	5	47	80	4.38	- 0.15	2.01	8	3	0.0	0	1.0	9	28	11	5	9	6	16	6.0	52
LUBBOCK	3254	902.5	1015.5	58	28	43.1	2.1	79	22	10	30	0	22	27	62	0.82	0.17	0.40	6	1	4.8	3	2.5	32	43	30	10	12	6	13	5.2	
MIDLAND	2851	916.0	1015.5	62	34	47.6	1.7	78	22	20	30	0	12	31	62	0.60	- 0.06	0.27	6	0	0.5	1	2.3	26	25	26	5	15	9	7	4.0	
PORT ARTHUR	16	1016.3		67	45	55.9	1.1	77	19+	33	26	0	0	49	81	8.33	3.24	5.64	8	2	0.0	0	1.3	10	38	SW	6	9	11	11	6.0	55
SAN ANGELO	1903	948.5	1016.0	64	38	50.5	2.8	77	24+	25	31	0	7	40	75	2.24	1.39	1.12	5	2	T	T	3.7	24	25	19	26+	13	6	12	5.1	
SAN ANTONIO	788	988.5	1016.7	68	43	55.1	1.4	76	21+	26	31	0	3	44	71	2.28	0.53	1.23	4	1	T	0	2.5	33	33	N	25	15	6	10	4.8	70
VICTORIA	104	1012.5	1016.6	70	48	58.7	1.5	78	18+	33	31	0	0	51	79	3.48	0.87	2.02	9	2	T	0	0.8	2	47Y	NW	6	12	4	15	5.7	
WACO	501	998.6	1017.1	60	41	50.5	0.2	73	13	25	31	0	3	42	77	2.49	- 0.25	1.69	5	3	T	T	1.3	25	24	34	25	12	5	14	5.6	
WICHITA FALLS	994	979.3	1016.6	57	32	44.3	- 0.3	79	22	11	31	0	14	34	76	2.42	0.97	1.70	5	1	5.4	5	1.6	34	30	21	22	12	5	14	6.0	
UTAH																																
MILFORD	5028	847.3		44	19	31.8	3.6	61	21	2	31	0	31			0.34	- 0.37	0.22	5		7.5	4						8	8	15	6.5	
SALT LAKE CITY	4220	873.7	1021.2	39	26	32.4	2.3	67	21	13	29	0	28	25	77	1.69	0.45	0.50	15	0	16.0	4	0.9	19	35	S	21	3	6	22	8.0	34
WENDOVER	4237	873.4	1022.3	37	23	30.0	0.2	51	21	15	31+	0	31			0.47	0.18	0.21	5		3.7	2										
VERMONT																																
BURLINGTON	332	1000.7	1013.9	25	12	18.6	- 2.9	48	11	-16	25	0	30	14	78	4.59	2.46	1.61	15	0	50.8	33	2.3	35	32	SW	11	3	2	26	8.5	47
VIRGINIA																																
LYNCHBURG	916			42	26	34.0	- 4.5	55	14	14	17	0	25			5.37	2.23	1.17	10		12.7	12			26	NW	31	13	8	10	5.3	51
NORFOLK	22	1013.2	1014.2	48	34	40.9	- 1.6	71	30	24	21	0	16	28	64	3.93	1.19	1.38	9	0	T	0	4.9	30	32	SW	31	11	9	11	5.5	58

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
VIRGINIA																																
RICHMOND	164	1008.5	1014.7	44	27	35.5	- 4.2	59	10	15	21	0	21	24	67	5.26	2.29	1.61	9	1	1.8	2	3.6	32	25	NW	4	12	6	13	5.8	46
ROANOKE	1149	972.2	1015.2	41	26	33.6	- 4.8	54	11	13	21	0	28	22	64	5.54	2.56	1.68	11	0	16.8	15	6.5	30	32	30	3	9	10	12	6.1	
WALLOPS ISLAND	9			44	30	37.2		58	10	20	21	0	23			6.14		1.77	13		0.4	T			56Y	WNW	27					
WASHINGTON																																
OLYMPIA	195	1008.8	1016.1	47	34	40.3	- 0.4	54	13+	22	1	0	12	39	93	7.24	- 1.81	1.59	22	2	T	0	3.7	19	41	18	11	1	5	25	8.8	
QUILLAYUTE	179	1006.4	1013.9	49	38	43.6	2.4	64	2	27	27	0	5	41	89	12.87	- 3.94	2.97	28	3	0.0	0	3.1	12	39	SW	22	0	3	28	9.2	7
SEATTLE TACOMA	400	999.3	1015.8	50	41	45.2	4.4	56	19+	33	1	0	0	37	75	5.68	- 0.61	1.17	19	3	0.0	0	4.7	13	42	S	14	1	2	28	9.2	26
SPOKANE	2356	933.3	1019.3	33	26	29.4	- 0.7	47	14	10	27	0	26	27	88	2.45	0.02	0.52	19	0	10.4	4	1.9	14	31	SW	14	1	2	28	9.3	4
STAMPEDE PASS	3958	877.4		29	24	26.6	- 0.4	37	14	14	3+	0	31			8.74	- 7.45	1.35	26		98.8	60						0	2	29	9.5	
WALLA WALLA	949			41	32	36.2	- 1.6	66	13	24	10	0	21			2.12	0.27	0.56	20		6.7	2			28	SE	11	2		29	9.3	5
YAKIMA	1064	980.7	1020.4	38	29	33.5	2.0	51	21	19	27	0	25	27	79	2.28	1.16	0.53	15	0	9.0	4	2.8	26	21	29	21+	4	2	25	8.7	
WEST INDIES																																
SAN JUAN, P.R.	13	1012.9	1015.3	82	72	77.1	0.9	87	4	67	13	0	0	67	72	2.28	- 3.17	1.19	10	0	0.0	0	5.3	8	25	NE	10	1	23	7	6.3	54
SWAN ISLAND	28			83	76	79.3	0.6	86	11	71	22	0	0			0.10	- 5.54	0.04	5		0.0	0						5	12	14	6.6	
WEST VIRGINIA																																
BECKLEY	2504	924.5	1016.4	35	21	28.1	- 5.9	59	31+	9	28	0	27	23	80	6.14	2.44	1.97	22	1	20.7	9	3.6	27	35	28	31	2	5	24	8.4	
CHARLESTON	939	981.0	1016.0	39	25	32.3	- 4.8	51	14	10	28	0	26	23	71	4.85	1.60	1.45	15	0	9.5	7	3.5	26	21	23	31	0	6	25	8.8	
ELKINS	1970	942.4		34	17	25.7	- 7.3	50	31	- 6	25	0	30			5.64	2.76	1.11	15		34.9	16						1	3	27	9.2	
HUNTINGTON	827	985.4	1016.5	37	24	30.7	- 6.7	52	7	14	28	0	29	25	79	4.80	1.99	1.63	14	0	9.9	6	3.2	27	28	25	31	2	4	25	8.5	
PARKERSBURG	615			37	24	30.3	- 5.5	48	7	8	28	0	27			3.21	0.37	0.90	16		6.4	4			31	SW	31					21
WISCONSIN																																
GREEN BAY	682	999.9	1017.4	28	14	20.9	- 1.1	43	2	- 7	22	0	31	16	78	1.43	0.25	0.55	13	0	16.5	10	3.8	29	35	S	8	2	7	22	8.1	36
LA CROSSE	651	992.9	1018.4	29	15	22.3	0.5	46	2	- 3	22	0	30	19	83	1.69	0.54		11	0	19.8		1.7	27								
MADISON	858	984.8	1017.5	29	14	21.3	- 0.8	45	2	- 8	24+	0	31	18	83	1.66	0.35	0.87	8	0	19.5	11	2.8	29	29	NW	13	2	8	21	[illegible]	[illegible]
MILWAUKEE	672	991.2	1017.3	31	20	25.1	0.5	43	2	10	20+	0	31	19	75	1.18	- 0.45	0.56	9	0	14.9	10	4.4	28	28	SW	8	1	8	22	8.4	[illegible]
WYOMING																																
CASPER	5338	835.1	1017.2	40	17	28.5	1.2	53	21+	0	28	0	30	17	67	0.16	- 0.32	0.07	6	0	2.7	1	[illegible]	25	[illegible]	23	21	6	9	16	6.6	
CHEYENNE	6126	808.3	1015.9	42	20	31.3	1.8	61	14	- 3	29	0	29	13	51	0.21	- 0.24	0.12	2	0	2.4	1	[illegible]	29	51	NW	[illegible]	8	6	17	[illegible]	56
LANDER	5563	827.0	1018.8	37	14	25.6	2.5	61	21	- 7	29	0	31	13	64	0.38	- 0.04	0.16	6	0	9.3	5	1.6	24	54	SW	11	7	10	14	6.3	57
SHERIDAN	3964	877.1	1017.9	39	18	28.6	2.3	55	12	- 3	29	0	31	20	71	0.51	- 0.11	0.17	10		5.7	2	4.4	31	41	NW	22	7	5	19	6.9	50

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Z Sun continuously below horizon.

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ∅	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
ALABAMA	M.	Mb.	Mb.	C.	C.	C.	C.	C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
BIRMINGHAM	189	994.2	1017.2	12.2	0.6	6.3	-2.2	21.1	30	-4.4	27	0	20	-0.6	65	154	27	56	7	2	T	T	0.6	31	12.5	W	30	10	5	16	6.0	51
HUNTSVILLE	190	993.9	1017.5	10.6	0.0	5.2	-1.3	20.0	30	-5.0	20	0	19	0.0	71	241	116	128	9	2	T	T	0.7	34	14.3	13	6	6	8	17	6.7	
MOBILE	64	1009.1	1017.4	17.8	6.7	12.1	-0.2	23.3	29+	0.6	27+	0	0	6.1	71	142	3	44	11	3	0	0	0.9	1	11.2	17	30+	9	9	13	6.0	
MONTGOMERY	56	1010.2	1017.7	14.4	1.1	7.7	-1.3	25.0	30	-3.9	13+	0	15	0.6	67	99	-24	39	9	3	T	T	1.1	29	14.3	S	30	14	3	14	5.3	58
ALASKA												B																				
ANCHORAGE	35	989.2	994.2	1.1	-5.0	-2.0	8.3	8.3	20	-14.4	13	0	28	-5.6	75	24	0	8	12	0	221	127	0.3	1	11.6	16	29	6	0	25	8.0	23
ANNETTE	34	1003.1	1006.9	7.2	2.2	4.7	2.4	11.7	19	-3.3	16	0	5	1.7	82	413	105	80	26	0	T	0	3.7	11	16.1	10	2+	1	7	23	8.8	
BARROW	9	1011.5	1012.1	-20.0	-24.4	-22.1	1.9	-14.4	5	-32.2	29+	0	31	-24.4	82	3	-1	2	5	0	33	102	4.4	6	13.9	6	25	Z	Z	Z		
BARTER ISLAND	12	1007.8	1009.8	-18.3	-23.9	-21.0	2.6	-10.6	31+	-33.9	28	0	31	-23.9	74	4	-3	1	6	0	53	178	1.7	8	17.9	9	3	Z	Z	Z		
BETHEL	38	986.5	992.1	-6.7	-15.0	-10.9	4.2	3.9	6	-29.4	24	0	31	-12.8	86	14	-12	7	6	0	300	279	3.7	4	14.8	4	27	4	8	19	7.5	
BETTLES	196	977.3	1003.4	-7.8	-16.1	-12.2		0.6	5	-31.1	23	0	31	-15.6	74	13		5	9	0	287	330	2.8	36	11.6	7	24	6	4	21	7.9	
BIG DELTA	386			-5.0	-13.3	-9.1		7.2	29	-27.2	23	0	31			T		T	0	0	T	25			17.0	11	24	5	12	14	6.6	
COLD BAY	29	982.4	985.8	1.7	-2.2	-0.4	1.4	5.0	6	-10.6	14	0	23	-2.8	83	59	-7	17	22	0	183	76	1.6	33	14.3	7	24+	1	3	27	8.8	
FAIRBANKS	133	982.4	1000.2	-9.4	-21.7	-15.6	6.5	5.6	29	-31.7	12	0	31	-21.1	63	T	-14	T	0	0	T	229	1.4	1	12.5	4	23	5	7	19	7.3	
GULKANA	479	941.8	1002.4	-8.9	-16.7	-12.8		2.8	31+	-31.1	12	0	31	-16.1	77	2		1	5	0	79		0.9	17	17.9	17	29	3	6	22	8.0	
HOMER	20			3.3	-1.7	0.8		10.0	20	-11.1	13	0	20			199	133	34	22	0	612	356						4	4	23	8.3	
ILIAMNA	57			0.6	-5.6	-2.5		7.8	18	-20.6	14	0	24			32		9	13	0	165	102						3	7	21	7.9	
JUNEAU	4	1004.4	1005.1	4.4	-0.6	1.7	3.7	7.8	2	-9.4	17	0	15	0.6	92	111	4	29	21	0	18	T	3.7	11	13.4	12	31	1	5	25	9.1	16
KING SALMON	15	986.5	988.3	0.0	-6.1	-3.2	7.2	5.6	19+	-19.4	24	0	25	-7.8	72	14	-11	4	9	1	38	25	2.8	6	15.6	7	18+	3	6	22	8.2	
KOTZEBUE	3	1000.3	1000.9	-8.9	-16.7	-12.8	7.0	1.1	20	-27.8	16	0	31	-16.1	76	9	2	4	8	0	188	229	2.8	6	14.3	7	23	3	9	19	7.6	
MC GRATH	105	983.1	996.4	-10.0	-20.0	-15.1	6.6	3.9	20	-31.7	25	0	31	-18.3	72	16	-10	5	8	0	325	305	0.5	33	10.3	5	23	3	2	26	8.5	
NOME	4	995.6	996.5	-5.0	-14.4	-9.8	4.5	6.1	20	-28.3	14	0	31	-15.0	65	1	-24	1	3	0	33	51	3.6	4	13.9	5	22	7	6	18	6.9	21
ST. PAUL ISLAND	7	988.2	988.9	1.1	-3.9	-1.4	1.7	3.9	21	-10.0	31	0	29	-3.3	85	25	-22	4	21	0	221	102	3.7	3	20.1	36	18	2	7	22	8.3	
SHEMYA	37	988.8	992.5	1.1	-3.9	-1.3	-1.0	3.3	2	-7.8	16+	0	31	-5.6	72	42	-12	12	17	0	338	152	2.4	33	24.1	15	13	1	7	23	8.2	
SUMMIT	732	909.6	998.8	-3.3	-11.7	-7.4		5.6	19	-23.3	23	0	31	-10.6	79	28		8	11	0	417	762	4.2	3	14.3	4	14	6	4	21	7.4	
TALKEETNA	105	982.4	995.8	0.0	-8.3	-4.3	8.2	5.0	7	-23.3	13	0	30	-8.3	72	30	-11	8	7	0	315	203	2.2	3	10.7	2	23	5	7	19	7.4	
UNALAKLEET	5			-5.6	-12.8	-9.1		4.4	20	-26.7	16	0	31			5		3	6	0	79	127			20.1	9	22	7	4	20	7.1	
YAKUTAT	9	999.3	1000.5	4.4	-1.7	1.4	3.6	10.6	17	-10.0	17	0	20	-1.1	84	430	119	75	26	0	135	51	3.3	11	15.6	11	24+	2	2	27	8.9	
ARIZONA																																
FLAGSTAFF	2135	786.3	1018.3	8.3	-6.7	0.7	1.6	17.8	13	-17.8	31	0	31	-8.9	57	12	-30	6	8	0	117	25	0.4	21	9.4	6	28	13	9	9	5.0	
PHOENIX	340	976.6	1016.0	20.0	5.6	12.7	1.8	26.1	15	-0.6	31	0	1	2.8	58	17	-4	11	5	0	0	0	1.2	10	13.4Y	NNW	5	14	8	9	4.6	77
TUCSON	788	926.5	1015.3	18.3	4.4	11.3	0.3	27.2	15	-4.4	31	0	4	0.6	55	21	-3	15	5	1	T	0	1.3	15	15.2	W	5	15	5	11	4.6	84
WINSLOW	1492	851.7	1019.4	10.6	-4.4	3.0	2.7	19.4	21	-16.7	30	0	27	-5.6	61	10	-3	6	5	1	61	51	1.2	26	13.0	24	26	14	8	9	5.1	
YUMA	59	1008.8	1016.2	20.0	7.2	13.6	0.8	25.6	21	0.6	31+	0	0	1.7	51	17	9	17	2	0	0	0	1.4	1	15.6	N	28	16	9	6	3.6	78
ARKANSAS																																
FORT SMITH	136	1001.0	1017.9	10.6	0.0	5.1	-0.6	20.0	1	-6.1	30	0	20	-1.1	68	106	34	57	11	1	61	51	1.1	7	11.6	NW	10	4	11	16	7.3	49
LITTLE ROCK	78	1008.1	1017.8	10.0	0.0	4.8	-0.7	18.9	1	-3.3	24+	0	18	-0.6	71	206	102	83	12	2	T	T	0.9	1	13.0	NW	23	8	6	17	6.5	51
CALIFORNIA																																
BAKERSFIELD	145	1002.0	1019.9	17.2	4.4	10.6	1.3	23.9	20+	-2.2	30	0	4	3.3	64	4	-21	2	4	0	0	0	0.8	8	10.3	35	25+	11	7	13	5.1	
BISHOP	1252	875.4		13.9	-5.6	4.1	0.0	19.4	4	-11.7	10	0	31			5	-25	5	1		0	0						12	9	10	4.9	
BLUE CANYON	1609			7.8	1.7	4.6	-0.1	15.0	5+	-5.6	27	0	12			492	232	115	13		800	457			14.8	21	21	10	3	18	6.5	
EUREKA U	13			13.9	7.2	10.7	1.3	18.3	20+	2.2	27	0	0			244	73	67	18		0	0			18.8	SE	11	8	2	21	7.1	49
FRESNO	100	1008.1	1020.0	14.4	1.7	7.9	-0.4	21.7	13	-4.4	30	0	16	4.4	84	29	-21	11	4	0	0	0	0.7	10	10.7	NW	21	8	7	16	6.2	66
LONG BEACH	10	1016.6	1018.0	20.6	8.9	14.6	1.2	28.9	2	2.2	31+	0	0	6.1	65	2	-49	1	2	0	0	0	0.7	31	14.8	1	28	9	11	11	5.4	
LOS ANGELES	30	1013.5	1017.3	18.9	10.6	14.9	1.1	27.8	2	3.9	31	0	0	6.7	64	T	-60	T	1	0	0	0	0.8	31	18.3Y	N	29	12	11	8	4.9	
LOS ANGELES U	82			19.4	11.1	15.1	0.6	27.2	2	4.4	30	0	0			2	-71	1	2		0	0			12.1	NW	26	14	11	6	4.3	63
MT SHASTA R	1080	893.0	1018.9	7.2	-0.6	3.3	1.2	13.3	1	-5.6	5	0	20	-0.6	79	332	174	101	18		244	76	0.8	12								
OAKLAND	2	1019.3	1019.6	15.0	8.3	11.7	1.9	17.8	20	3.3	28+	0	0	8.9	84	110	19	40	11	0	0	0	1.0	16	14.3	17	19	10	6	15	6.0	
RED BLUFF	104	1006.4	1019.3	14.4	5.0	9.7	1.3	21.7	1	-2.8	31	0	5	3.9	72	168	61	46	16	0	0	0	0.8	19	21.0	SE	21	10	5	16	6.3	43
SACRAMENTO	5	1018.3	1019.2	13.3	4.4	8.9	0.9	18.3	20+	-2.2	1	0	6	6.1	85	112	30	51	12	0	0	0	0.9	15	14.8	N	27	9	7	15	6.2	57
SANDBERG R	1377	863.2		11.1	2.2	6.6	0.6	17.2	23	-6.1	28	0	8	-5.0	52	10	-53	8	3		97	76	3.0	35	13.9	35	26+	10	10	11	5.2	
SAN DIEGO	4	1016.6	1017.5	19.4	11.1	15.1	1.1	27.8	2	4.4	29	0	0	6.7	60	12	-40	10	4	0	0	0	1.5	32	10.3	NW	26	15	8	8	4.5	73
SAN FRANCISCO	2	1019.0	1019.5	15.6	8.3	12.1	2.0	18.3	20	3.9	31+	0	0	7.8	78	117	13	39	12	0	0	0	0.8	21	17.4	18	19	9	6	16	6.3	
SAN FRANCISCO U	16			15.6	10.6	13.2	1.8	18.9	1	7.2	31+	0	0			156	48	76	13		0	0			13.0	SW	19					55
SANTA MARIA	72			18.3	3.9	11.2	-0.1	26.7	2	-2.8	29	0	3			7	-58	3	4		0	0						12	9	10	4.7	
STOCKTON	7	1019.0	1020.1	13.9	4.4	9.0	1.3	20.0	20	-2.8	1	0	8	5.6	82	62	-6	15	10	0	0	0	1.3	15	13.4	36	27	9	6	16	6.3	
COLORADO																																
ALAMOSA	2297	769.7		2.8	-16.1	-6.9	0.2	11.1	2+	-26.7	31	0	31			10	4	5	4		193	76						11	8	12	5.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
COLORADO	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s							%
COLORADO SPRINGS	1873	808.7	1018.6	6.1	- 7.8	- 0.7	- 0.5	17.2	14	-18.9	29	0	31	- 9.4	58	8	2	6	5	0	185	127	1.8	1	15.6	24	22	10	5	16	6.3	
DENVER	1610	834.1	1016.0	7.8	- 7.2	0.3	0.5	19.4	14	-17.8	29	0	31	- 7.2	65	8	- 4	4	7	0	79	51	1.0	22	18.8	SW	22	10	3	18	6.1	55
GRAND JUNCTION	1476	853.0	1020.4	5.6	- 5.0	0.4	2.0	11.7	21+	-12.2	29	0	31	- 7.2	60	9	- 5	5	6	0	122	51	0.8	8	8.5	NW	26	10	7	14	5.9	62
PUEBLO	1428	854.0	1016.6	11.1	- 5.6	2.7	2.0	19.4	14+	-18.3	30+	0	29	- 6.7	58	13	5	6	5	0	150	76	0.7	31	20.1	NW	22	10	8	13	5.6	68
CONNECTICUT																																
BRIDGEPORT	2	1011.2	1011.9	3.9	- 2.8	0.4	- 0.3	14.4	11	-11.7	25	0	24	- 6.7	61	166	77	44	13	0	295	203	4.3	35	17.9	34	27	11	3	17	6.3	
HARTFORD	52	1004.7	1011.6	0.6	- 6.7	- 2.8	- 1.1	15.0	11	-17.2	18	0	27	- 6.7	74	212	124	52	16	0	899	406	3.1	33	13.4	NW	28	7	6	18	7.0	54
DELAWARE																																
WILMINGTON	23	1010.5	1013.6	3.9	- 3.3	0.4	- 1.3	15.0	10	- 8.9	25	0	27	- 4.4	71	201	124	56	11	0	173	102	2.9	30	15.6	28	27	8	6	17	6.7	
DIST.OF COLUMBIA																																
WASH NATL AP	3	1012.5	1014.8	6.1	- 1.1	2.4	- 1.0	15.0	11	- 6.7	25+	0	21	- 5.0	61	166	96	41	9	0	173	102	3.0	32	20.1	NW	27	7	8	16	6.5	40
FLORIDA																																
APALACHICOLA U	4			16.7	7.8	12.2	- 1.1	21.7	19	1.7	5	0	0			140	65	45	8	4	0	0			13.9	NW	25	16	7	8	4.0	62
DAYTONA BEACH	9	1016.6	1017.8	19.4	7.8	13.6	- 2.1	25.6	30+	2.2	28+	0	0	7.2	69	128	78	102	8	4	0	0	1.4	27	10.3	19	30+	18	5	8	3.9	
FORT MYERS	5	1017.6	1017.8	21.7	10.6	16.1	- 2.2	27.2	9	4.4	5	0	0	11.1	75	100	68	76	4	1	0	0	0.5	1	10.3	32	26	20	8	3	2.8	
JACKSONVILLE	7	1016.3	1017.4	18.3	5.6	11.9	- 1.4	26.1	30	0.0	23	0	1	6.1	73	98	42	48	8	4	0	0	1.9	26	16.5	SW	10	15	11	5	3.9	75
KEY WEST	1	1016.6	1017.2	23.3	17.8	20.7	- 0.8	26.7	31+	12.2	15	0	0	15.0	72	20	- 23	10	7	1	0	0	1.7	5	12.1	NW	26+	17	10	4	3.5	77
LAKELAND U	65			20.6	10.0	15.1	- 1.8	26.1	31	3.3	13	0	0			113	66	70	7		0	0						17	9	5	3.4	73
MIAMI	2	1016.9	1017.3	23.9	13.9	18.8	- 1.2	27.8	10	6.7	27	0	0	12.8	68	29	- 13	28	3	1	0	0	0.5	33	10.3	30	26	19	4	8	3.7	
ORLANDO	33	1013.5	1017.8	20.6	8.9	14.8	- 1.2	27.2	31	2.8	14	0	0	9.4	75	118	70	92	6	3	0	0	1.2	29	11.2	30	22	18	7	6	3.6	
PENSACOLA	34	1012.9	1017.2	16.7	6.7	11.9	- 0.5	22.8	30	1.7	13	0	0	5.0	67	112	4	35	9	4	0	0	0.2	2	11.2	18	6	9	9	13	5.8	
TALLAHASSEE	17	1015.2	1017.7	18.3	1.7	9.9	- 2.3	24.4	30	- 3.9	28+	0	19	4.4	76	147	59	51	7	3	0	0	0.7	32	14.3	15	7	13	8	10	4.6	
TAMPA	6	1017.3	1017.6	20.6	8.3	14.5	- 2.3	25.0	29+	0.6	14	0	0	8.9	74	131	83	83	9	6	0	0	0.4	36	11.2	33	26	14	10	7	4.2	77
WEST PALM BEACH	5	1016.6	1017.3	22.8	11.1	17.1	- 3.1	27.8	31	3.9	27	0	0	11.1	70	29	- 36	20	4	1	0	0	1.0	28	15.6	27	22	21	2	8	3.6	
GEORGIA																																
ATHENS	244	986.5	1017.2	11.1	0.6	5.7	- 1.3	20.6	30	- 5.6	5	0	17	- 1.7	63	99	- 17	26	9	0	T	T	1.9	28	11.2	18	30	10	9	12	5.6	
ATLANTA	308	979.0	1016.7	10.6	0.0	5.4	- 1.7	21.7	30	- 5.0	5	0	17	- 2.2	63	83	- 28	28	8	0	T	T	1.7	30	13.4	SW	30	9	7	15	6.1	53
AUGUSTA	41	1010.8	1016.2	13.3	- 0.6	6.4	- 2.0	21.7	30+	- 8.3	5	0	17	- 0.6	67	96	11	40	8	1	T	0	1.7	27	10.3	30	26	15	5	11	5.0	
COLUMBUS	117	1003.1		13.9	1.1	7.4	- 1.3	23.3	30	- 3.3	18+	0	19	0.0	64	129	13	34	8	3	T	0	1.2	30	10.3	25	30	15	2	14	5.2	
MACON	108	1004.1	1017.3	14.4	1.1	8.0	- 1.4	23.9	30+	- 4.4	18	0	15	0.6	66	125	22	37	8	2	0	0	1.6	29	13.9	W	21	13	7	11	5.0	62
ROME	194			9.4	- 1.1	4.2	- 1.6	21.1	30	- 7.2	18	0	21			152	21	48	9		T	T										
SAVANNAH	14	1014.9	1016.7	15.6	1.7	8.7	- 2.1	25.0	30	- 3.9	5	0	13	1.7	69	87	16	38	8	0	0	0	1.7	27	13.9	W	22	14	8	9	4.6	69
HAWAII																																
LIHUE	31	1012.5	1017.8	26.1	20.0	22.9	0.6	28.9	3	15.6	21	0	0	18.3	77	150	19	93	16	0	0	0	3.4	3	14.3	NE	28+	8	16	7	5.5	47
HONOLULU	2	1016.3	1016.6	28.9	20.6	24.7	1.6	30.6	7+	16.7	22	0	0	17.8	69	34	- 42	10	10	0	0	0	3.3	4	15.6	NE	25	12	16	3	4.6	60
KAHULUI	15	1013.9	1016.3	27.2	17.8	22.6	0.0	30.0	1	11.7	23+	0	0	17.8	77	148	79	77	13	1	0	0	3.2	5	13.0	NE	25+	15	11	5	3.9	69
HILO	8	1015.6	1016.9	26.7	17.2	21.9	0.0	29.4	4	13.9	21+	0	0	17.8	80	206	-180	61	21	1	0	0	0.5	20	8.9	NW	19	9	12	10	5.6	45
IDAHO																																
BOISE	865	918.4	1020.8	5.0	- 2.2	1.4	1.3	15.0	21	-10.0	28	0	21	- 2.8	74	45	11	11	14	0	122	51	1.9	12	12.1	SE	21	7	2	22	7.5	36
LEWISTON	431			3.9	- 0.6	1.7	0.1	11.7	12	- 3.9	10+	0	22			38	3	17	17		140	51						1	3	27	9.2	
POCATELLO	1358	864.5	1021.5	2.2	- 6.1	- 1.9	0.6	12.2	21	-17.8	28	0	27	- 6.1	72	28	3	7	12	0	180	76	2.0	21	19.2	SW	21	2	4	25	8.6	25
ILLINOIS																																
CAIRO U	96			5.6	- 1.1	2.2	- 1.9	14.4	13	- 7.2	26	0	22			120	26	32	14		267	152			10.7	N	29+	9	7	15	6.3	41
CHICAGO O HARE	201	992.2	1017.6	1.1	- 5.6	- 2.2	0.3	7.8	2	-10.6	12	0	30	- 6.1	74	30	- 17	13	9	0	490	279	0.8	29	11.2	21	2	2	5	24	8.0	
CHICAGO MIDWAY	185	994.2	1017.5	1.1	- 5.0	- 1.8	- 0.2	8.9	2	-12.2	24	0	30	- 6.1	72	45	- 3	21	9	0	513	254	1.1	28	16.5	NW	18	2	7	22	8.2	21
MOLINE	177	995.9	1018.5	0.0	- 8.3	- 4.3	- 1.4	10.6	2	-20.6	27	0	30	- 7.2	78	39	- 3	15	13	0	391	152	1.3	28	13.0	NW	14+	2	9	20	7.8	42
PEORIA	199	993.6	1018.5	0.0	- 7.2	- 3.4	- 1.8	11.1	2	-16.7	27	0	31	- 6.7	76	29	- 21	15	11	0	279	127	0.8	30	13.4	NW	14	3	7	21	7.8	39
ROCKFORD	221	989.5	1017.5	0.0	- 8.3	- 4.3	- 0.8	8.3	2	-16.7	26+	0	30	- 7.2	75	30	- 13	13	9	0	406	254	0.8	30	10.3	32	18	2	9	20	8.0	
SPRINGFIELD	179	995.3	1018.3	1.1	- 5.6	- 2.1	- 2.1	12.8	2	-15.6	26	0	31	- 5.0	80	35	- 13	13	13	0	259	127	1.0	30	13.9	NW	14	5	6	20	7.5	31
INDIANA																																
EVANSVILLE	116	1003.4	1018.0	3.9	- 4.4	- 0.3	- 2.6	13.9	13	-13.3	27	0	30	- 4.4	72	81	3	24	10	0	196	127	1.2	32	11.6	W	23	5	5	21	7.8	38
FORT WAYNE	241	986.5	1017.3	0.6	- 6.1	- 2.7	- 0.7	6.1	2	-18.3	24	0	31	- 6.1	74	25	- 28	10	10	0	203	102	1.1	30	14.3	W	8	4	4	23	8.2	32
INDIANAPOLIS	241	987.1	1017.2	1.7	- 5.6	- 2.1	- 1.6	9.4	2	-16.7	24	0	31	- 5.0	81	52	- 16	21	10	0	328	203	0.8	30	12.5	NW	3	2	6	23	8.2	19
SOUTH BEND	236	988.2	1017.0	0.6	- 5.6	- 2.5	- 0.7	6.1	2	-19.4	24	0	31	- 5.0	81	32	- 24	11	15	0	434	178	0.6	27	9.8	29	18+	1	3	27	8.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

DECEMBER 1969

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
IOWA																																
BURLINGTON	211			0.0	- 7.8	- 3.8	- 1.8	11.1	2	-16.1	27	0	31	- 4.4	83	29	- 11		10	0	338		1.1	31	13.0	33	14	4	7	20	7.8	
DES MOINES	286	983.1	1019.3	- 1.1	- 8.3	- 4.6	- 0.8	10.0	1	-16.7	26	0	31	- 8.3	75	26	- 3	12	10	0	305	152	1.1	32	11.6	E	27+	3	9	19	7.5	36
DUBUQUE	322	977.3		- 2.8	-10.6	- 6.4	- 1.7	6.7	2	-19.4	20	0	31			48	- T	22	13		544	381						1	9	21	8.4	
SIOUX CITY	334	977.7	1019.4	- 1.1	-10.6	- 5.7	- 1.8	15.0	1	-23.3	30	0	31	- 7.8	84	34	15	17	10	0	401	254	0.5	33	13.0	NW	25	3	6	22	7.9	38
WATERLOO	265	985.8	1018.9	- 3.3	-12.8	- 8.2	- 3.3	6.7	2+	-22.8	27	0	31	-10.0	83	50	21	23	11	0	495	279	1.2	30	17.4	32	13	2	8	21	8.0	
KANSAS																																
CONCORDIA	448	963.8	1018.4	3.9	- 6.1	- 1.1	- 1.1	15.0	14+	-15.0	31+	0	30	- 4.4	81	14	- 4	8	4	0	102	76	0.7	32	12.1	NW	22	7	3	21	7.4	43
DODGE CITY	787	924.1	1017.2	7.8	- 3.3	2.2	0.7	19.4	13	-12.8	30	0	29	- 3.9	72	5	- 7	4	4	0	8	T	0.9	33	16.5	W	22	7	6	18	6.7	50
GOODLAND	1114	886.6	1016.5	6.7	- 5.6	0.6	1.4	17.2	14	-13.3	29	0	31	- 5.6	70	7	- 5	2	7	0	155	25	1.9	28	17.0	33	22	9	7	15	6.1	
TOPEKA	267	986.1	1019.2	2.8	- 5.0	- 1.2	- 1.9	16.1	2	-13.3	12	0	30	- 4.4	78	31	- 4	14	9	0	239	102	1.0	35	14.3	NW	23	5	3	23	7.7	29
WICHITA	403	968.8	1018.0	6.1	- 3.3	1.4	- 0.7	17.2	13	-10.0	31+	0	28	- 3.3	73	35	11	20	9	0	89	51	1.3	2	13.9	N	6	7	7	17	7.1	40
KENTUCKY																																
COVINGTON	265	984.4	1017.0	2.8	- 4.4	- 0.8	- 1.5	10.0	7	- 8.9	5	0	27	- 5.6	72	66	- 4	30	12	0	152	127	1.0	31	13.0	24	7	1	9	21	8.3	
LEXINGTON	294	980.7	1017.3	3.9	- 3.3	0.4	- 1.8	11.1	13	- 8.9	5	0	27	- 4.4	71	105	18	38	11	0	132	102	0.8	28	10.3	23	7	4	7	20	7.9	
LOUISVILLE	145	999.3	1017.3	4.4	- 2.8	0.8	- 1.6	12.8	13	- 7.2	5	0	26	- 4.4	69	94	12	36	13	0	196	76	1.2	31	13.9	SW	7	4	10	17	7.7	43
LOUISIANA																																
ALEXANDRIA	28	1013.2	1017.5	15.6	2.8	9.0	- 1.7	22.2	15	- 3.3	26	0	11			185	39	105	13	7	0	0	0.6	36	15.6	30	29	11	6	14	5.9	
BATON ROUGE	20	1014.6	1017.2	17.2	5.6	11.3	- 0.7	23.9	29+	0.0	13	0	1	6.1	76	96	- 33	43	9	2	0	0	0.4	6	10.7	17	29	7	8	16	6.5	
LAKE CHARLES	3	1015.9	1016.8	17.8	5.0	11.4	- 1.2	23.9	15	0.0	26	0	1	8.3	84	141	- 5	90	10	2	0	0	0.5	6	13.0	18	6	9	8	14	6.2	
NEW ORLEANS	1	1016.9	1017.7	18.9	6.1	12.5	- 0.5	25.6	29+	- 1.1	13	0	4	7.2	73	134	29	41	10	3	0	0	0.2	1	14.3	17	6	8	9	14	6.0	
SHREVEPORT	77	1007.5	1016.9	14.4	3.9	9.1	- 0.7	21.7	15+	- 2.8	26	0	5	3.9	74	100	- 25	40	10	2	T	T	0.4	7	11.2	34	29	8	8	15	6.5	54
MAINE																																
CARIBOU	190	987.1		- 2.2	- 9.4	- 5.6	3.6	13.3	11	-24.4	24	0	28			91	29	23	13		726	559						7	5	19	7.3	
PORTLAND	14	1008.1	1010.5	2.2	- 5.6	- 1.8	1.6	12.8	11	-17.8	25	0	26	- 6.1	73	246	148	97	14	2	627	432	2.0	34	14.3	SE	27	7	5	19	7.0	37
MARYLAND																																
BALTIMORE	45	1008.8	1014.5	5.6	- 1.7	1.8	- 0.3	14.4	11+	- 8.9	21	0	24	- 5.6	60	189	113	46	11	0	229	127	3.1	30	1[illegible].8	NW	27	8	7	16	6.5	46
MASSACHUSETTS																																
BLUE HILL OBS R	192			1.7	- 5.6	- 1.7	- 0.6	15.0	11	-15.0	25	0	27			320	219	144	13		533	178			25.9	S	11					43
BOSTON	5	1009.5	1010.5	3.9	- 2.2	0.8	0.1	15.6	11	-11.1	25	0	23	- 4.4	70	247	155	106	15	0	320	102	3.3	31	17.0	NE	26	7	8	16	6.7	43
NANTUCKET	13	1009.8		5.6	- 1.1	2.3	0.0	13.9	11	- 6.7	17+	0	23			247	148	108	17		122	51			18.8	N	2	2	11	18	7.5	33
WORCESTER	301	972.9	1011.0	0.0	- 7.2	- 3.7	- 1.1	14.4	11	-16.1	25	0	27	- 8.3	71	195	104	66	16	0	749	457	3.1	31	16.1	31	28	7	5	19	6.9	
MICHIGAN																																
ALPENA	210	990.5	1016.7	- 1.1	- 8.9	- 5.2	- 0.8	4.4	2	-23.3	24	0	31	- 7.2	81	32	- 15	8	14	0	645	229	1.1	29	11.2	E	7	1	3	27	8.9	20
DETROIT	189			0.6	- 5.0	- 2.4	- 1.3	6.1	7	-17.2	24	0	30	- 7.8	69	36	- 17	15	10	0	307		1.9	31	10.3	33	1					
DETROIT M WAYNE CO	193	991.2	1016.1	0.6	- 6.7	- 3.1	- 1.4	5.6	7	-15.6	24	0	29	- 7.2	73	34	- 15	13	10	0	254	127	1.7	32	12.1	SW	7+	2	7	22	8.0	30
FLINT	235	987.5	1016.2	0.0	- 7.2	- 3.6	- 1.2	6.7	9	-17.2	24	0	30	- 7.2	74	11	- 35	3	11	0	155	76	1.0	30	9.8	36	1	1	6	24	8.6	
GRAND RAPIDS	239	986.5	1016.6	0.0	- 7.8	- 3.9	- 1.1	5.0	2	-22.2	24	0	31	- 6.7	77	17	- 35	4	11	0	300	152	0.7	30	12.5	NW	18	1	5	25	8.6	28
HOUGHTON LAKE	350	973.2	1016.7	- 1.7	-10.0	- 5.8	- 1.1	3.9	2	-26.1	24	0	31	- 8.3	79	24	- 19	8	13	0	508	203	0.7	32	9.4	32	3+	4	3	24	8.3	
LANSING	256	983.7	1016.6	0.6	- 7.2	- 3.4	- 0.9	5.6	11+	-20.0	24	0	31	- 6.1	79	13	- 37	4	10	0	155	76	1.0	29	13.0	NW	18+	2	4	25	8.5	30
MARQUETTE U	206			- 1.1	- 6.1	- 3.6	0.8	5.6	2	-10.6	31+	0	31			54	5	10	22		785	381			15.6	SW	2	0	5	26	9.1	29
MUSKEGON	191	992.9	1016.7	0.0	- 6.1	- 3.2	- 2.0	6.1	2	-20.6	24	0	31	- 6.1	79	33	- 18	7	16	0	450	152	0.6	34	12.5	32	18	2	8	21	8.4	
SAULT STE MARIE	220	988.5	1016.3	- 3.3	-10.6	- 6.9	- 0.7	5.0	2	-22.2	24+	0	31	-10.6	73	36	- 22	9	15	0	427	279	0.9	5	17.9	NW	2	6	4	21	7.4	41
MINNESOTA																																
DULUTH	435	963.8	1017.5	- 4.4	-11.7	- 8.1	1.9	5.6	2	-24.4	22	0	31	-10.6	79	68	38	19	20	0	986	660	1.0	28	17.9	NW	2	3	5	23	8.2	26
INTERNATIONAL FALLS	359	972.2	1017.3	- 5.6	-13.9	- 9.8	2.8	5.6	1	-28.3	22	0	31	-11.1	86	27	6	11	15	0	356	356	0.3	23	9.4	16	24+	5	1	25	8.5	
MINNEAPOLIS	254	986.8	1018.5	- 2.2	-10.6	- 6.5	1.2	7.2	1	-17.8	27+	0	30	- 8.3	85	52	30	17	17	0	843	483	0.8	27	11.6	NW	13	1	8	22	8.2	25
ROCHESTER	395	968.2	1018.0	- 3.3	-11.7	- 7.4	0.1	6.1	1	-20.0	26	0	30	-10.0	77	42	18	14	12	0	777	508	1.7	26	13.4	32	13	2	5	24	8.2	
ST CLOUD	315	978.7	1018.3	- 3.3	-12.2	- 7.9	0.7	7.8	1	-22.2	22	0	31		76	52	33	13	16		635	457						1	9	21	8.1	
MISSISSIPPI																																
JACKSON	94	1005.4	1017.5	15.0	1.7	8.4	- 1.3	23.3	15	- 2.2	27+	0	13	3.9	78	183	49	57	7	5	T	0	0.2	1	11.6	SE	27+	10	7	14	6.2	52
MERIDIAN	88	1006.4	1017.7	15.0	1.1	8.1	- 0.9	22.2	29	- 3.9	27	0	16	2.8	75	137	2	56	8	4	0	0	0.6	30	9.8	12	6	11	5	15	5.9	
MISSOURI																																
COLUMBIA	270	985.1	1018.5	2.8	- 3.9	- 0.6	- 1.6	13.9	2	- 8.3	20	0	30	- 4.4	79	34	- 15	18	10	0	216	76	0.8	33	13.0	NW	23	5	7	19	7.6	41

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s							%
MISSOURI																																
KANSAS CITY	226	990.9	1018.8	3.9	- 2.8	0.6	- 1.5	16.7	2	- 8.9	31	0	26	- 3.9	75	18	- 21	5	8	0	97	51	0.8	36	11.6	NE	15	4	6	21	7.5	39
ST JOSEPH	247			4.4	- 3.9	0.1	0.3	15.6	2	-12.8	31	0	28										0.9	34	9.4	33	23+	3	10	18	7.3	
ST LOUIS	163	997.6	1018.7	3.9	- 3.9	0.1	- 1.5	18.3	13	- 9.4	27+	0	30	- 3.9	77	51	1	13	15	1	259	152	1.0	30	11.6	W	23+	3	9	19	7.6	31
SPRINGFIELD	386	971.2	1018.0	5.0	- 3.3	0.9	- 1.7	17.2	13	-10.0	26	0	27	- 3.3	77	68	12	19	10	0	353	178	0.3	20	15.2	SE	27	5	6	20	7.5	35
MONTANA																																
BILLINGS	1087	889.9	1017.3	3.9	- 5.0	- 0.6	1.4	13.3	1	-15.0	9	0	29	- 7.2	66	8	- 7	3	8	0	58	25	3.4	26	16.5	NW	22	5	9	17	7.0	37
GLASGOW	696	932.6	1017.4	- 0.6	-10.0	- 5.1	2.8	12.2	1	-18.3	11	0	31	- 8.9	78	9	- 2	6	8	0	104	51	0.8	1	13.4	31	22	6	8	17	7.0	
GREAT FALLS	1116	886.6	1017.8	3.3	- 5.6	- 1.2	1.4	15.6	1	-13.9	9+	0	28	- 7.2	67	10	- 5	4	9	0	109	76	3.6	23	14.3	SW	23	6	6	19	7.1	45
HAVRE	788	922.5	1017.3	1.7	-12.2	- 5.3	0.8	14.4	1	-21.7	9	0	31	- 9.4	73	6	- 6	2	5	0	99	51	1.9	25	14.3	SW	23	3	10	18	7.3	44
HELENA	1167	880.5	1020.3	2.2	- 8.9	- 3.4	0.9	8.9	12	-16.7	7	0	30	- 7.2	78	8	- 6	3	4	0	155	76	2.0	26	16.5	W	22	6	5	20	7.2	59
KALISPELL	904	912.6	1020.6	0.0	- 6.7	- 3.2	0.7	7.2	13	-20.0	28	0	30	- 5.6	84	31	- 3	8	17	0	366	127	0.2	24	7.6	18	23+	2	1	28	9.1	
MILES CITY	801	921.1	1017.1	1.7	- 8.9	- 3.5	1.4	15.6	1	-17.8	29	0	31	- 8.3	70	34	24		13	0	267		1.7	30								
MISSOULA	972	905.9	1021.6	0.0	- 6.7	- 3.3	1.4	5.6	12	-13.9	3	0	30	- 5.0	90	23	- 4	8	11	0	218	127	0.3	31	9.8	SE	23	1	5	25	8.8	24
NEBRASKA																																
GRAND ISLAND	561	950.2	1018.9	1.7	- 8.9	- 3.5	- 0.8	15.0	1	-23.3	30	0	31	- 7.2	78	21	7	11	8	0	272	152	1.1	29	12.5	34	21	5	5	21	7.4	
LINCOLN U	351			1.7	- 7.2	- 2.8	- 2.0	15.0	1	-23.3	31	0	29			31	8	13			401	203			16.1	5	22	5	7	19	7.3	54
NORFOLK	471			0.6	-10.0	- 4.9	- 1.2	15.6	1	-23.9	30	0	31			29	10	20	9		325	203						6	8	17	7.1	
NORTH PLATTE	846	917.0	1017.9	5.0	- 8.9	- 2.0	0.6	16.1	14	-17.8	30	0	31	- 6.7	78	3	- 8	1	6	0	46	25	0.7	32	17.0	NW	22	8	6	17	6.5	55
OMAHA	298	982.4	1019.1	0.6	- 8.9	- 4.0	- 1.9	13.9	1	-16.7	31+	0	30	- 7.2	76	46	25	25	12	0	505	229	0.7	35	10.7	SE	22+	5	7	19	7.5	54
SCOTTSBLUFF	1206	878.1	1017.6	6.7	- 8.3	- 0.7	1.2	17.2	17+	-18.9	29	0	31	- 7.8	65	8	- 2	5	7	0	74	25	2.3	32	15.6	33	22	8	7	16	6.3	
VALENTINE	789			3.3	- 9.4	- 3.3	0.6	18.3	1	-20.0	29	0	31			7	- 2	3	5		84	51			15.6	NW	22	11	3	17	6.2	49
NEVADA																																
ELKO	1539	845.9	1021.7	3.3	- 8.9	- 2.7	0.4	12.2	21	-22.8	29	0	30			46	21	17	11	0	282	102	0.4	25	13.0	24	10	5	8	18	7.4	
ELY	1906	809.0	1019.9	6.1	- 8.3	- 1.2	1.7	15.6	13	-18.9	29	0	31	- 8.3	64	15	- 2	6	8	0	66	25	1.1	22	12.5	SE	21	6	7	18	7.1	44
LAS VEGAS	659	941.1	1018.7	14.4	0.6	7.7	0.4	19.4	25	- 5.0	31	0	13	- 7.2	37	T	- 10	T	0	0	T	0	1.4	30	13.4	N	29+	16	4	11	4.6	90
RENO	1342	866.9	1019.3	10.6	- 5.6	2.6	2.7	21.1	13	-12.2	5+	0	24	- 8.9	47	53	25	15	8	0	71	76	0.8	21	15.6	W	25+	7	7	17	6.6	88
WINNEMUCCA	1311	869.6	1021.3	7.2	- 7.2	- 0.1	1.1	17.2	21	-16.1	31+	0	28	- 6.1	68	53	29	24	9	0	157	127	0.8	16	17.0	SW	21	5	5	21	7.7	46
NEW HAMPSHIRE																																
CONCORD	104	998.3	1011.4	0.0	- 9.4	- 4.6	- 0.7	15.6	11	-27.2	25	0	28	- 8.3	76	180	98	84	14	0	526	356	2.5	31	15.2	NW	29	5	9	17	7.1	45
MT WASHINGTON OBS	1909			- 7.8	-15.6	-11.8	1.1	3.3	11	-25.0	23	0	31			438	277	219	19	0	2156	483			58.1Y	E	27	3	5	23	8.1	36
NEW JERSEY																																
ATLANTIC CITY	20	1010.2	1012.5	5.6	- 2.8	1.4	- 1.2	15.0	11+	- 8.9	25+	0	24	- 3.9	71	186	104	56	12	0	15	T	3.5	30	16.1	29	27	7	6	18	6.8	37
ATLANTIC CITY U	3			6.7	0.0	3.3	- 0.2	14.4	11	- 5.0	25	0	19			166	78	61	11						20.6	NW	27					
NEWARK	2	1011.2	1012.3	3.9	- 2.8	0.6	- 0.9	13.9	11	-10.6	25	0	26	- 5.6	64	126	44	33	16	0	216	152	3.6	31	17.4	30	27	8	7	16	6.7	
TRENTON U	17			3.9	- 2.2	0.8	- 0.9	16.7	11+	-10.6	25	0	24			174	101	47	16		274	203			16.1	NW	27	7	7	17	6.7	41
NEW MEXICO																																
ALBUQUERQUE	1619	[illegible]37.5	1017.1	11.1	- 2.8	3.9	1.2	18.3	22	-13.3	30	0	28	- 6.7	51	18	7	13	6	0	28	T	0.4	36	17.0	E	28	12	8	11	5.4	74
CLAYTON	1515			10.0	- 5.6	2.3	0.1	19.4	22+	-16.1	30	0	31			16	7	10	4		91	76						10	7	14	5.9	
ROSWELL	1102			13.3	- 3.3	5.0	1.1	24.4	13	-18.9	31	0	28			45	31	22	6		353	203			13.9	SW	27					61
NEW YORK																																
ALBANY	84	1002.4	1013.6	- 1.1	-10.0	- 5.8	- 2.7	13.9	11	-30.0	25	0	28	- 7.8	83	165	100	38	19	0	1461	914	2.5	31	13.9	W	27	5	6	20	7.7	38
BINGHAMTON	485	952.6	1013.3	- 2.2	- 7.2	- 4.7	- 1.8	8.3	11	-22.2	25	0	30	- 7.8	79	123	58	27	21	0	1514	838	2.0	31	14.3	NW	28	2	4	25	8.7	32
BUFFALO	215	988.5	1014.9	- 0.6	- 7.2	- 4.0	- 1.6	5.0	7	-18.9	25	0	29	- 6.7	81	78	2	30	23	0	594	229	1.5	32	14.8	SW	11	2	6	23	8.4	27
J.F. KENNEDY	4	1011.5	1012.2	5.0	- 1.1	1.8	0.2	16.1	11	- 8.3	25	0	22	- 4.4	65	156	74	40	14	0	160	102	4.1	32	20.6	6	26	8	7	16	6.5	
NEW YORK U	40	1008.5	1011.7	3.3	- 2.2	0.8	- 1.4	15.6	11	-10.0	25	0	24	- 4.4	71	180	97	45	16	0	173	152	3.0	33	18.8	NE	26					41
NEW YORK LA GUARDIA	3	1010.5	1012.4	3.9	- 1.7	1.0	- 1.4	15.0	11	-10.0	25	0	23	- 5.6	63	135	49	33	15	0	206	152	3.6	33	17.0	NW	27+	7	9	15	6.5	
ROCHESTER	167	994.6	1015.5	- 0.6	- 7.2	- 3.8	- 2.0	6.1	8	-20.6	25	0	28	- 7.2	77	93	33	29	18	0	1067	356	1.8	29	13.4	NW	27	2	1	28	8.7	19
SYRACUSE	125	999.0	1014.3	- 1.1	- 7.8	- 4.6	- 2.2	8.9	11	-19.4	25	0	30	- 8.9	71	87	7	15	24	0	1334	584	1.3	29	13.4	NW	28	3	3	25	8.7	35
NORTH CAROLINA																																
ASHEVILLE	652	937.4	1015.1	7.2	- 2.2	2.5	- 0.8	16.7	30	- 8.9	18	0	22	- 3.3	72	118	26	35	12	0	277	178	2.7	35	14.3	35	1	12	4	15	5.8	59
CAPE HATTERAS R	2	1014.2	1014.8	12.2	3.3	7.8	- 1.2	19.4	30+	- 2.2	18	0	4	2.2	70	134	18	42	8	3	0	0	2.7	31	17.4	5	10	12	6	13	5.5	47
CHARLOTTE	224	987.5	1015.5	9.4	- 1.1	4.2	- 1.8	20.0	30	- 7.8	5	0	22	- 2.8	64	124	32	49	8	0	T	T	0.9	30	12.5	SW	31	14	6	11	5.1	68
GREENSBORO	273	983.1	1015.5	8.3	- 1.1	3.6	- 0.8	17.8	31+	- 8.3	21	0	22	- 3.3	65	125	46	42	7	0	41	25	1.5	29	14.3	W	14	11	10	10	5.3	53
RALEIGH	132	999.0	1015.1	8.9	- 2.2	3.2	- 2.3	22.2	30	-10.0	17	0	23	- 3.9	65	84	7	26	8	0	0	0	2.0	29	13.0	24	31	12	8	11	5.2	60
WILMINGTON	9	1014.2	1015.6	13.3	1.1	7.2	- 1.8	22.2	30	- 5.0	5	0	16	0.6	68	98	11	34	7	2	0	0	1.7	29	14.3	SW	25+	12	9	10	5.2	64

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
NORTH DAKOTA	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
BISMARCK	502	956.0	1018.2	- 2.2	-13.9	- 8.0	- 0.1	16.7	1	-25.0	26	0	31	-11.1	74	20	11	6	12	0	348	178	1.1	32	11.6	NW	8	4	6	21	7.7	36
FARGO	273	983.7	1018.2	- 4.4	-13.9	- 9.1	0.7	11.7	1	-23.3	22+	0	31	-11.1	83	21	6	6	11	0	241	178	0.9	27	13.4	SE	24	5	8	18	7.1	40
WILLISTON	579	946.2	1017.5	- 1.7	-13.3	- 7.4	1.3	13.3	1	-26.1	26	0	31	-10.0	78	12	- 1	8	9	0	135	102	1.3	31	11.6	W	24	4	4	23	8.0	34
OHIO																																
AKRON	368	969.9	1015.8	1.1	- 6.7	- 2.8	- 2.0	5.6	8+	-13.3	28	0	29	- 6.7	74	69	12	15	22	0	434	178	1.7	29	10.7	32	1	0	7	24	8.9	
CINCINNATI OBS	232			2.2	- 3.9	- 0.9	- 2.7	8.9	7	- 8.3	24	0	31			63	- 8	27	13		140	127			10.3	W	14					35
CLEVELAND	237	986.1	1016.4	0.0	- 5.6	- 2.7	- 1.8	5.6	9	-13.9	28	0	27	- 7.8	68	62	3	16	19	0	442	178	1.4	28	15.6	NE	31	0	3	28	9.2	10
COLUMBUS	247	986.1	1017.1	1.1	- 6.7	- 2.9	- 2.6	8.3	7	-16.1	28+	0	29	- 6.1	76	58	- 1	12	15	0	246	127	1.3	29	13.0	SW	2	1	8	22	8.5	21
DAYTON	305	979.3	1016.8	1.7	- 5.0	- 1.7	- 1.3	9.4	7	-13.3	24	0	29	- 5.6	75	46	- 14	18	12	0	257	127	1.2	29	13.0	SW	2+	1	9	21	8.2	26
MANSFIELD	395			0.0	- 6.7	- 3.3	- 1.8	7.2	7	-13.3	16	0	31	- 7.2	76	39	- 28	14	16	0	297	127	1.6	28	11.2	22	2	3	5	23	8.6	
TOLEDO	204	991.2	1017.3	0.6	- 7.8	- 3.5	- 1.4	6.1	7	-18.9	24	0	31	- 7.8	71	53	4	15	11	0	483	203	1.5	30	12.5	NW	1	1	9	21	8.0	37
YOUNGSTOWN	359	971.6	1015.6	- 1.1	- 7.2	- 4.1	- 2.7	3.3	9	-15.6	24	0	31	- 6.1	83	72	4	16	24	0	538	152	1.3	30	13.4	28	18	0	3	28	9.4	
OKLAHOMA																																
OKLAHOMA CITY	392	969.9	1017.3	10.6	- 1.1	4.7	0.1	21.1	22+	-13.3	31	0	19	- 1.1	70	37	1	24	7	0	107	102	0.8	3	20.1	NW	22	8	6	17	6.5	46
TULSA	198	993.2	1018.1	9.4	- 1.1	4.1	- 0.2	19.4	2	-17.8	31	0	19	- 1.7	70	41	0	24	8	0	147	152	0.7	6	13.4	NW	22	5	10	16	6.9	44
OREGON																																
ASTORIA	2	1014.6	1015.2	10.0	3.3	6.7	0.6	15.0	13	- 1.7	1	0	6	4.4	85	297	- 50	66	26	2	0	0	2.1	11	13.9	17	22	1	5	25	8.7	
BURNS U	1265	873.7	1019.8	4.4	- 5.0	- 0.5	1.1	10.6	14	-12.2	31	0	26	- 3.3	81	79	42	16	14		262	152	0.6	29				4	5	22	7.9	
EUGENE	109	1003.4	1017.2	9.4	3.3	6.2	0.7	17.8	13	- 2.8	2	0	8	4.4	91	297	129	66	21	0	0	0	1.9	16	16.5	16	11	0	5	26	9.1	
MEACHAM	1234	876.4	1019.3	1.7	- 2.8	- 0.5	0.7	9.4	1	- 7.8	28	0	26			128	13	24	21		714	381			10.3	33	26	5	2	24	8.1	
MEDFORD	396	970.9	1019.3	8.3	0.6	4.3	1.6	18.3	13	- 7.2	2+	0	14	2.2	89	138	52	44	19	0	10	T	0.2	19	10.3	14	19	2	5	24	8.7	
PENDLETON	452	965.1	1020.2	5.0	- 1.7	1.6	- 0.9	15.6	13	- 6.7	10+	0	21	0.0	90	48	10	18	17	0	89	51	0.3	23	11.2	27	21	2	4	25	8.8	
PORTLAND	6	1015.9	1017.3	8.9	3.3	6.1	0.9	13.3	14+	- 4.4	1	0	3	3.3	84	206	44	36	21	0	0	0	3.0	13	17.9	SW	11	3	1	27	8.8	17
SALEM	60	1009.8	1017.1	9.4	1.7	5.5	0.2	16.1	13	- 7.8	2	0	8	3.3	88	234	47	51	24	1	0	0	1.7	18	17.9	19	11	1	7	23	8.6	
SEXTON SUMMIT R	1169	882.8	1016.9	6.1	1.1	3.7	1.0	13.3	1	- 2.8	28+	0	13			357	236	92	21		338	203			20.6	18	11	5	5	21	7.6	
PACIFIC AREA																																
JOHNSTON	2	1013.9	1014.4	28.3	22.8	25.7	0.1	29.4	3	21.1	29+	0	0	21.1	74	40	- 36	14	19	0	0	0	7.7	7	17.0	E	9+	15	14	2	4.0	71
PAGO PAGO	4	1008.5	1008.8	30.0	23.9	26.9		32.2	5	21.1	31+	1	0	23.9	83	424		129	20	8	0	0	2.0	13	8.5	SE	27	2	10	19	7.5	61
TAGUAC GUAM R	110	997.6	1010.2	29.4	23.3	26.3	0.3	30.6	21+	21.7	22+	0	0	23.3	85	257	102	121	26	2	0	0	4.3	10	13.0	F	19	1	13	17	7.8	50
WAKE	3	1014.9	1015.2	28.9	23.3	26.2	0.1	30.6	5	21.1	23	0	0	21.7	80	120	74	26	16	1	0	0	7.2	8	19.2	E	10	9	14	8	5.7	61
KOROR R	29	1005.8	1009.3	31.1	24.4	27.7	0.5	32.8	26	22.8	29+	6	0	24.4	86	161	-137	38	24	1	0	0	1.5	7	11.6	E	7	0	5	26	9.2	65
KWAJALEIN	2	1008.5	1009.2	30.6	25.6	28.1	1.0	31.1	22+	24.4	31+	0	0	23.3	76	68	-160	17	17	0	0	0	8.0	7	14.3	8	9	0	2	29	9.7	
MAJURO	3	1008.8	1009.1	29.4	25.0	27.4	0.6	30.6	30+	23.9	23+	0	0	23.9	79	183	- 99	29	25	1	0	0	6.2	7	12.5	E	13	2	5	24	8.3	39
PONAPE R	37	1003.4	1008.6	31.1	23.3	27.1	0.3	32.8	4	21.1	11+	2	0	23.9	82	381	- 85	91	26	2	0	0	3.0	10	13.0	NE	8	0	5	26	8.9	41
TRUK MOEN ISLAND	2	1008.1	1008.6	30.6	25.0	27.7	0.6	32.2	21+	22.8	7	2	0	24.4	82	264	- 72	57	23	1	0	0	3.8	7	11.6	NE	2	0	2	29	9.5	66
YAP R	13	1006.8	1008.7	30.6	23.9	27.1	- 0.1	31.7	22+	22.8	21+	0	0	24.4	85	211	- 47	70	25	0	0	0	2.0	8	9.4	NE	16+	3	10	18	7.5	59
PENNSYLVANIA																																
ALLENTOWN	118	999.0	1013.4	1.7	- 5.6	- 2.0	- 1.6	14.4	11	-15.6	25	0	30	- 6.1	75	163	80	44	16	0	508	305	2.6	31	17.9	30	27	4	8	19	7.2	
ERIE	223	987.8	1015.6	- 0.6	- 6.1	- 3.4	- 2.7	5.0	9	-16.7	24	0	31	- 7.2	76	62	- 5	24	19	0	556	152	1.1	32	13.9	3	31	1	3	27	9.2	
HARRISBURG	103	1001.0	1014.3	2.8	- 3.3	- 0.3	- 0.9	12.2	11	-13.3	25	0	29	- 6.1	66	164	90	42	13	0	719	381	2.9	31	14.3	NW	27	7	3	21	7.4	42
PHILADELPHIA	2	1011.9	1012.7	3.9	- 2.2	0.8	- 0.2	16.7	10	- 8.3	25	0	26	- 5.0	68	184	109	44	13	0	191	102	2.9	31	19.2	NW	27	7	8	16	6.8	45
PITTSBURGH	347	969.9	1015.2	0.6	- 6.1	- 2.9	- 2.2	5.0	9	-15.6	25	0	28	- 7.2	71	100	39	26	24	0	523	152	2.5	29	13.4	24	31	1	3	27	9.1	13
SCRANTON	283	978.7	1014.0	- 0.6	- 6.1	- 3.5	- 2.1	11.7	11	-21.7	25	0	28	- 7.2	76	87	24	21	20	2	861	584	2.1	31	14.8	E	10	1	8	22	8.3	31
WILLIAMSPORT	160	994.9	1014.7	2.2	- 6.1	- 1.9	- 1.1	11.1	11	-23.3	25	0	29	- 5.6	77	143	66	51	17	0	902	533	2.4	29	12.5	29	27	3	6	22	8.0	
RHODE ISLAND																																
BLOCK ISLAND	34			4.4	- 1.7	1.3	- 0.8	13.9	11	- 7.8	25	0	21			186	94	76	16		38	T										
PROVIDENCE	16	1008.5	1010.9	2.8	- 4.4	- 0.8	- 0.8	15.6	11	-13.3	25	0	26	- 6.1	70	273	181	98	15	1	391	178	3.4	33	14.3	16	11	6	9	16	6.7	43
SOUTH CAROLINA																																
CHARLESTON	12	1014.6	1016.4	14.4	1.7	8.1	- 1.9	21.1	30	- 5.6	5	0	15	1.1	65	89	17	41	9	1	T	0	1.5	28	17.4Y	S	25	12	10	9	4.9	69
CHARLESTON U	3			13.9	5.0	9.6	- 1.4	18.9	30+	- 0.6	5	0	2			76	7	37	7		0	0			15.6	SE	7					
COLUMBIA	65	1008.1	1016.3	13.3	0.0	6.7	- 1.3	21.7	30	- 8.3	5	0	17	0.0	67	115	25	66	8	0	T	T	1.5	29	11.2	31	26	15	5	11	4.8	62
GNVLE-SPARTANBURG	292	980.7	1016.1	10.6	0.0	5.2	- 1.2	18.9	30	- 8.9	5	0	21	- 1.7	65	117	14	38	7	0	T	T	1.0	32	13.0	W	14	13	6	12	5.3	59
SOUTH DAKOTA																																
ABERDEEN	395	969.5	1018.5	- 2.2	-12.8	- 7.5	0.2	16.7	1	-27.2	30	0	31	-10.0	83	18	3	7	10	0	305	178	0.8	29	9.8	16	4+	8	2	21	7.1	
HURON	390	969.9	1018.3	- 0.6	-11.1	- 5.7	1.6	16.7	1	-24.4	29	0	31	-10.0	71	15	1	9	9	0	310	178	0.7	25	12.1	NW	13	7	2	22	7.5	55

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity
	M.	Mb	Mb.	C.	C.	C.	C.	C		C.				C.	%
SOUTH DAKOTA															
RAPID CITY	964	902.8	1017.2	3.9	-8.3	-2.1	0.6	20.6	1	-20.0	29	0	31	-8.9	65
SIOUX FALLS	432	964.8	1018.5	-1.7	-12.2	-6.9	-0.9	13.3	1	-26.7	30	0	31	-8.9	82
TENNESSEE															
BRISTOL	459	960.7	1016.2	5.6	-2.8	1.4	-2.1	15.6	31+	-10.0	28	0	23	-3.3	75
CHATTANOOGA	203	991.5	1016.9	6.7	-2.8	2.1	-3.7	18.3	30	-7.8	18+	0	25	-2.8	72
KNOXVILLE	299	981.0	1016.7	7.2	-1.1	3.2	-2.2	18.3	30	-7.2	18	0	17	-2.8	68
MEMPHIS	79	1007.5	1017.8	8.9	0.0	4.5	-1.3	16.7	13	-3.9	16	0	18	-0.6	71
NASHVILLE	180	994.9	1017.3	7.2	-1.1	2.9	-2.3	16.7	13	-7.2	27	0	21	-1.7	74
OAK RIDGE R	276			6.1	-1.1	2.5	-2.0	16.7	30	-6.7	18	0	23		
TEXAS															
ABILENE	537	953.6	1016.1	15.6	2.2	8.7	0.9	25.0	22	-6.1	31	0	10	1.7	67
AMARILLO	1098	889.9	1015.5	10.6	-3.3	3.6	-0.5	23.3	22	-13.9	30	0	29	-4.4	65
AUSTIN	182	994.2	1016.6	18.3	6.1	12.1	0.6	23.3	15	-3.9	31	0	3	6.1	71
BROWNSVILLE	6	1015.6	1016.0	24.4	12.8	18.5	1.3	27.2	28+	4.4	7	0	0	13.3	75
CORPUS CHRISTI	12	1014.6	1016.2	21.7	11.1	16.2	1.1	26.7	27	2.8	30	0	0	12.2	82
DALLAS	147	999.0	1016.7	15.6	5.0	10.2	1.2	23.3	13	-3.9	31	0	3	3.3	68
DEL RIO	313	980.0	1016.6	18.3	6.1	12.2	0.9	23.9	22+	-1.1	31	0	3	7.2	75
EL PASO	1194	882.2	1015.6	16.1	2.2	9.2	2.5	22.8	24+	-5.6	31	0	9	-2.2	49
FORT WORTH	164	995.9	1016.9	16.1	3.9	9.9	1.2	23.9	13	-5.0	31	0	4	4.4	76
GALVESTON J	2			18.3	12.2	15.1	1.1	23.9	15	2.8	31	0	0		
HOUSTON INTERCON	29	1013.2	1017.0	19.4	6.1	12.9	1.0	25.0	15+	-1.7	31+	0	5	8.3	80
LUBBOCK	992	902.5	1015.5	14.4	-2.2	6.2	1.2	26.1	22	-12.2	30	0	22	-2.8	62
MIDLAND	869	916.0	1015.5	16.7	1.1	8.7	0.9	25.6	22	-6.7	30	0	12	-0.6	62
PORT ARTHUR	5	1016.3		19.4	7.2	13.3	0.6	25.0	19+	0.6	26	0	0	9.4	81
SAN ANGELO	580	948.5	1016.0	17.8	3.3	10.3	1.6	25.0	24+	-3.9	31	0	7	4.4	75
SAN ANTONIO	240	988.5	1016.7	20.0	6.1	12.8	0.8	24.4	21+	-3.3	31	0	3	6.7	71
VICTORIA	32	1012.5	1016.6	21.1	8.9	14.8	0.8	25.6	18+	0.6	31	0	0	10.6	79
WACO	153	998.6	1017.1	15.6	5.0	10.3	0.1	22.8	13	-3.9	31	0	3	5.6	77
WICHITA FALLS	303	979.3	1016.6	13.9	0.0	6.8	-0.2	26.1	22	-11.7	31	0	14	1.1	76
UTAH															
MILFORD	1533	847.3		6.7	-7.2	-0.1	2.0	16.1	21	-16.7	31	0	31		
SALT LAKE CITY	1286	873.7	1021.2	3.9	-3.3	0.2	1.3	19.4	21	-10.6	29	0	28	-3.9	77
WENDOVER	1291	873.4	1022.3	2.8	-5.0	-1.1	0.1	10.6	21	-9.4	31+	0	31		
VERMONT															
BURLINGTON	101	1000.7	1013.9	-3.9	-11.1	-7.4	-1.6	8.9	11	-26.7	25	0	30	-10.0	78
VIRGINIA															
LYNCHBURG	279			5.6	-3.3	1.1	-2.5	12.8	14	-10.0	17	0	25		
NORFOLK	7	1013.2	1014.2	8.9	1.1	4.9	-0.9	21.7	30	-4.4	21	0	16	-2.2	64
RICHMOND	50	1008.5	1014.7	6.7	-2.8	1.9	-2.3	15.0	10	-9.4	21	0	21	-4.4	67
ROANOKE	358	972.2	1015.2	5.0	-3.3	0.9	-2.7	12.2	11	-10.6	21	0	28	-5.6	64
WALLOPS ISLAND	3			6.7	-1.1	2.9		14.4	10	-6.7	21	0	23		
WASHINGTON															
OLYMPIA	59	1008.8	1016.1	8.3	1.1	4.6	-0.2	12.2	13+	-5.6	1	0	12	3.9	93
QUILLAYUTE	55	1006.4	1013.9	9.4	3.3	6.4	1.3	17.8	2	-2.8	27	0	5	5.0	89
SEATTLE TACOMA	122	999.3	1015.8	10.0	5.0	7.3	2.4	13.3	19+	0.6	1	0	0	2.8	75
SPOKANE	718	933.3	1019.3	0.6	-3.3	-1.4	-0.4	8.3	14	-12.2	27	0	26	-2.8	88
STAMPEDE PASS R	1206	877.4		-1.7	-4.4	-3.0	-0.2	2.8	14	-10.0	3+	0	31		
WALLA WALLA	289			5.0	0.0	2.3	-0.9	18.9	13	-4.4	10	0	21		
YAKIMA	321	980.7	1020.4	3.3	-1.7	0.8	1.1	10.6	21	-7.2	27	0	25	-2.8	79
WEST INDIES															
SAN JUAN P.R.	4	1012.9	1015.3	27.8	22.2	25.1	0.5	30.6	4	19.4	13	0	0	19.4	72
SWAN ISLAND	9			28.3	24.4	26.3	0.3	30.0	11	21.7	22	0	0		
WEST VIRGINIA															
BECKLEY	763	924.5	1016.4	1.7	-6.1	-2.2	-3.3	15.0	31+	-12.8	28	0	27	-5.0	80
CHARLESTON	286	981.0	1016.0	3.9	-3.9	0.2	-2.7	10.6	14	-12.2	28	0	26	-5.0	71

State and Station	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Mm.	Mm.	Mm			Mm.	Mm.	M.p.s.		M.p.s							%
SOUTH DAKOTA																	
RAPID CITY	14	7	7	6	0	145	76	2.6	34	25.0	NW	22	11	3	17	6.3	53
SIOUX FALLS	30	11	18	8	0	386	305	0.9	28	10.3	18	17+	4	10	17	7.3	
TENNESSEE																	
BRISTOL	147	65	75	11	2	246	254	1.3	28	13.0	26	31	3	9	19	7.9	
CHATTANOOGA	203	71	91	10	2	130	76	1.2	33	10.7	W	30	8	5	18	6.8	40
KNOXVILLE	197	89	124	13	2	226	127	1.3	32	13.4	W	31	6	4	21	7.6	27
MEMPHIS	179	54	67	9	3	T	T	0.8	36	10.3	N	29	11	3	17	6.2	54
NASHVILLE	204	98	64	11	2	97	25	1.0	31	11.6	SE	7	6	5	20	7.3	34
OAK RIDGE R	217	67	130	13		206	127			14.3Y		30+	6	4	21	7.4	
TEXAS																	
ABILENE	63	31	32	6	2	79	51	1.1	22	15.2	[illegible]	26	12	6	13	5.4	65
AMARILLO	21	2	17	5	0	180	152	1.0	30	21.0	W	22	8	9	14	6.0	54
AUSTIN	109	45	66	5	1	0	0	0.9	33	13.4	NW	6	13	5	13	5.1	64
BROWNSVILLE	T	-44	T	0	0	0	0	0.9	19	17.0	N	6	11	10	10	5.6	67
CORPUS CHRISTI	47	-5	17	7	0	0	0	0.4	9	18.8	W	6	9	8	14	5.8	55
DALLAS	82	14	43	5	1	T	T	0.5	7	13.0	NW	29	13	4	14	5.6	56
DEL RIO	30	9	21	5	3	T	0	0.6	2	19.2	29	6	14	5	12	4.8	
EL PASO	18	5	11	4	0	48	25	1.0	27	20.1	SW	27	16	8	7	4.1	79
FORT WORTH	70	10	37	6	2	T	T	0.4	33	11.2	3	29	12	5	14	5.7	
GALVESTON J	109	11	71	7		0	0			15.6	NW	6					43
HOUSTON INTERCON	111	-4	51	8	3	0	0	0.4	9	12.5	11	5	9	6	16	6.0	52
LUBBOCK	21	4	10	6	1	122	76	1.1	32	19.2	30	10	12	6	13	5.2	
MIDLAND	15	-2	7	6	0	13	25	1.0	26	11.2	26	5	15	9	7	4.0	
PORT ARTHUR	212	82	143	8	2	0	0	0.6	10	17.0	SW	6	9	11	11	6.0	55
SAN ANGELO	57	35	28	5	2	T	T	1.7	24	11.2	19	26+	13	6	12	5.1	
SAN ANTONIO	58	13	31	4	1	T	0	1.1	33	14.8	N	25	15	6	10	4.8	70
VICTORIA	88	22	51	9	2	T	0	0.4	2	21.0Y	NW	6	12	4	15	5.7	
WACO	63	-6	43	5	3	T	T	0.6	25	10.7	34	25	12	5	14	5.6	
WICHITA FALLS	61	25	43	5	1	137	127	0.7	34	13.4	21	22	12	5	14	6.0	
UTAH																	
MILFORD	9	-9	6	5		191	102						8	8	15	6.5	
SALT LAKE CITY	43	11	13	15	0	406	102	0.4	19	15.6	S	21	[illegible]	[illegible]	22	8.0	34
WENDOVER	12	5	5	5		94	51										
VERMONT																	
BURLINGTON	117	62	41	15	0	1290	838	1.0	35	14.3	SW	11	3	2	26	8.5	47
VIRGINIA																	
LYNCHBURG	136	57	30	10		323	305			11.6	NW	31	13	8	10	5.3	51
NORFOLK	100	30	35	9	0	T	0	2.2	[illegible]	14.3	SW	31	11	9	11	5.5	58
RICHMOND	134	58	41	9	1	46	51	1.6	32	11.2	NW	4	12	6	13	5.8	46
ROANOKE	141	65	43	11	0	427	381	2.9	30	14.3	30	3	9	10	12	6.1	
WALLOPS ISLAND	156		45	13		10	T			25.0Y	WNW	27					
WASHINGTON																	
OLYMPIA	184	-46	43	22	2	T	0	1.7	19	18.3	18	11	1	5	25	8.8	
QUILLAYUTE	327	-100	75	28	3	0	0	1.4	12	17.4	SW	22	1	2	28	9.2	07
SEATTLE TACOMA	144	-15	30	19	3	0	0	2.1	13	18.8	S	14	1	2	28	9.2	26
SPOKANE	62	1	13	19	0	264	102	0.8	14	13.9	SW	14	1	2	28	9.3	04
STAMPEDE PASS R	222	-189	34	26		2510	1524						0	2	29	9.5	
WALLA WALLA	54	7	14	20		170	51			12.5	SE	11	2	0	29	9.3	05
YAKIMA	58	29	13	15	0	229	102	1.3	26	9.4	29	21+	4	2	25	9.7	
WEST INDIES																	
SAN JUAN P.R.	58	-81	30	10	0	0	0	2.4	8	11.2	NE	10	1	23	7	6.3	54
SWAN ISLAND	3	-141	[illegible]	5		0	0						5	12	14	6.6	
WEST VIRGINIA																	
BECKLEY	156	62	50	24	1	526	229	1.6	27	15.6	28	31	2	5	24	8.4	
CHARLESTON	123	41	37	15	0	241	178	1.6	26	9.4	23	31	0	6	25	8.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
WEST VIRGINIA	M	Mb.	Mb.	C	C.	C.	C.	C.		C.				C.	%	Mm.	Mm	Mm			Mm.	Mm.	M.p.s		M.p.s.							%
ELKINS	600	942.4		1.1	- 8.3	- 3.5	- 4.1	10.0	31	-21.1	25	0	30			149	70	28	25		886	406						1	3	27	9.2	
HUNTINGTON	252	985.4	1016.5	2.8	- 4.4	- 0.7	- 3.7	11.1	7	-10.0	28	0	29	- 3.9	79	122	51	41	14	0	251	152	1.4	27	12.5	25	31	2	4	25	8.5	
PARKERSBURG U	187			2.8	- 4.4	- 0.9	- 3.1	8.9	7	-13.3	28	0	27			82	9	23	16		163	102			13.9	SW	31					21
WISCONSIN																																
GREEN BAY	208	990.9	1017.4	- 2.2	-10.0	- 6.2	- 0.6	6.1	2	-21.7	22	0	31	- 8.9	78	36	6	14	13	0	419	254	1.7	29	15.6	S	8	2	7	22	8.1	36
LA CROSSE	198	992.9	1018.4	- 1.7	- 9.4	- 5.4	0.3	7.8	2	-19.4	22	0	30	- 7.2	83	43	14		11	0	503		0.8	27								
MADISON	262	984.8	1017.5	- 1.7	-10.0	- 5.9	- 0.4	7.2	2	-22.2	24+	0	31	- 7.8	83	42	9	22	8	0	495	279	1.3	29	13.0	NW	13	2	8	21	8.0	27
MILWAUKEE	205	991.2	1017.3	- 0.6	- 6.7	- 3.8	0.3	6.1	2	-12.2	20+	0	31	- 7.2	75	30	- 11	14	9	0	378	254	2.0	28	12.5	SW	8	1	8	22	8.4	23
WYOMING																																
CASPER	1627	835.1	1017.2	4.4	- 8.3	- 1.9	0.7	11.7	21+	-17.8	28	0	30	- 8.3	67	4	- 8	2	6	0	69	25	4.5	25	13.4	23	21	6	9	16	6.6	
CHEYENNE	1867	808.3	1015.9	5.6	- 6.7	- 0.4	1.0	16.1	14	-19.4	29	0	29	-10.6	51	5	- 6	3	2	0	61	25	4.5	29	22.8	NW	20	8	6	17	6.5	56
LANDER	1696	827.0	1018.8	2.8	-10.0	- 3.6	1.4	16.1	21	-21.7	29	0	31	-10.6	64	10	- 1	4	6	0	236	127	0.7	24	24.1	SW	21	7	10	14	6.3	57
SHERIDAN	1208	877.1	1017.9	3.9	- 7.8	- 1.9	1.3	12.8	12	-19.4	29	0	31	- 6.7	71	13	- 3	4	10	0	145	51	2.0	31	18.3	NW	22	7	5	19	6.9	50

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile' is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

Z Sun continuously below horizon.

See footnotes at end of table

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	663	1220	1017
HUNTSVILLE	728	1381	1228
MOBILE	345	585	592
MONTGOMERY	589	1018	925
ALASKA			
ANCHORAGE	1128	4071	4789
ANNETTE	758	2460	2981
BARROW	2258	9029	8511
BARTER ISLAND	2196	8496	8260
BETHEL	1626	5551	5667
BETTLES	1699	6423	
BIG DELTA	1526	5488	
COLD BAY	1039	3808	4236
FAIRBANKS	1892	5870	6435
GULKANA	1739	5993	
HOMER	972	4123	
ILIAMNA	1156	4363	
JUNEAU	921	3932	3903
KING SALMON	1197	4687	4952
KOTZEBUE	1733	6278	6654
MC GRATH	1862	6122	6386
NOME			
ST. PAUL ISLAND	1097	4381	4778
SHEMYA	1092	4137	4255
SUMMIT	1430	5812	
TALKEETNA	1254	4708	5201
UNALAKLEET	1528	5563	
YAKUTAT	937	4038	3955
ARIZONA			
FLAGSTAFF	978	2915	2813
PHOENIX	307	414	671
TUCSON	384	627	662
WINSLOW	847	1950	1970
YUMA	257	327	467
ARKANSAS			
FORT SMITH	731	1387	1293
LITTLE ROCK	745	1378	1317
CALIFORNIA			
BAKERSFIELD	426	678	821
BISHOP	791	1730	1663
BLUE CANYON	762	1765	1896
EUREKA U	419	1931	2027
FRESNO	574	1089	975
LONG BEACH	213	292	496
LOS ANGELES	199	289	559
LOS ANGELES U	182	256	398
MT SHASTA R	830	2181	2186
OAKLAND	366	981	1065
RED BLUFF	477	910	926
SACRAMENTO	519	972	1033
SANDBERG R	650	1524	1403
SAN DIEGO	178	236	432
SAN FRANCISCO	341	925	1130
SAN FRANCISCO U	277	1074	1205
SANTA MARIA	385	937	1095
STOCKTON	513	1011	1029
COLORADO			
ALAMOSA	1402	3579	3567
COLORADO SPRINGS	1053	2719	2479
DENVER	998	2626	2414
GRAND JUNCTION	995	2324	2242
PUEBLO	865	1963	2116
CONNECTICUT			
BRIDGEPORT	996	2007	1974
HARTFORD	1175	2422	2307
DELAWARE			
WILMINGTON	993	1928	1836
DIST.OF COLUMBIA			
WASH NATL AP	883	1652	1603
FLORIDA			
APALACHICOLA U	337	546	488
DAYTONA BEACH	272	377	286
FORT MYERS	136	189	133
JACKSONVILLE	353	554	466
KEY WEST	15	15	28
LAKELAND U	193	304	221
MIAMI	53	74	65
ORLANDO	204	297	270
PENSACOLA	352	570	567
TALLAHASSEE	464	752	586
TAMPA	218	329	231
WEST PALM BEACH	114	155	71
GEORGIA			
ATHENS	699	1271	1164
ATLANTA	719	1302	1185
AUGUSTA	655	1169	963
COLUMBUS	601	1037	963
MACON	572	971	870
ROME	781	1515	1360
SAVANNAH	530	900	730
IDAHO			
BOISE	935	2378	2356
LEWISTON	924	2264	2215
POCATELLO	1124	2833	2731
ILLINOIS			
CAIRO U	892	1670	1504
CHICAGO O HARE	1138	2434	2483
CHICAGO MIDWAY	1118	2343	2273
MOLINE	1253	2583	2398
PEORIA	1211	2549	2291
ROCKFORD	1256	2707	2587
SPRINGFIELD	1135	2312	2082
INDIANA			
EVANSVILLE	1034	2061	1788
FORT WAYNE	1166	2482	2410
INDIANAPOLIS	1137	2396	2180
SOUTH BEND	1158	2515	2391
IOWA			
BURLINGTON	1229	2559	2318
DES MOINES	1270	2566	2539
DUBUQUE	1376	2994	2842
SIOUX CITY	1334	2775	2593
WATERLOO	1473	3166	2802
KANSAS			
CONCORDIA	1075	2201	2061
DODGE CITY	894	1895	1889
GOODLAND	985	2319	2351
TOPEKA	1083	2174	1979
WICHITA	939	1912	1785
KENTUCKY			
COVINGTON	1058	2170	2018
LEXINGTON	996	1971	1804
LOUISVILLE	971	1940	1801
LOUISIANA			
BATON ROUGE	382	657	616
LAKE CHARLES	382	666	570
NEW ORLEANS	330	573	533
SHREVEPORT	510	910	821
MAINE			
CARIBOU	1331	3517	3790
PORTLAND	1120	2540	2790
MARYLAND			
BALTIMORE	916	1754	1802
MASSACHUSETTS			
BLUE HILL OBS R	1112	2392	2286
BOSTON	973	2006	1971
NANTUCKET	888	1941	1928
WORCESTER	1224	2662	2583
MICHIGAN			
ALPENA	1306	3210	3206
DETROIT	1151	2385	2273
DETROIT M WAYNE CO	1189	2504	2417
FLINT	1216	2707	2550
GRAND RAPIDS	1232	2844	2614
HOUGHTON LAKE	1342	3198	3154
LANSING	1208	2662	2573
MARQUETTE U	1215	3071	3111
MUSKEGON	1192	2662	2410
SAULT STE MARIE	1399	3478	3378
MINNESOTA			
DULUTH	1466	3664	3854
INTERNATIONAL FALLS	1561	4021	4207
MINNEAPOLIS	1379	3028	3215
ROCHESTER	1428	3175	3162
ST CLOUD	1457	3340	3414
MISSISSIPPI			
JACKSON	550	1017	851
MERIDIAN	563	1033	938
MISSOURI			
COLUMBIA	1049	2099	1923
KANSAS CITY	984	1879	1776
ST JOSEPH	1012	2022	2098
ST LOUIS	1013	1997	1874
SPRINGFIELD	968	1950	1745
MONTANA			
BILLINGS	1050	2733	2726
GLASGOW	1301	3212	3526
GREAT FALLS	1081	2859	2972
HAVRE	1317	3167	3414
HELENA	1207	3239	3252
KALISPELL	1197	3419	3384
MILES CITY	1214	2859	2956
MISSOULA	1200	3331	3384
NEBRASKA			
GRAND ISLAND	1212	2563	2501
LINCOLN U	1171	2316	2174
NORFOLK	1293	2728	2624
NORTH PLATTE	1129	2686	2620
OMAHA	1242	2459	2346
SCOTTSBLUFF	1054	2614	2601
VALENTINE	1198	2735	2858
NEVADA			
ELKO	1166	2970	2950
ELY	1084	2893	3020
LAS VEGAS	589	1042	1082
RENO	871	2344	2651
WINNEMUCCA	1022	2679	2747
NEW HAMPSHIRE			
CONCORD	1275	2883	2800
MT WASHINGTON OBS	1676	5720	5889
NEW JERSEY			
ATLANTIC CITY	939	2049	1719
ATLANTIC CITY U	833	1589	1597
NEWARK	984	1892	1842
TRENTON U	969	1891	1821
NEW MEXICO			
ALBUQUERQUE	795	1845	1751
CLAYTON	886	2112	1980
ROSWELL	738	1524	1599
NEW YORK			
ALBANY	1339	2751	2568
BINGHAMTON	1280	2878	2753
BUFFALO	1240	2618	2570
J.F. KENNEDY	917	1712	1781
NEW YORK U	974	1793	1705
NEW YORK LA GUARDIA	959	1842	1665
ROCHESTER	1231	2559	2453
SYRACUSE	1269	2600	2478
NORTH CAROLINA			
ASHEVILLE	875	1845	1821
CAPE HATTERAS R	581	1023	872
CHARLOTTE	784	1497	1259
GREENSBORO	816	1593	1516
RALEIGH	841	1669	1351
WILMINGTON	614	1074	886
NORTH DAKOTA			
BISMARCK	1463	3336	3407
FARGO	1522	3566	3534
WILLISTON	1431	3384	3571
OHIO			
AKRON	1172	2481	2282
CINCINNATI OBS	1066	2139	1835
CLEVELAND	1166	2437	2262
COLUMBUS	1175	2406	2190
DAYTON	1115	2256	2135
MANSFIELD	1204	2424	2420
TOLEDO	1213	2613	2469
YOUNGSTOWN	1242	2682	2432
OKLAHOMA			
OKLAHOMA CITY	752	1507	1443
TULSA	789	1528	1485
OREGON			
ASTORIA	637	2218	2101
BURNS U	1044	2826	2754
EUGENE	673	1884	1867
MEACHAM	1041	3127	3085
MEDFORD	780	1998	1999
PENDLETON	926	2142	2056
PORTLAND	678	1685	1834
SALEM	710	2042	1840
SEXTON SUMMIT R	812	2374	2316
PENNSYLVANIA			
ALLENTOWN	1129	2399	2181
ERIE	1211	2678	2295
HARRISBURG	1036	2139	2001
PHILADELPHIA	970	1951	1936
PITTSBURGH	1183	2471	2278
PITTSBURGH U	1109	2224	2056
SCRANTON	1212	2572	2451
WILLIAMSPORT	1125	2340	2285
RHODE ISLAND			
BLOCK ISLAND	943	1912	1897
PROVIDENCE	1065	2228	2167
SOUTH CAROLINA			
CHARLESTON	567	967	812
CHARLESTON U	487	817	669
COLUMBIA	640	1147	1006
GNVLE-SPARTANBURG	725	[illegible]	1213
SOUTH DAKOTA			
ABERDEEN	1438	3198	3261
HURON	1340	3047	[illegible]
RAPID CITY	1135	2728	2749
SIOUX FALLS	1404	[illegible]	3007
TENNESSEE			
BRISTOL	940	1984	1688
CHATTANOOGA	897	1816	1327
KNOXVILLE	840	1630	1415
MEMPHIS	768	1392	1293
NASHVILLE	854	1616	1415
OAK RIDGE R	876	1727	1534
TEXAS			
ABILENE	528	1070	1051
AMARILLO	817	1735	1590
AUSTIN	339	661	644
BROWNSVILLE	69	161	215
CORPUS CHRISTI	152	322	340
DALLAS	448	851	907
DEL RIO	330	665	643
EL PASO	504	937	1146
FORT WORTH	463	885	925
GALVESTON U	189	325	408
HOUSTON	304	571	622
LUBBOCK	673	1474	1449
MIDLAND	532	1153	1060
PORT ARTHUR	281	515	558
SAN ANGELO	441	898	922
SAN ANTONIO	299	604	598
VICTORIA	202	390	426
WACO	444	797	769
WICHITA FALLS	634	1281	1112
UTAH			
MILFORD	1022	2554	2550
SALT LAKE CITY	1003	2310	2431
WENDOVER	1077	2492	2333
VERMONT			
BURLINGTON	1434	3205	3079
VIRGINIA			
LYNCHBURG	954	1918	1636
NORFOLK	741	1349	1242
RICHMOND	907	1714	1529
ROANOKE	967	1901	1654
WALLOPS ISLAND	854	1640	
WASHINGTON			
OLYMPIA	759	2284	2148
QUILLAYUTE	656	2407	2340
SEATTLE TACOMA	607	1777	2054
SPOKANE	1097	2883	2656
STAMPEDE PASS R	1186	4038	3844
WALLA WALLA U	888	1990	1921
YAKIMA	966	2467	2473
WEST VIRGINIA			
BECKLEY	1139	2513	2158
CHARLESTON	1007	2157	1773
ELKINS	1212	2670	2290
HUNTINGTON	1057	2130	1761
PARKERSBURG U	1068	2114	1835
WISCONSIN			
GREEN BAY	1362	3244	2993
LA CROSSE	1315	2882	2884
MADISON	1346	3100	2973
MILWAUKEE	1228	2862	2863
WYOMING			
CASPER	1125	2950	2849
CHEYENNE	1038	2870	2828
LANDER	1212	3045	3103
SHERIDAN	1121	3023	2962

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

COOLING DEGREE DAYS

(Base 65°F.)

DECEMBER 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	0	1734	
HUNTSVILLE	0	1914	
MOBILE	4	2676	
MONTGOMERY	0	2101	
ALASKA			
ANCHORAGE	0	8	
ANNETTE	0	56	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	2	
BETTLES	0	49	
BIG DELTA	0	58	
COLD BAY	0	0	
FAIRBANKS	0	85	
GULKANA	0	11	
HOMER	0	0	
ILIAMNA	0	3	
JUNEAU	0	7	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	9	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	1	
TALKEETNA	0	12	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	113	
PHOENIX	0	3768	
TUCSON	0	2866	
WINSLOW	0	1403	
YUMA	0	4143	
ARKANSAS			
FORT SMITH	0	2047	
LITTLE ROCK	0	1991	
CALIFORNIA			
BAKERSFIELD	0	2610	
BISHOP	0	1096	
BLUE CANYON	0	474	
EUREKA U	0	0	
FRESNO	0	1769	
LONG BEACH	10	1029	
LOS ANGELES	13	594	
LOS ANGELES U	10	1279	
MT SHASTA R	0	314	
OAKLAND	0	56	
RED BLUFF	0	2076	
SACRAMENTO	0	1306	
SANDBERG R	0	872	
SAN DIEGO	5	678	
SAN FRANCISCO	0	57	
SAN FRANCISCO U	0	44	
SANTA MARIA	0	37	
STOCKTON	0	1491	
COLORADO			
ALAMOSA	0	117	
COLORADO SPRINGS	0	449	
DENVER	0	721	
GRAND JUNCTION	0	1329	
PUEBLO	0	1292	
CONNECTICUT			
BRIDGEPORT	0	725	
HARTFORD	0	725	
DELAWARE			
WILMINGTON	0	1162	
DIST.OF COLUMBIA			
WASH NATL AP	0	1530	
FLORIDA			
APALACHICOLA U	0	2568	
DAYTONA BEACH	13	2925	
FORT MYERS	20	3439	
JACKSONVILLE	7	2816	
KEY WEST	150	4497	
LAKELAND U	16	3094	
MIAMI	88	4142	
ORLANDO	16	3339	
PENSACOLA	0	2496	
TALLAHASSEE	5	2568	
TAMPA	10	3101	
WEST PALM BEACH	50	3485	
GEORGIA			
ATHENS	0	1756	
ATLANTA	0	1663	
AUGUSTA	0	1853	
COLUMBUS	0	2061	
MACON	1	2008	
ROME	0	1604	
SAVANNAH	1	2247	
HAWAII			
HILO	208	3298	
HONOLULU	365	4610	
KAHULUI	243	3788	
LIHUE	265	3675	
IDAHO			
BOISE	0	735	
LEWISTON	0	765	
POCATELLO	0	435	
ILLINOIS			
CAIRO U	0	1823	
CHICAGO O HARE	0	830	
CHICAGO MIDWAY	0	1001	
MOLINE	0	931	
PEORIA	0	893	
ROCKFORD	0	671	
SPRINGFIELD	0	1162	
INDIANA			
EVANSVILLE	0	1336	
FORT WAYNE	0	870	
INDIANAPOLIS	0	975	
SOUTH BEND	0	757	
IOWA			
BURLINGTON	0	913	
DES MOINES	0	989	
DUBUQUE	0	633	
SIOUX CITY	0	849	
WATERLOO	0	575	
KANSAS			
CONCORDIA	0	1183	
DODGE CITY	0	1519	
GOODLAND	0	975	
TOPEKA	0	1233	
WICHITA	0	1558	
KENTUCKY			
COVINGTON	0	1162	
LEXINGTON	0	1268	
LOUISVILLE	0	1307	
LOUISIANA			
ALEXANDRIA	0	2119	
BATON ROUGE	0	2662	
LAKE CHARLES	0	2561	
NEW ORLEANS	9	2534	
SHREVEPORT	0	2652	
MAINE			
CARIBOU	0	159	
PORTLAND	0	447	
MARYLAND			
BALTIMORE	0	1371	
MASSACHUSETTS			
BLUE HILL OBS R	0	563	
BOSTON	0	746	
NANTUCKET	0	360	
WORCESTER	0	488	
MICHIGAN			
ALPENA	0	295	
DETROIT	0	757	
DETROIT M WAYNE CO	0	741	
FLINT	0	458	
GRAND RAPIDS	0	590	
HOUGHTON LAKE	0	310	
LANSING	0	663	
MARQUETTE U	0	412	
MUSKEGON	0	565	
SAULT STE MARIE	0	164	
MINNESOTA			
DULUTH	0	242	
INTERNATIONAL FALLS	0	237	
MINNEAPOLIS	0	788	
ROCHESTER	0	420	
ST CLOUD	0	553	
MISSISSIPPI			
JACKSON	0	2267	
MERIDIAN	0	2011	
MISSOURI			
COLUMBIA	0	1368	
KANSAS CITY	0	1534	
ST JOSEPH	0	1556	
ST LOUIS	0	1440	
SPRINGFIELD	0	1382	
MONTANA			
BILLINGS	0	541	
GLASGOW	0	463	
GREAT FALLS	0	487	
HAVRE	0	424	
HELENA	0	345	
KALISPELL	0	94	
MILES CITY	0	822	
MISSOULA	0	220	
NEBRASKA			
GRAND ISLAND	0	1019	
LINCOLN U	0	1255	
NORFOLK	0	869	
NORTH PLATTE	0	730	
OMAHA	0	1138	
SCOTTSBLUFF	0	816	
VALENTINE	0	889	
NEVADA			
ELKO	0	465	
ELY	0	312	
LAS VEGAS	0	3175	
RENO	0	385	
WINNEMUCCA	0	456	
NEW HAMPSHIRE			
CONCORD	0	363	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	0	945	
ATLANTIC CITY U	0	1060	
NEWARK	0	1169	
TRENTON U	0	1091	
NEW MEXICO			
ALBUQUERQUE	0	1481	
CLAYTON	0	820	
ROSWELL	0	1910	
NEW YORK			
ALBANY	0	556	
BINGHAMTON	0	384	
BUFFALO	0	568	
NEW YORK U	0	1234	
NEW YORK KENNEDY	0	1117	
NEW YORK LA GUARDIA	0	1002	
ROCHESTER	0	646	
SYRACUSE	0	624	
NORTH CAROLINA			
ASHEVILLE	0	997	
CAPE HATTERAS R	0	1612	
CHARLOTTE	0	1565	
GREENSBORO	0	1499	
RALEIGH	0	1264	
WILMINGTON	0	1801	
NORTH DAKOTA			
BISMARCK	0	571	
FARGO	0	483	
WILLISTON	0	464	
OHIO			
AKRON	0	632	
CINCINNATI OBS	0	1165	
CLEVELAND	0	725	
COLUMBUS	0	800	
DAYTON	0	945	
MANSFIELD	0	889	
TOLEDO	0	656	
YOUNGSTOWN	0	524	
OKLAHOMA			
OKLAHOMA CITY	0	1844	
TULSA	0	2062	
OREGON			
ASTORIA	0	5	
BURNS U	0	331	
EUGENE	0	214	
MEACHAM	0	122	
MEDFORD	0	662	
PENDLETON	0	719	
PORTLAND	0	297	
SALEM	0	183	
SEXTON SUMMIT R	0	186	
PACIFIC AREA			
JOHNSTON	413	5302	
KOROR R	527	6200	
KWAJALEIN	552	6400	
MAJURO	513	6008	
PAGO PAGO	487	5596	
PONAPE R	492	5603	
TAGUAC GUAM R	451	5209	
TRUK MOEN ISLAND	530	5997	
WAKE	445	5888	
YAP R	498	5823	
PENNSYLVANIA			
ALLENTOWN	0	791	
ERIE	0	496	
HARRISBURG	0	1027	
PHILADELPHIA	0	1128	
PITTSBURGH	0	707	
SCRANTON	0	627	
WILLIAMSPORT	0	729	
RHODE ISLAND			
BLOCK ISLAND	0	468	
PROVIDENCE	0	761	
SOUTH CAROLINA			
CHARLESTON	0	2058	
CHARLESTON U	0	2249	
COLUMBIA	0	1992	
GNVLE-SPARTANBURG	0	1509	
SOUTH DAKOTA			
ABERDEEN	0	575	
HURON	0	556	
RAPID CITY	0	600	
SIOUX FALLS	0	681	
TENNESSEE			
BRISTOL	0	1046	
CHATTANOOGA	0	1322	
KNOXVILLE	0	1346	
MEMPHIS	0	2120	
NASHVILLE	0	1811	
OAK RIDGE R	0	1364	
TEXAS			
ABILENE	0	2482	
AMARILLO	0	1713	
AUSTIN	1	2893	
BROWNSVILLE	87	4071	
CORPUS CHRISTI	40	3374	
DALLAS	0	2945	
DEL RIO	0	3235	
EL PASO	0	2626	
FORT WORTH	0	2596	
GALVESTON U	11	3074	
HOUSTON	9	2868	
LUBBOCK	0	1823	
MIDLAND	0	2182	
PORT ARTHUR	6	2876	
SAN ANGELO	0	2612	
SAN ANTONIO	2	2969	
VICTORIA	14	3256	
WACO	0	3217	
WICHITA FALLS	0	2436	
UTAH			
MILFORD	0	835	
SALT LAKE CITY	0	1050	
WENDOVER	0	1294	
VERMONT			
BURLINGTON	0	420	
VIRGINIA			
LYNCHBURG	0	1053	
NORFOLK	0	1587	
RICHMOND	0	1350	
ROANOKE	0	1091	
WALLOPS ISLAND	0	1178	
WASHINGTON			
OLYMPIA	0	85	
QUILLAYUTE	0	21	
SEATTLE TACOMA	0	171	
SPOKANE	0	379	
STAMPEDE PASS R	0	36	
WALLA WALLA U	0	880	
YAKIMA	0	424	
WEST INDIES			
SAN JUAN P.R.	382	5275	
SWAN ISLAND	448	6006	
WEST VIRGINIA			
BECKLEY	0	539	
CHARLESTON	0	1048	
ELKINS	0	459	
HUNTINGTON	0	1198	
PARKERSBURG U	0	1062	
WISCONSIN			
GREEN BAY	0	403	
LA CROSSE	0	717	
MADISON	0	460	
MILWAUKEE	0	449	
WYOMING			
CASPER	0	491	
CHEYENNE	0	431	
LANDER	0	538	
SHERIDAN	0	355	

Data from airport unless otherwise specified
U indicates Urban, R indicates Rural, sities.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				Ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE PROP-ERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROP-ERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROP-ERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROP-ERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROP-ERTY	† DAMAGE CROPS	DEATHS	INJURIES	† DAMAGE PROP-ERTY	† DAMAGE CROPS
Alabama	1	1	0	0	5					0	2	5	0	0	0	4	0									1	0	6	4
Alaska *																													
Arizona *																													
Arkansas *																													
California *																													
Colorado										0	0	4	0																
Connecticut										0	0	4	0					0	0	6	0	0	0	5	0	0	0	6	0
Delaware *																													
Florida	14	3	0	2	5					0	12	6	0	0	1	4	0									0	0	3	0
Georgia	1	1	0	7	4																								
Hawaii																										1	22	6	0
Idaho *																													
Illinois *																													
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky																						?	?	?		?		?	
Louisiana	5	4	1	16	6					0	0	3	0																
Maine										0	0	5	0	0	0	2	0	1	0	6	0	0	0	6	0	0	0	5	0
Maryland *																													
Massachusetts										0	0	5	0					2	0	5	0	0	0	5	0	0	0	6	0
Michigan *																													
Minnesota *																													
Mississippi	1	1	0	0	3																					0	0	?	0
Missouri *																													
Montana																		1	0	0	0					0	0	?	0
Nebraska *																													
Nevada *																													
New Hampshire										0	0	5	0					1	0	5	0	0	0	6	0	0	0	5	0
New Jersey																				4				4					
New Mexico *																													
New York																		3	8	6				4					
North Carolina										0	0	4	0									0	0	5	0				
North Dakota *																													
Ohio																				?				?					
Oklahoma										0	0	?	?					1	0	0	0	0	0	?	?				
Oregon										0	Few	4	3									0	Few	3	0	1	S	4	4
Pacific Area																										0	0	5	0
Pennsylvania								1				4				4	4	13	41	5	4								
Puerto Rico *																													
Rhode Island										0	1	5	0					0	0	6	0	0	0	5	0	0	0	6	0
South Carolina																						0	0	2	3				
South Dakota *																													
Tennessee																		0	0	4	0					3	0	6	0
Texas										1	0	0	0	0	0	3	C												
Utah																										3	U	4	0
Vermont										0	0	4	0					1	0	6	0	0	0	6	0				
U. S. Virgin Is. *																													
Virginia																		0	0	5	0	0	0	5	0	0	0	6	0
Washington	1	1		1	5							4																	
West Virginia																										2	0	4	0
Wisconsin *																													
Wyoming *																													

° Includes crop damage
C Crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
Ø For breakdown of "All Others", and for detailed listing of other storms, see the Environmental Data Service, ESSA, monthly publication STORM DATA.

\+ Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS
DECEMBER 1969

Elmer R. Nelson, Office of Hydrology

The most significant flooding during December occurred in Maine and in Kentucky.

In Maine, the flooding on the Kennebec River was the third highest of record. Extensive flooding occurred along the Androscoggin and Sandy Rivers. Many people were evacuated from low-lying areas along the Kennebec River. The overall flood damage in Maine was estimated at several millions of dollars.

In Kentucky, major flooding developed along the upper Cumberland River in the southeastern portion of the State. Crests were very near those of the major flood of March 1963. Homes and commercial buildings outside of the flood protective works received considerable water and flood damage. In most cases moveable equipment was removed because of flood warnings by the Weather Bureau.

ST. LAWRENCE DRAINAGE

Lake Erie--Heavy rains on the 10th and 11th on top of snowmelt saturated ground, caused some local flooding in parts of western New York, mainly in low-lying and poor drainage areas. In Buffalo, N. Y., some highway underpasses were temporarily closed due to high water.

Lake Ontario--Canaseraga Creek at Groveland, N.Y., reached bankfull stage on the 11th. About 1 foot of water flowed across route 258 west of Groveland, N.Y., on the morning of the 11th.

ATLANTIC SLOPE DRAINAGE

The third highest flood of record occurred on the Kennebec River at Augusta, Maine, on the 28th. The crest was nearly 9 ft. above flood stage. Extensive flooding also occurred on the Androscoggin and Sandy Rivers, and small brooks and streams in Maine. In eastern Massachusetts, some flooding was reported from most communities in the Greater Boston area. Most damage was due to flooded cellars. For the greater part, this was due to saturated grounds and overflowing culverts and storm sewers. There was also some small stream overflow. Several storms during the month brought precipitation totals to record or near record amounts over much of New England. More than half of the monthly totals occurred during the storm period from the 26th through the 28th. It began as snow, then changed to rain, bringing copious amounts to many sections of New England. In Maine, where most of the flooding occurred, amounts ranged from 1.5 to near 10 inches. The overall flood damage in Maine, as reported by the Governor was several millions of dollars. Many people were evacuated from low-lying areas along the Kennebec River where widespread flooding occurred in Gardiner, Hallowell, Augusta, and Skowhegan. At Phillips and Farmington, Maine, on the Sandy River, houses were evacuated, automobiles submerged, and some bridges washed out. This was the worst flooding in these areas in many years. Heavy rains up to 2.4 inches during the night of the 10th caused minor flooding along Neshaminy Creek in southeastern Pennsylvania. This same storm caused minor flooding along the Ramapo at Mahwah, N. J., and along the lower elevations of the Raritan and Millstone Rivers in central New Jersey. The Assunpink Creek at Trenton, reached, but did not exceed, flood stage on the 11th. A mixture of rain, freezing rain, and sleet ranging from 0.5 inch to 1.25 inches on the 30th caused the Rancocas Creek at Pemberton, N.J., to rise above flood stage on the 31st. It receded within its banks on January 1 after cresting 1 to 1.5 ft. above flood level.

The water content of the snowpack in the Susquehanna Basin at the end of the month was 3.75 inches. This was one of the heaviest snowpacks for this time of the year in many years. At Harrisburg, Pennsylvania, the total snowfall for December was 28 inches, an alltime high for the month.

Heavy rainfall on December 29-31 caused moderate flooding in the Upper James Basin in Virginia on December 31 to January 1. The rainfall averaged about 1.75 inches in the upper basin and 1 inch in the lower basin.

Heavy rainfall (up to 3 inches) on the 7-11th caused the Broad River at Blair, S. C., to rise above flood stage on the 11th. It receded below flood stage on the 12th after cresting 3 ft. above flood stage.

EAST GULF OF MEXICO DRAINAGE

Heavy rains on the 21st, 22d, 25th, and 26th caused the East Fork of the Tombigbee River at Fulton, Mississippi, to rise to bankfull stage on the 26th and 27th. Additional heavy rain on the 30th and 31st caused the Tibbee River at Tibbee, Mississippi, to rise above flood stage on the 31st. It receded below flood stage on January 2 after cresting 6.1 ft. above flood stage on January 1. The overflows were minor and no damage was reported.

The Pearl River at Jackson, Mississippi, rose above flood stage on the 31st. Increased discharges from Ross Barnett Reservoir kept the Pearl River above flood stage at Jackson for the first 10 days of January. The crest on January 7 was 5 feet above flood stage. The overflow was confined to low-lying farmland and timberland adjacent to the river.

MISSISSIPPI SYSTEM

Upper Mississippi Basin--A new record snowfall of 33.2 inches occurred at Minneapolis-St. Paul, Minnesota, during December 1969. The previous snowfall record of 28.7 inches occurred in December 1968. This year (1969), the snowfall was concentrated over the area from Minneapolis-St. Paul to Mankato to Rochester, whereas, in 1968, the area involved was from Minneapolis-St. Paul to Sioux Falls, South Dakota, to Beardsley, Minnesota, to Duluth, Minnesota.

Navigation on the Mississippi River ended at Minneapolis-St Paul on December 5, at La Crosse, Wisconsin, on December 7 and at Guttenberg, Iowa, on December 10.

Missouri Basin--Ice action in the Missouri River, as freezing developed, caused some local flooding in the Bismarck-Mandan, North Dakota, area on December 30 to January 1. Some overflow occurred at two marinas, resulting in total damages estimated at less than $1,000.

The James River near Columbia, South Dakota, rose to within 1 foot of flood stage on the 10th. There was some inundation of the low flood plain in the area. It receded slowly to near normal flow by the end of the month.

Ohio Basin--Rainfall in excess of 2 inches on the 29th-31st plus snowmelt produced flooding at all headwater points in the upper Monongahela Basin in West Virginia. Crests ranged from 1.7 ft. above flood stage on the Cheat to nearly 6 ft. above flood stage on the Tygart. The pool of Tygart Flood Control Dam rose 85 feet to contain the flood from the Tygart Valley

River. The heaviest intensity of rain occurred during the afternoon and night of the 30th. A heavy snow cover occurred over the entire area during December. There was a partial snowmelt over the basin on the 30th-31st, but up to 18 inches of snow still remained over the mountains above Elkins, West Virginia, and on the higher terrain over the Cheat Basin. A preliminary estimate of flood damages was placed at under $100,000. Considerable savings resulted from flood warnings issued by the Weather Bureau.

Moderate to severe flooding occurred in the upper Little Kanawha River in West Virginia on December 31 and January 1. The Greenbrier River at Alderson, West Virginia, crested 3.3 feet above flood stage on the 31st. The Elk River at Queen Shoals, West Virginia, rose to, but did not exceed, flood stage. Many places along the Coal River were flooded. The crest at Tornado, West Virginia, was 5.8 ft. above flood stage on the 31st. The Guyandot River crested 4.8 feet above flood stage at Logan, West Virginia. Some of the tributaries also overflowed. The Tug Fork of the Big Sandy River at Williamson, West Virginia, crested 6 feet above flood stage. The city of Williamson was protected by a flood wall but there was some flooding outside the wall. Some flooding also occurred on the Big Sandy River in Virginia. Most of the rain causing the flood occurred during the period from 1 p.m. on the 29th to 7 p.m. on the 30th. The rainfall ranged up to 4 inches in the headwater area of the Big Sandy. The snow on the ground on the 27th ranged from 4 to 8 inches over the Tug Fork to 22 inches in the headwater area of the Elk River at Waneta, West Virginia. The water equivalent of the snow varied from 0.6 inch at the mouth of the Elk to 3.5 inches at Waneta in the headwaters. The water equivalent over the other basins averaged about 1.5 inches. The rain melted several inches of the snow, adding to the precipitation total. Preliminary estimates of flood damage were placed at $ 3 million.

Minor flooding occurred on the North Fork and South Fork of the Kentucky River on the 30-31st. The crest at Hazard, Kentucky, was 4.3 feet above flood stage on the 31st. The crests at Jackson and Oneida, Kentucky, reached, but did not exceed, flood stage. Damage resulting from the overflow was small. One death resulted from the high water on the State Road Fork, a small branch of the upper Licking River.

General rains during the last 3 days of the month, totalling nearly 3 inches, caused minor flooding on the Barren and Green Rivers in Kentucky. Crests ranged from 0.8 foot above flood stage on the Green to 1.4 feet above flood stage on the Barren River. No damages were reported.

Major flooding developed along the upper Cumberland River in southeast Kentucky from the headwaters to the upper reaches of the Wolf Creek reservoir on the 30th. Crests in the upper Cumberland River were very near those of the major flood of March 1963. In the lower portion of the basin, the Red River at Port Royal, Tennessee, crested 1.8 feet above flood and the Harpeth River at Kingston Springs, Tennessee, crested 4.4 feet above flood level. This flooding was due to heavy rain (2 to 5 inches) on the 28-30th. Considerable flood damage was caused by the flood waters in southeastern Kentucky. Preliminary estimates place the damage at Williamsburg, Barbourville, and Pineville, Kentucky, at $1.2 million. Only minor damage was reported on the Harpeth and Red Rivers in Tennessee.

Heavy rain on the 28-30th caused 8.5 to 12.7 feet of flooding on the Elk and Duck Rivers in Tennessee. Several families in low and unprotected areas in Shelbyville, Tennessee, on the Duck River were evacuated. Only minor damage resulted from the high water. The main stem of the Tennessee was out of its banks at Whitesburg and Florence, Alabama, on December 31 to January 5 and at Gilbertsville, Kentucky from December 31 to January 9. The crests during January ranged from 3.2 feet above flood stage at Florence to 9.3 feet above flood stage at Whitesburg, Alabama.

White Basin--Minor flooding occurred on the Cache River at Patterson, Arkansas, on November 24 to December 4. The crest was 1.5 feet above flood stage on November 27. Heavy rain (4 to 5 inches) on December 28 through December 31 caused the Cache to rise above flood stage on December 31 and continued in flood to January 26. The crest on January 4 was 2.2 feet above flood stage. No damage resulted from the overflow.

Arkansas Basin--The heavy rain on December 28 through December 31 caused the Fourche La Fave River at Houston, Arkansas, to rise above flood stage on December 30. It receded below flood stage on December 31 after cresting 1.9 feet above flood stage. There was some flash-flooding of low areas along Rock and Fourche Creeks in southwestern and southern Little Rock, though not to the extent that occurred in January 1969. Only minor damage resulted from the overflow.

Red Basin--There were two rises on the Sulphur River at Hagansport, Texas, during December. The first rise occurred on the 7th and the second on December 28 to January 2. The crests on the 8th and 29th were 4.1 and 8 feet above flood stage. The flooding was minor and no damages were reported.

Minor flooding occurred on the Saline River at Benton, Arkansas, on the 29-30th. The crest on the 29th was less than 1 foot above flood stage. The Quachita River at Arkadelphia, Arkansas, rose 0.1 foot above flood stage on the 30th.

Lower Mississippi Basin--Heavy rainfall in excess of 4 inches on the 29-30th caused the Big Black River at Bovina, Mississippi, to rise above flood stage on December 30. It receded below flood stage on January 17, after cresting 8.4 feet above flood stage on January 10. Flooding was confined to low-lying farmland and timberland adjacent to the river. No damage of consequences resulted from this overflow.

WEST GULF OF MEXICO DRAINAGE

There were two rises on the Calcasieu River at Hineston, Louisiana, during December. The first occurred on the 8-12th and the second on December 31 to January 11. The crests ranged from 1 ft. aboveflood stage to 2.7 feet above flood stage on February 3. The flooding was very light and no damages were reported.

Minor flooding occurred on the upper Sabine River at Mineola, Texas, on December 30 to January 4. The crest on January 2 was 2.1 feet above flood stage. At Emory, Texas, the river reached bankful stage on the 29th but did not exceed flood stage.

Excessive rains over the Navasota Basin on the 6th and 7th caused flooding near Easterly, Texas, on the 7-11th. The crest on the 8th was 2.6 feet above flood stage. The flooding was minor and no damage was reported.

Heavy rains over the upper Trinity Basin early in December caused Richland Creek at Richland, Texas, to rise to bankfull stage on the 6th and 7th. Chambers

Creek near Corsicana, Texas, rose to near bankfull stage on the 7th. A sharp rise occurred on the Trinity at Long Lake, Texas, from the 6th to the 9th but no flooding resulted.

Strong northwesterly winds, gusting to about 50 m.p.h. on the 6th, raised waves on Lake Corpus Christi in lower Nueces Basin, spilling water over Wesley Seale Dam. The water level rose to near 11 feet at the bridge below the dam. Only slight flooding occurred.

THE GREAT BASIN

Heavy precipitation caused flooding on the lower Carson River in Nevada on the 16-18th and again on the 22d. Occasionally, heavy rain at high elevations in the Sierras resulted in some flooding on the Truckee River on the 21st and 22d. The Truckee reached a flow of about 7300 c.f.s. at Reno, Nevada, on the morning of the 22d. There were no reports of any damage.

PACIFIC SLOPE DRAINAGE

Sacramento Basin--A series of warm storms moved across central and northern California beginning during the second week of December. Several rises moved down the Sacramento River after the middle of the month. Some flooding occurred in the low sloughs and over some roads in low areas adjacent to Tehama Bridge and below the trailer park at Woodson Bridge, California. Highways east of Red Bluff were covered with water on at least two occasions from the overflow of streams. There were several stations where warning stages were reached or exceeded, including all weirs. The flooding of the bypass system below Colusa and Tisdale Weirs caused minor inconveniences to agricultural interests, even though flow into the bypass is generally expected during this time of the year. There were 5 deaths from the high water, mostly in the bypass areas.

Eel Basin--Heavy rain on the 18-21st caused flooding on the Van Duzen River at Bridgeville, California, on the 21st. The river began rising on the 20th and crested nearly 3 feet above flood stage at 9 a.m. on the 21st. It receded below flood stage by noon on the same date. Flooding occurred along Highway 36 at Bridgeville, at Grizzly Creek State Park, and at Starvation Flat, where about 20 families resided. There was some damage to agricultural land and levees.

The storms producing the precipitation were quite warm as they moved in from the west to the northwest. The first significant storm moved across the basin on the 7-8th. A family of storms followed with intermittent clearing between them. Measurements at the rain gage just east of Grizzly Creek State Park indicated a total of at least 12.3 inches of rain over the basin from the 8th through the 21st. There were no less than 6.1 inches from the 18th through the 21st, of which about 3 inches occurred in less than 24 hours.

Coquille Basin--Heavy rain on the 19th through the 22d caused flooding on the South Fork at Myrtle Point, Oregon, and on the Coquille River at Coquille, Oregon. Maximum 24-hour rainfall amounts averaged 3 to 4 inches during this period. The total storm rainfall over the basin ranged from 6 to 7 inches. There were two crests on the South Fork at Myrtle Point. The first crest on the 21st was the higher of the two and was 7.6 feet above flood stage. The second crest on the 26th was 0.5 foot above flood stage. The Coquille River at Coquille, Oregon, crested 2 feet above flood stage on the 22d.

The damage in the affected area was light - approximately $25,000. One man fell from a horse and was drowned while trying to drive some cattle to higher ground after dark.

COLUMBIA BASIN

Except for the first 4 and the last 3 days of December there was daily measurable precipitation at all stations in western Oregon. There were several instances when heavy precipitation produced rises along the Willamette and its tributaries. A potentially serious flood event was prevented as the freezing level remained low. December precipitation was about 150% of average throughout western Oregon, but natural streamflow of the Willamette River at the mouth was only 85% of the 15-year average.

The first minor rise on the Willamette tributaries occurred on the 11-13th. The more significant rise followed the heavy rain on the 20th-21st which ranged from 2 to 2.5 inches. The Pudding River at Aurora, Oregon, crested 3.2 feet above flood stage on the 24th and Johnson Creek at Sycamore, Oregon, crested 0.1 foot above flood stage on the 21st. The following streams crested at or slightly above bankfull stage:

McKenzie River near Coburg, Oregon
Marys River near Philomath, Oregon
Santiam River at Jefferson, Oregon
South Yamhill River near Whiteson, Oregon
Willamette River at Harrisburg, Albany, and Salem, Oregon

The Corps of Engineers estimated the damages from the overbank flows at $32,200.

FLOOD STAGE DATA

(All dates in December unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Lake Ontario					
Canaseraga Creek: Groveland, N. Y.	11	11	11	11.0	11
ATLANTIC SLOPE DRAINAGE					
Kennebec: Augusta, Me.	13	27	31	21.7	28
Pemigwasset: Plymouth, N. H.	11	27	28	15.2	28
Charles: Charles River Valley, Mass.	4	27	Jan. 3	4.9	31
Ramapo: Mahwah, N. J.	8	11	11	8.1	11
Millstone: Blackwells Mills, N. J.	7	11	11	8.1	11
Raritan: Manville, N. J.	12	11	11	13.5	11
Bound Brook, N. J.	8	11	11	8.9	11
Assunpink Creek: Trenton, N. J.	5	11	11	5.0	11
Rancocas Creek: Pemberton, N. J.	2.7	31	Jan. 1	D	Jan. 1
Jackson: Covington, Va.	9	31	31	11.9	31
James: Lick Run, Va.	10B	31	31	19.9	31
Buchanan, Va.	17	31	Jan. 1	19.8	Jan. 1
Holcombs Rock, Va.	22	Jan. 1	Jan. 1	22.2	Jan. 1
Bremo Bluff, Va.	19	Jan. 1	Jan. 2	23.6	Jan. 2
Columbia, Va.	18	Jan. 1	Jan. 2	#24.0	Jan. 2
Richmond (Westham), Va.	12	Jan. 1	Jan. 3	14.9	Jan. 2
Richmond (City Locks), Va.	9	Jan. 2	Jan. 3	10.7	Jan. 3
Broad: Blair, S. C.	14	11	12	17.0	12
EAST GULF OF MEXICO DRAINAGE					
ast Fork Tombigbee: Fulton, Miss.	16	26	27	16.0	26,27
		30	Jan. 2	19.2	31
ibbee: Tibbee, Miss.	23	31	Jan. 2	29.1	Jan. 1
earl: Jackson, Miss.	18	31	Jan. 10	23.0	Jan. 7
MISSISSIPPI SYSTEM					
Ohio Basin					
ygart: Belington, W. Va.	14	30	Jan. 1	17.8	31
Philippi, W. Va.	17	30	Jan. 1	22.8	31
est Fork: Weston, W. Va.	17	30	31	19.8	31
Clarksburg, W. Va.	7	31	Jan. 1	8.6	31
heat: Parsons, W. Va.	11	31	31	12.7	31
ittle Kanawha: Glenville, W. Va.	23	31	Jan. 1	28.05	31
Creston, W. Va.	20	31	Jan. 1	24.95	31
reenbrier: Alderson, W. Va.	14	31	31	17.3	31
lk: Queen Shoals, W. Va.	19	31	31	19.0	31
al: Tornado, W. Va.	25	31	31	30.75	31
yandot: Logan, W. Va.	20	30	31	24.8	31
Branchland, W. Va.	35	31	Jan. 1	38.1	Jan. 1
g Fork: Williamson, W. Va.	27	31	31	33.0	31
visa Fork: Prestonsburg, Ky.	30	31	Jan. 1	31.5	31
rth Fork, Kentucky: Hazard, Ky.	20	30	31	24.3	31
Jackson, Ky.	29	31	31	29.0	31
uth Fork, Kentucky: Oneida, Ky.	29	31	31	29.0	31
rren: Bowling Green, Ky.	28	31	31	29.4	31
een: Munfordville, Ky.	28	31	Jan. 1	29.4	31
Lock 4, Woodbury, Ky.	33	31	Jan. 2	#36.3	Jan. 1
rpeth: Kingston Springs, Tenn.	15	30	Jan. 1	19.3	31
d: Port Royal, Tenn.	30	30	31	31.8	30
mberland: Cumberland, Ky.	7	30	30	10.6	30
Baxter, Ky.	16	30	31	28.5	31
Pineville, Ky.	1002	30	31	1008.9	31
Barbourville, Ky.	27	30	Jan. 3	42.3	Jan. 1

River and station	Flood stage	Above flood stages -dates From–	To–	Crest * Stage	Date
EAST GULF OF MEXICO DRAINAGE	Ft.			Ft.	
Cumberland: Williamsburg, Ky.	21	30	Jan. 4	29.4	Jan. 2
Clarksville, Tenn.	46	31	31	E46.0	31
Tuckasegee: Bryson City, N. C.	11	31	31	11.5	31
Emory: Oakdale, Tenn.	23	30	31	32.2	30
Harriman, Tenn.	755	30	31	757.7	30
South Chickamauga Creek: Chickamauga (nr), Tenn.	10	30	Jan. 1	11.7	31
Elk: Fayetteville (abv), Tenn.	18	30	Jan. 3	23.2	30
Fayetteville, Tenn.	659	31	Jan. 4	667.45	30
Duck: Shelbyville, Tenn.	719	31	Jan. 1	731.7	31-Jan. 1
Shelbyville (nr), Tenn.	23	30	Jan. 1	33.4	31
Columbia, Tenn.	32	31	Jan. 3	41.3	Jan. 1
Tennessee: Whitesburg, Ala.	560	31	Jan. 5	569.3	Jan. 2
Florence, Ala.	419	31	Jan. 5	422.2	Jan. 1
Gilbertsville, Ky.	320	31	Jan. 9	327.8	Jan. 6
White Basin					
Cache: Patterson, Ark.	7	Nov. 24	4	8.5	Nov. 27
		31	Jan. 26	9.2	Jan. 4
Arkansas Basin					
Fourche LaFave: Houston, Ark.	25	30	31	26.9	31
Red Basin					
Sulphur: Hagansport, Tex.	38	7	7	42.1	8
		28	Jan. 2	46.0	29
Saline: Benton, Ark.	20	29	30	29.95	29
Ouachita: Arkadelphia, Ark.	17	30	30	17.1	30
Lower Mississippi Basin					
Big Black: Bovina, Miss.	28	30	Jan. 17	36.4	Jan. 10
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	8	12	13.0	11
		31	Jan. 11	14.7	Jan. 3
Sabine: Emory, Tex.	12	29	29	12.0	29
Mineola, Tex.	14	30	Jan. 4	16.1	Jan. 2
Navasota: Easterly (nr), Tex.	14	7	11	16.6	8
PACIFIC SLOPE DRAINAGE					
Sacramento Basin					
Sacramento: Bend Bridge, Calif.	W34	19	19	34.1	19
Tehama Bridge,Calif.	213	20	20	214.6	20
Moulton Weir, Calif.	W76.8	24	25	77.5	25
Colusa Wier, Calif.	W61.8	13	14	65.3	23
		20	1/		
Tisdale Weir, Calif.	W45.5	14	16	48.4	26
		20	1/		
Fremont Weir, Calif.	W33.5	24	1/	35.7	26
Rio Vista, Calif.	W8	21	21	8.4	21
Eel Basin					
Van Duzen: Bridgeville, Calif.	17	21	21	19.9	21
Coquille Basin					
South Fork: Myrtle Point, Oreg.	35	(21	23	42.6	21
		(26	26	35.45	26
Coquille: Coquille, Oreg.	20	22	24	22.0	22
Columbia Basin					
Pudding: Aurora, Oreg.	20	22	28	H23.2	24
Johnson Creek: Sycamore, Oreg.	8	21	21	8.1	21

* Provisional
\# Highest stage observed
1/ Continued at end of month
D Data not available
H Hydrograph analysis
B Bankfull
W Warning stage

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1003 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	86	-6.2	-9.1	32	2.1
1000	31	107			32	3.4
950	31	509	-6.9	-10.2	32	4.9
900	31	931	-7.0	-10.8	32	6.3
850	31	1,377	-7.7	-12.5	32	6.7
800	31	1,848	-8.3	-14.2	31	7.1
750	31	2,347	-9.6	-14.7	29	7.8
700	31	2,881	-11.2	-17.6	28	8.9
650	31	3,446	-13.6	-20.4	27	11.7
600	31	4,054	-16.5	-24.0	27	12.9
550	31	4,697	-20.4	-28.5	26	13.7
500	31	5,403	-25.0	-33.6	27	15.5
450	31	6,153	-30.5	-38.0	26	18.5
400	31	6,989	-35.9	-41.4	26	21.9
350	31	7,906	-41.3	-44.7	27	24.2
300	31	8,939	-46.8		26	25.0
250	31	10,135	-51.2		27	26.7
200	31	11,580	-52.7		27	26.0
175	31	12,441	-53.2		27	23.3
150	31	13,435	-53.0		27	18.8
125	31	14,605	-54.9		26	17.7
100	31	16,022	-57.5		27	15.5
80	31	17,431	-57.6		27	11.8
70	31	18,273	-58.4		27	9.8
60	31	19,241	-58.4		28	7.4
50	31	20,387	-58.8		28	7.7
40	31	21,786	-59.4		30	6.0
30	31	23,582	-60.5		31	7.2
25	30	24,715	-61.0		31	8.2
20	28	26,101	-61.4		31	10.8
15	26	27,887	-60.5		30	14.2
10	13	30,436	-57.9			
7	5	32,747	-53.7			

ALBUQUERQUE, N. MEX. 836 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	12	1,619	-1.4	-9.2	10	1.0
1000	12	168				
950	12	585				
900	12	1,025				
850	12	1,489				
800	12	1,976	1.2	-11.2	24	1.8
750	12	2,487	-1.3	-13.0	28	5.2
700	12	3,041	-4.3	-17.2	28	7.7
650	12	3,614	-7.5	-20.4	28	8.6
600	12	4,242	-10.5	-23.5	27	10.6
550	12	4,904	-14.4	-24.0	27	11.9
500	12	5,623	-19.2	-29.1	27	14.9
450	12	6,392	-24.8	-33.9	26	16.7
400	12	7,247	-30.2	-40.4	27	19.3
350	12	8,184	-36.9	-44.8	26	20.5
300	12	9,233	-44.7		26	21.1
250	12	10,436	-50.2		26	25.9
200	12	11,881	-53.7		26	26.2
175	12	12,736	-55.6		26	26.8
150	12	13,712	-58.0		26	23.9
125	12	14,851	-61.6			
100	12	16,225	-63.9			
80	12	17,587	-64.8			
70	12	18,404	-63.8			
60	12	19,353	-61.8			
50	9	20,474	-59.2			
40	8	21,888	-59.1			
30	8	23,695	-58.4			
25	7	24,848	-57.5			
20	7	26,261	-55.8			

AMARILLO, TEXAS 890 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,095	-.5	-4.9	28	1.8
1000	31	155				
950	31	570				
900	31	1,008				
850	31	1,469	4.1	-5.2	28	3.0
800	31	1,963	3.9	-8.3	29	4.1
750	31	2,486	1.7	-11.7	28	5.4
700	31	3,040	-.8	-14.4	28	7.8
650	31	3,626	-4.2	-17.3	28	10.2
600	31	4,256	-7.8	-20.7	28	11.8
550	31	4,920	-12.5	-24.5	28	13.4
500	31	5,649	-17.4	-29.4	28	15.2
450	31	6,426	-22.6	-34.5	28	18.2
400	31	7,285	-29.0	-40.2	27	20.5
350	31	8,226	-36.1	-44.7	27	21.5
300	31	9,278	-44.0		27	23.2
250	31	10,480	-51.2		27	25.3
200	31	11,913	-56.1		27	28.9
175	31	12,757	-58.8		27	30.4
150	30	13,727	-60.6		27	28.1
125	30	14,856	-62.5		27	24.8
100	30	16,226	-64.8		28	20.2
80	29	17,586	-64.9		28	12.2
70	29	18,402	-64.2		28	7.5
60	28	19,353	-61.8		28	5.1
50	27	20,483	-60.2		34	2.4
40	25	21,880	-58.4		01	2.5
30	25	23,695	-57.3		03	4.1
25	24	24,847	-57.1		04	4.3
20	20	26,271	-56.0		03	4.5
15	16	28,115	-54.9		35	5.1
10	6	30,723	-53.9			

* ANCHORAGE, ALASKA 989 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	45	-2.1	-5.8	02	.9
1000	31	-41				
950	31	375	-.2	-5.9	09	3.0
900	31	801	-.6	-7.3	11	6.1
850	31	1,255	-3.3	-9.4	12	8.7
800	31	1,731	-6.6	-12.1	13	11.1
750	31	2,235	-10.0	-15.1	14	12.7
700	31	2,761	-13.4	-18.7	15	13.7
650	31	3,321	-17.2	-22.7	15	13.2
600	31	3,916	-21.1	-27.7	16	13.7
550	31	4,549	-25.2	-33.0	16	13.2
500	31	5,238	-29.9	-38.0	17	12.6
450	31	5,977	-35.2	-42.6	17	12.6
400	31	6,791	-41.3	-44.8	17	13.3
350	31	7,685	-47.7		17	13.2
300	31	8,689	-53.4		18	14.1
250	31	9,856	-54.8		18	14.2
200	31	11,292	-52.0		19	12.3
175	31	12,162	-49.8		20	11.3
150	31	13,171	-49.0		20	10.2
125	31	14,371	-47.7		21	10.4
100	31	15,847	-47.0		21	9.2
80	31	17,324	-47.3		21	9.0
70	31	18,208	-47.0		22	8.0
60	31	19,229	-46.8		22	7.5
50	31	20,439	-46.5		23	7.4
40	31	21,920	-46.3		24	6.1
30	31	23,831	-46.5		26	6.4
25	31	25,039	-47.1		27	6.7
20	29	26,515	-48.2		28	7.8
15	19	28,411	-49.8		28	13.6
10	8	31,024	-50.4			

* ANNETTE, ALASKA 1003 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	37	4.5	1.2	11	4.3
1000	31	59				4.6
950	31	478	3.1	-.6	14	10.2
900	31	913	.3	-2.8	16	12.9
850	31	1,370	-2.2	-5.7	17	14.3
800	31	1,850	-4.6	-8.7	18	13.6
750	31	2,354	-7.2	-13.1	19	12.7
700	31	2,891	-10.1	-15.8	19	12.0
650	31	3,454	-13.4	-19.0	20	11.5
600	31	4,064	-17.4	-23.5	20	11.7
550	31	4,705	-22.0	-27.6	19	12.0
500	31	5,406	-26.8	-33.2	20	11.6
450	31	6,154	-32.4	-39.0	20	11.4
400	31	6,980	-38.6	-42.5	21	12.0
350	31	7,885	-45.2	-40.7	22	14.3
300	30	8,901	-50.8		22	15.2
250	30	10,079	-53.9		23	14.6
200	30	11,512	-53.4		24	13.8
175	30	12,373	-52.5		23	12.7
150	30	13,373	-50.9		23	12.6
125	30	14,563	-50.6		23	11.3
100	29	16,015	-50.6		24	8.3
80	29	17,469	-50.8		24	6.2
70	29	18,338	-50.7		24	5.2
60	29	19,343	-50.5		25	3.5
50	29	20,531	-50.5		25	1.7
40	26	21,985	-50.2		34	.7
30	25	23,871	-50.2		02	2.7
25	24	25,065	-50.5		03	4.3
20	24	26,517	-51.4		03	7.1
15	22	28,385	-52.6		02	9.4
10	15	30,981	-55.8		03	15.9

ATHENS, GEORGIA 986 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	2.2	-2.5	29	1.8
1000	31	135				
950	31	550	3.4	-4.4	30	3.8
900	31	989	3.2	-7.0	29	6.1
850	31	1,453	3.8	-11.0	28	10.3
800	31	1,945	2.6	-11.4	28	12.4
750	31	2,465	1.0	-12.8	28	14.4
700	31	3,019	-1.0	-14.5	28	16.5
650	31	3,605	-3.9	-17.2	28	20.0
600	31	4,236	-7.3	-20.7	28	23.1
550	31	4,908	-11.5	-24.1	27	24.6
500	31	5,634	-15.9	-28.7	27	27.5
450	31	6,414	-21.5	-33.3	27	29.3
400	31	7,277	-27.6	-38.8	27	32.4
350	31	8,224	-34.7	-44.7	27	34.7
300	31	9,282	-42.6	-48.1	27	36.9
250	31	10,493	-50.2		27	40.8
200	31	11,926	-57.1		28	41.0
175	31	12,764	-59.9		28	41.5
150	29	13,735	-61.2		28	37.7
125	29	14,859	-64.0		27	31.3
100	29	16,217	-66.6		28	24.3
80	29	17,566	-66.3		27	17.4
70	29	18,377	-64.9		28	13.2
60	28	19,320	-63.8		28	9.2
50	28	20,444	-61.0		29	4.9
40	28	21,835	-59.7		31	3.8
30	28	23,639	-58.2		32	4.2
25	26	24,793	-56.9		31	3.6
20	26	26,211	-55.2		29	6.5
15	24	28,050	-53.6		28	12.0
10	19	30,683	-47.9		26	24.0
7	8	33,106	-39.3			

* BARROW, ALASKA 1012 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	-22.1	-24.4	06	4.2
1000	31	92	-21.6	-23.9	07	5.9
950	31	479	-18.1	-19.6	08	8.5
900	31	879	-14.3	-16.7	08	8.7
850	31	1,314	-13.2	-18.4	09	7.0
800	31	1,775	-14.2	-20.2	10	6.6
750	31	2,264	-15.9	-21.9	10	5.4
700	31	2,781	-18.3	-24.6	11	4.2
650	31	3,331	-21.0	-28.0	11	3.3
600	31	3,918	-24.8	-31.9	12	2.9
550	31	4,541	-28.9	-36.0	16	2.3
500	31	5,221	-33.6	-40.3	19	3.1
450	31	5,949	-38.7	-42.5	21	3.8
400	31	6,752	-44.5	-47.0	21	5.5
350	31	7,634	-50.5		22	6.9
300	31	8,628	-54.9		22	8.0
250	31	9,787	-56.5		22	8.6
200	31	11,210	-54.1		22	9.5
175	31	12,071	-52.3		22	10.3
150	31	13,071	-51.0		22	11.0
125	31	14,261	-49.9		22	12.4
100	31	15,722	-49.4		23	14.0
80	29	17,189	-49.5		23	15.3
70	29	18,062	-49.8		24	16.9
60	29	19,070	-49.9		24	18.7
50	28	20,256	-50.4		25	21.6
40	26	21,703	-50.9		25	24.5
30	20	23,570	-51.8		26	28.9
25	19	24,750	-52.5		26	32.4
20	10	26,121	-54.0			

BARTER IS., ALASKA 1008 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	-19.6	-23.2	08	1.4
1000	31	73			08	1.9
950	31	463	-15.3	-16.5	09	5.3
900	31	870	-10.9	-14.7	10	5.8
850	31	1,311	-10.2	-15.3	11	4.8
800	31	1,777	-11.4	-16.4	12	3.4
750	31	2,267	-13.7	-18.9	13	2.4
700	31	2,793	-16.2	-21.8	17	1.9
650	31	3,343	-19.5	-24.9	20	2.5
600	31	3,939	-23.2	-28.9	23	3.4
550	31	4,565	-27.3	-33.5	24	4.4
500	31	5,251	-32.1	-38.3	24	5.5
450	31	5,983	-37.4	-40.8	25	6.9
400	31	6,792	-42.9	-42.8	25	8.5
350	31	7,680	-48.6		25	9.2
300	31	8,682	-53.5		24	9.8
250	31	9,850	-55.0		24	10.0
200	31	11,278	-53.3		24	9.2
175	31	12,142	-51.4		24	9.4
150	31	13,147	-50.1		24	10.6
125	31	14,339	-49.3		24	11.0
100	31	15,804	-49.0		24	12.2
80	31	17,267	-49.3		25	13.8
70	31	18,142	-49.5		25	15.0
60	31	19,152	-49.6		26	15.8
50	30	20,337	-50.5		26	17.6
40	29	21,796	-50.7		27	19.0
30	27	23,669	-52.2		27	23.1
25	26	24,846	-53.2		28	27.1
20	24	26,276	-54.7		28	30.0
15	20	28,119	-57.1		29	35.0
10	14	30,722	-60.1		29	39.8

BETHEL, ALASKA 987 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	39	-10.8	-12.6	04	4.0
1000	31	-61				
950	31	340	-5.3	-8.6	06	8.5
900	31	762	-4.6	-9.9	09	5.4
850	31	1,210	-6.6	-12.0	12	5.1
800	31	1,682	-9.0	-14.6	13	5.1
750	31	2,175	-12.2	-17.8	12	5.3
700	31	2,703	-15.7	-21.5	12	5.3
650	31	3,254	-19.4	-26.1	13	6.2
600	31	3,849	-23.5	-30.3	13	7.4
550	31	4,473	-27.8	-34.6	14	8.8
500	31	5,158	-32.1	-39.5	14	9.0
450	31	5,892	-37.3	-42.4	15	10.4
400	31	6,699	-43.2	-45.1	15	10.4
350	31	7,585	-49.4		15	12.5
300	31	8,583	-54.0		16	12.6
250	31	9,751	-54.0		17	11.0
200	31	11,194	-50.9		18	10.6
175	31	12,067	-48.9		19	10.3
150	31	13,083	-47.2		19	10.0
125	31	14,291	-46.7		19	9.8
100	31	15,775	-45.9		20	9.8
80	31	17,261	-45.4		20	9.6
70	31	18,152	-45.3		20	9.3
60	31	19,181	-45.4		21	9.0
50	31	20,399	-44.9		21	8.8
40	30	21,890	-44.6		22	8.2
30	29	23,817	-44.8		23	7.9
25	27	25,043	-45.4		24	8.2
20	24	26,521	-47.1		26	8.6
15	12	28,384	-49.6		27	13.8

* BISMARCK, N. DAK. 956 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	503	-9.3	-12.7	32	1.1
1000	31	151				
950	31	552	-8.3	-12.2	31	1.5
900	31	972	-5.6	-10.3	30	3.7
850	31	1,421	-5.0	-10.8	30	5.1
800	31	1,897	-6.2	-12.2	31	6.0
750	31	2,400	-8.1	-14.6	31	7.9
700	31	2,935	-10.4	-18.5	31	9.9
650	31	3,502	-13.2	-21.9	32	10.9
600	31	4,109	-16.5	-25.1	31	12.0
550	31	4,754	-20.1	-29.4	31	12.9
500	31	5,460	-24.5	-33.9	31	13.3
450	31	6,214	-29.6	-39.3	31	15.2
400	31	7,051	-35.1	-43.3	31	16.5
350	31	7,969	-41.6	-47.1	31	18.3
300	31	8,999	-48.3		30	20.7
250	31	10,184	-53.9		30	22.7
200	30	11,614	-55.2		30	21.2
175	30	12,468	-54.7		30	20.5
150	30	13,455	-54.3		30	17.6
125	29	14,624	-54.4		30	15.4
100	29	16,051	-55.1		30	12.2
80	29	17,474	-55.2		32	9.8
70	29	18,325	-55.5		33	7.6
60	29	19,307	-55.4		34	6.5
50	29	20,470	-55.3		35	6.1
40	28	21,892	-55.9		36	7.1
30	28	23,718	-56.6		01	8.4
25	27	24,877	-57.2		01	10.1
20	26	26,285	-58.1		02	11.6
15	21	28,092	-59.1		01	12.8
10	14	30,605	-60.9		33	10.1
7	5	32,838	-62.8			

BOISE, IDAHO 918 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	871	.0	-3.8	12	2.4
1000	31	185				
950	31	600				
900	31	1,034	1.8	-2.6	12	2.1
850	31	1,496	1.3	-5.7	21	1.4
800	31	1,982	-1.0	-8.1	27	4.1
750	31	2,490	-4.0	-11.3	27	6.1
700	31	3,037	-6.6	-15.3	27	7.6
650	31	3,609	-9.8	-17.0	28	9.2
600	31	4,227	-13.0	-20.8	28	11.4
550	31	4,880	-17.0	-25.4	28	13.5
500	31	5,595	-21.6	-29.9	28	15.0
450	31	6,355	-26.8	-34.4	28	16.4
400	31	7,203	-33.0	-38.8	28	18.3
350	31	8,129	-39.8	-43.6	28	21.7
300	31	9,167	-46.8		29	23.6
250	31	10,355	-54.0		29	26.5
200	31	11,772	-57.5		29	25.7
175	31	12,614	-57.8		29	23.2
150	31	13,587	-57.7		29	20.5
125	31	14,737	-57.9		29	17.3
100	31	16,141	-58.7		29	12.8
80	31	17,540	-59.0		30	8.7
70	31	18,377	-58.8		31	5.3
60	31	19,346	-58.1		34	3.1
50	31	20,497	-57.2		03	3.2
40	30	21,912	-56.2		04	4.7
30	28	23,747	-55.2		05	6.9
25	26	24,919	-54.8		06	7.9
20	21	26,344	-55.5		05	8.5
15	12	28,189	-55.1			

* BROWNSVILLE, TEXAS 1015 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	7	14.9	12.5	21	1.1
1000	31	131	16.9	13.1	17	2.6
950	31	566	15.1	10.8	18	7.1
900	31	1,025	14.1	4.0	19	5.8
850	31	1,506	12.2	-.5	21	5.4
800	31	2,013	10.6	-3.8	23	5.7
750	31	2,551	8.4	-8.5	24	6.8
700	31	3,117	6.1	-12.7	25	9.4
650	31	3,720	2.5	-16.2	26	10.0
600	31	4,363	-1.5	-19.8	26	11.3
550	31	5,046	-6.1	-24.3	26	13.2
500	31	5,790	-11.4	-29.1	26	14.9
450	31	6,586	-17.2	-33.3	25	16.5
400	31	7,463	-23.6	-37.6	25	19.9
350	30	8,424	-30.7	-42.8	25	22.2
300	30	9,501	-38.5	-47.7	25	28.0
250	30	10,732	-47.1		25	33.9
200	30	12,180	-56.2		26	34.9
175	29	13,017	-60.7		26	33.3
150	29	13,966	-65.2		26	28.7
125	29	15,064	-69.7		26	27.8
100	27	16,378	-73.6		27	21.8
80	26	17,676	-74.5		27	14.2
70	26	18,457	-72.4		28	9.7
60	24	19,370	-68.3		30	3.6
50	23	20,476	-64.0		31	2.3
40	23	21,853	-60.5		30	3.6
30	23	23,662	-56.7		28	5.2
25	23	24,821	-55.2		28	6.4
20	22	26,253	-52.5		27	9.8
15	21	28,130	-49.0		27	15.1
10	16	30,829	-43.0			
7	9	33,250	-39.4			
5	5	35,547	-35.6			

BUFFALO, N. Y. 988 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	218	-5.0	-7.4	31	1.5
1000	31	121				
950	31	523	-5.8	-9.2	30	3.6
900	31	946	-7.7	-10.7	31	4.8
850	31	1,389	-8.8	-13.4	32	5.2
800	31	1,858	-10.0	-16.2	31	6.2
750	31	2,358	-11.1	-17.9	30	7.3
700	31	2,883	-13.2	-20.2	30	9.1
650	31	3,448	-15.3	-22.9	30	11.0
600	31	4,048	-17.8	-25.2	29	12.8
550	31	4,693	-21.5	-28.6	29	14.2
500	31	5,392	-25.7	-33.0	28	15.8
450	31	6,147	-30.5	-37.9	28	16.4
400	31	6,978	-36.1	-41.3	28	18.1
350	31	7,895	-41.8	-45.8	28	20.8
300	31	8,926	-47.5		27	23.8
250	31	10,120	-51.5		27	27.2
200	31	11,566	-52.0		27	26.8
175	31	12,429	-52.7		27	25.5
150	31	13,424	-53.3		27	22.2
125	30	14,590	-54.8		27	18.5
100	29	16,009	-56.4		27	15.6
80	29	17,422	-57.4		28	11.8
70	29	18,264	-57.7		28	10.0
60	27	19,241	-57.9		29	7.9
50	27	20,389	-58.5		29	7.4
40	25	21,792	-59.1		30	6.5
30	22	23,602	-59.6		32	7.8
25	22	24,740	-60.1		33	8.4
20	20	26,128	-60.4		32	9.4
15	16	27,912	-60.1		31	13.4

CAPE HATTERAS, N. C. 1014 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	4	7.1	2.8	31	3.7
1000	31	118	6.3	-.5	31	4.5
950	31	538	4.8	-2.5	28	7.8
900	31	978	3.0	-5.3	27	8.9
850	31	1,441	1.7	-8.6	26	11.0
800	31	1,928	.5	-11.1	26	13.5
750	31	2,446	-1.2	-14.0	26	15.8
700	31	2,994	-2.6	-16.6	27	20.0
650	31	3,575	-5.2	-18.5	27	22.0
600	31	4,204	-8.6	-21.4	26	23.7
550	31	4,869	-12.7	-25.1	27	26.5
500	31	5,596	-17.1	-29.3	27	28.5
450	31	6,374	-22.1	-34.0	27	31.3
400	31	7,236	-28.0	-39.4	27	33.6
350	31	8,181	-34.9	-44.7	27	37.0
300	31	9,239	-42.3	-48.3	27	40.8
250	30	10,453	-49.6		27	44.6
200	29	11,898	-56.0		27	45.9
175	29	12,745	-57.4		27	41.8
150	28	13,722	-58.5		27	37.1
125	28	14,861	-61.1		27	32.4
100	28	16,239	-63.9		27	23.2
80	28	17,603	-64.0		27	16.0
70	28	18,423	-62.8		27	12.6
60	28	19,375	-61.6		28	7.5
50	28	20,508	-60.5		28	5.1
40	28	21,903	-58.9		30	3.3
30	28	23,712	-57.8		30	4.9
25	26	24,865	-56.5		30	6.2
20	25	26,284	-55.0		28	9.3
15	19	28,120	-52.7		27	22.3
10	5	30,779	-47.0			

* CARIBOU, MAINE 987 MB

Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	191	-6.8	-9.4	32	2.8
1000	31	89				
950	31	497	-7.5	-9.7	34	3.0
900	31	910	-7.7	-10.5	34	2.8
850	31	1,355	-8.0	-12.0	30	3.2
800	31	1,826	-9.1	-15.8	27	4.0
750	31	2,328	-10.9	-17.7	26	4.7
700	31	2,852	-13.0	-20.0	25	6.1
650	31	3,418	-15.7	-22.8	25	8.2
600	31	4,015	-18.6	-26.0	24	9.8
550	31	4,658	-22.2	-29.9	24	11.5
500	31	5,355	-26.5	-34.3	24	12.9
450	31	6,111	-31.5	-39.4	24	15.2
400	31	6,934	-36.7	-42.2	23	17.6
350	31	7,848	-42.4	-44.3	23	20.5
300	31	8,878	-47.7		23	22.9
250	31	10,069	-51.5		24	23.0
200	31	11,515	-51.9		24	21.6
175	31	12,332	-51.3		24	19.9
150	31	13,382	-51.9		24	16.6
125	31	14,560	-53.4		25	15.7
100	31	15,939	-55.5		25	13.4
80	30	17,409	-56.4		26	11.1
70	30	18,256	-56.6		26	9.5
60	30	19,232	-57.3		27	8.1
50	30	20,382	-58.6		28	8.9
40	30	21,780	-59.9		29	9.2
30	30	23,572	-61.4		30	10.4
25	30	24,700	-62.3		31	11.8
20	28	26,081	-63.0		31	14.3
15	26	27,862	-63.1		30	17.1
10	21	30,369	-61.2		29	22.7
7	14	32,622	-58.1		28	34.5

See reference note at end of table

RAWINSONDE DATA

Average monthly values

CHARLESTON, S. C. 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	13	4.0	-.2	29	1.6
1000	30	130	6.5	.0	31	1.8
950	30	554	6.7	-1.1	29	4.3
900	30	997	5.9	-4.1	27	7.4
850	30	1,465	5.6	-9.5	27	11.1
800	30	1,960	4.6	-11.3	27	13.9
750	30	2,480	3.1	-12.6	27	15.7
700	30	3,041	.9	-14.9	27	17.8
650	30	3,632	-1.9	-17.2	27	19.5
600	30	4,266	-5.6	-19.8	27	22.8
550	30	4,939	-9.5	-23.8	27	23.9
500	30	5,675	-14.3	-27.6	27	25.9
450	30	6,459	-19.8	-32.8	27	28.5
400	30	7,331	-26.1	-38.0	27	30.2
350	30	8,284	-33.1	-43.5	27	32.5
300	30	9,350	-40.6	-47.4	27	35.7
250	29	10,571	-48.5		27	40.6
200	29	12,012	-56.2		27	42.8
175	29	12,855	-58.6		27	41.8
150	29	13,819	-60.7		27	38.8
125	29	14,945	-63.8		27	33.8
100	29	16,305	-66.1		27	26.3
80	29	17,655	-66.4		27	18.7
70	29	18,467	-64.4		27	13.9
60	29	19,412	-63.2		27	9.4
50	29	20,538	-61.0		28	5.6
40	29	21,933	-58.8		28	4.8
30	29	23,746	-56.8		31	4.1
25	26	24,901	-55.2		30	5.0
20	26	26,331	-53.5		28	7.7
15	26	28,189	-51.3		27	15.4
10	17	30,867	-45.5		27	29.2
7	6	33,278	-37.2			
5						
4						
3						
2						

CHIHUAHUA, MEXICO 857 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,428	2.8	-2.4	26	1.6
1000	31	156				
950	31	575				
900	31	1,024				
850	31	1,496			28	1.1
800	31	1,996	7.9	-4.7	26	3.3
750	31	2,521	5.5	-8.8	26	5.1
700	31	3,088	3.2	-13.7	26	7.6
650	31	3,678	-.1	-17.1	27	7.7
600	31	4,321	-4.3	-21.1	26	9.8
550	31	4,992	-8.8	-25.4	26	12.3
500	31	5,734	-13.8	-29.1	27	15.1
450	31	6,516	-19.3	-33.5	27	17.8
400	31	7,393	-25.5	-38.9	27	18.7
350	31	8,346	-33.0	-44.5	27	20.0
300	31	9,413	-40.6	-49.9	28	21.1
250	31	10,634	-47.5		28	24.1
200	31	12,083	-54.9		28	27.8
175	30	12,927	-58.6		28	27.7
150	29	13,885	-61.9		29	23.2
125	29	15,002	-65.9		28	22.2
100	23	16,337	-69.4		28	18.4
80	19	17,660	-69.0		28	13.3
70	18	18,457	-67.6		28	6.6
60	18	19,391	-65.3		29	1.8
50	17	20,504	-62.3		31	1.1
40	17	21,892	-59.4		02	1.2
30	16	23,709	-56.3		05	1.7
25	14	24,869	-54.8		05	2.9
20	13	26,301	-53.6		05	2.4
15	6	28,147	-52.3			

* COLD BAY, ALASKA 982 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	.2	-2.7	34	1.8
1000	31	-115				
950	31	295	-.6	-4.0	01	2.6
900	31	726	-3.6	-5.7	03	2.3
850	31	1,175	-6.4	-8.8	04	2.0
800	31	1,647	-9.2	-13.3	06	2.1
750	31	2,139	-12.2	-17.8	04	1.4
700	31	2,668	-15.5	-22.4	06	.8
650	31	3,218	-19.0	-26.9	11	1.6
600	31	3,815	-23.0	-30.7	14	1.6
550	31	4,437	-27.4	-35.3	16	2.0
500	31	5,127	-32.0	-39.6	17	3.4
450	31	5,857	-37.0	-43.3	16	4.8
400	31	6,670	-42.4	-44.4	17	6.7
350	31	7,561	-48.2		17	7.6
300	31	8,567	-52.4		18	9.4
250	31	9,743	-52.0		18	9.5
200	31	11,201	-48.4		20	8.9
175	31	12,082	-47.5		20	8.8
150	31	13,103	-46.5		20	9.5
125	31	14,316	-45.3		20	9.6
100	31	15,805	-45.3		21	9.3
80	31	17,294	-45.2		21	8.8
70	31	18,184	-45.3		21	7.6
60	31	19,213	-45.3		20	6.3
50	31	20,429	-45.2		18	6.1
40	31	21,920	-44.5		18	5.8
30	30	23,849	-44.4		16	5.3
25	30	25,068	-45.1		15	5.0
20	29	26,555	-46.1		13	5.1
15	28	28,463	-46.9		11	5.1
10	27	31,137	-48.2		08	3.7
7	23	33,501	-49.0		09	2.0
5	20	35,726	-49.5		21	4.2
4	13	37,261	-48.0		18	3.1
3	11	39,171	-48.0		14	2.7
2	9	41,796	-48.2			

COLUMBIA, MO. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	238	-1.8	-4.5	30	1.0
1000	31	146				
950	31	555	-2.3	-6.2	31	3.3
900	31	984	-1.6	-8.1	31	6.3
850	31	1,440	-1.8	-11.7	31	7.6
800	31	1,922	-2.5	-13.0	30	8.4
750	31	2,431	-4.0	-15.1	30	9.6
700	31	2,976	-6.1	-17.2	30	11.7
650	31	3,552	-8.2	-19.3	30	14.8
600	31	4,172	-11.6	-21.6	29	16.0
550	31	4,833	-15.4	-25.1	29	18.1
500	31	5,549	-19.9	-29.2	29	20.6
450	31	6,317	-25.0	-34.8	28	22.1
400	31	7,169	-31.4	-40.3	28	24.1
350	31	8,101	-38.2	-45.8	28	26.3
300	31	9,146	-45.2		28	31.0
250	31	10,344	-51.7		28	33.6
200	31	11,775	-56.2		28	35.1
175	31	12,620	-57.4		28	33.4
150	31	13,593	-58.4		28	30.3
125	31	14,739	-58.7		28	24.6
100	31	16,133	-60.4		29	18.0
80	31	17,522	-60.5		29	12.5
70	31	18,354	-60.2		29	9.4
60	31	19,316	-59.5		30	6.5
50	30	20,458	-58.9		31	4.2
40	29	21,861	-58.5		35	3.5
30	28	23,671	-57.9		36	5.2
25	25	24,821	-58.0		36	5.3
20	25	26,228	-57.8		36	5.5
15	18	28,058	-57.5		35	8.4
10	5	30,671	-54.1			

DAYTON, OHIO 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	299	-3.9	-6.3	31	1.2
1000	31	141				
950	31	548	-4.1	-7.5	28	1.9
900	31	973	-4.9	-8.8	31	3.5
850	31	1,422	-5.6	-11.9	30	4.7
800	31	1,897	-6.4	-13.3	29	6.9
750	31	2,403	-7.3	-15.7	29	9.7
700	31	2,937	-9.0	-17.1	28	12.3
650	31	3,538	-11.4	-19.6	28	14.4
600	31	4,120	-14.3	-22.9	28	16.3
550	31	4,772	-18.2	-27.3	28	19.0
500	31	5,480	-22.9	-32.3	28	21.6
450	31	6,241	-27.7	-36.7	28	24.7
400	31	7,084	-33.2	-41.3	28	29.2
350	31	8,010	-39.2	-45.9	28	33.4
300	31	9,052	-45.5		28	38.0
250	31	10,252	-51.1		27	38.4
200	31	11,692	-54.2		27	37.2
175	31	12,546	-55.4		27	35.6
150	31	13,529	-56.1		27	30.2
125	31	14,684	-57.3		27	26.3
100	31	16,091	-59.0		27	18.4
80	30	17,487	-59.8		27	13.9
70	30	18,322	-59.4		28	12.2
60	30	19,288	-59.1		28	9.7
50	30	20,433	-58.7		30	8.0
40	30	21,835	-58.7		31	7.1
30	29	23,640	-58.8		32	7.3
25	26	24,789	-59.1		32	8.3
20	24	26,200	-58.6		32	9.6
15	20	28,023	-57.0		31	10.9
10	12	30,626	-53.0		29	14.6

DEL RIO, TEXAS 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	314	8.4	6.7	01	1.4
1000	31	144				
950	31	569	11.1	5.5	17	1.0
900	31	1,022	10.5	.4	25	2.4
850	31	1,497	9.5	-2.8	28	4.6
800	31	1,999	8.4	-8.0	28	6.6
750	31	2,527	6.0	-11.3	27	8.2
700	31	3,091	2.7	-14.7	27	10.4
650	31	3,682	-.5	-17.7	27	11.7
600	31	4,323	-4.4	-21.1	27	13.8
550	31	4,995	-9.2	-24.5	26	15.0
500	31	5,733	-14.1	-30.0	26	17.4
450	31	6,515	-19.6	-36.1	26	20.3
400	31	7,390	-26.1	-40.8	26	22.3
350	31	8,342	-32.9	-45.9	26	23.8
300	31	9,409	-40.6	-49.6	26	26.4
250	31	10,628	-48.8		26	29.6
200	31	12,073	-55.3		27	33.3
175	31	12,916	-59.3		27	32.1
150	31	13,874	-62.7		27	29.9
125	31	14,986	-66.6		27	24.9
100	30	16,321	-69.6		27	19.6
80	30	17,646	-70.5		27	12.8
70	30	18,443	-68.7		28	8.5
60	29	19,372	-66.2		29	4.3
50	29	20,486	-62.6		32	1.6
40	29	21,874	-59.4		36	1.1
30	29	23,686	-56.9		36	2.1
25	28	24,843	-55.6		33	2.5
20	26	26,273	-53.9		32	3.5
15	20	28,120	-51.7		29	7.8
10	17	30,771	-47.0		28	17.7

DENVER, COLO. 835 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,611	-3.9	-7.8	19	2.0
1000	31	168				
950	31	581				
900	31	1,017				
850	31	1,472				
800	31	1,957	1.1	-11.1	28	2.6
750	31	2,473	-.5	-13.9	31	5.2
700	31	3,023	-4.2	-16.6	31	7.5
650	31	3,598	-7.8	-18.8	31	9.1
600	31	4,221	-11.7	-21.6	30	11.2
550	31	4,878	-15.5	-26.0	30	13.9
500	31	5,596	-20.3	-30.2	30	14.1
450	31	6,359	-25.6	-34.7	29	17.4
400	31	7,213	-31.7	-39.5	29	19.1
350	31	8,144	-38.5	-45.1	29	21.8
300	31	9,187	-45.7		29	23.0
250	31	10,381	-52.8		29	23.3
200	31	11,806	-56.8		29	25.3
175	31	12,649	-58.2		29	24.3
150	31	13,617	-58.8		29	22.2
125	30	14,768	-58.9		29	19.5
100	30	16,161	-60.8		29	12.9
80	30	17,546	-60.8		30	8.6
70	30	18,376	-60.3		30	7.1
60	30	19,338	-59.6		32	4.7
50	30	20,480	-58.5		35	3.7
40	30	21,886	-57.4		02	4.8
30	28	23,706	-56.8		03	6.5
25	28	24,861	-56.7		04	7.8
20	25	26,273	-56.6		03	8.2
15	23	28,103	-56.3		03	9.4
10	8	30,609	-57.9			

DODGE CITY, KANS. 924 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	791	-1.7	-4.5	33	.8
1000	31	157				
950	31	570				
900	31	1,003	1.8	-4.9	30	.8
850	31	1,464	2.6	-6.7	29	3.1
800	31	1,954	1.3	-9.1	31	5.5
750	31	2,470	-.7	-12.4	30	7.7
700	31	3,020	-3.6	-15.6	29	9.0
650	31	3,600	-6.7	-18.7	30	10.5
600	31	4,224	-10.1	-22.1	29	12.2
550	31	4,885	-14.3	-25.7	28	14.1
500	31	5,606	-19.3	-29.7	28	16.2
450	31	6,378	-24.6	-34.3	28	18.8
400	31	7,231	-30.8	-40.2	28	20.4
350	31	8,166	-37.4	-45.3	29	24.3
300	31	9,214	-44.7		28	24.7
250	31	10,414	-51.8		28	26.9
200	31	11,844	-56.3		28	28.1
175	31	12,688	-58.3		28	27.9
150	31	13,656	-59.1		28	26.1
125	31	14,796	-60.2		28	21.5
100	31	16,180	-62.1		28	16.5
80	30	17,555	-62.5		28	10.3
70	30	18,380	-61.3		29	7.3
60	30	19,339	-60.3		30	4.9
50	30	20,479	-58.9		33	3.8
40	29	21,881	-58.2		01	2.9
30	29	23,695	-57.3		03	5.2
25	27	24,850	-57.3		02	5.9
20	26	26,256	-57.2		01	6.0
15	22	28,064	-56.8		35	7.1
10	9	30,628	-57.1			

EL PASO, TEXAS 882 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,193	3.6	-2.1	33	1.3
1000	31	160				
950	31	587				
900	31	1,032				
850	31	1,499	7.5	-3.7	31	2.6
800	31	1,997	5.8	-7.1	28	4.6
750	31	2,523	3.0	-10.3	28	6.4
700	31	3,078	-.3	-13.4	27	7.8
650	31	3,666	-3.2	-18.0	27	9.8
600	31	4,297	-6.8	-22.4	27	11.7
550	31	4,966	-11.2	-25.9	27	12.5
500	31	5,696	-16.3	-31.3	27	14.4
450	31	6,475	-22.0	-36.1	27	16.8
400	31	7,339	-28.2	-41.2	27	16.8
350	31	8,283	-35.0	-45.6	27	18.6
300	31	9,342	-42.0	-51.0	27	21.7
250	30	10,552	-49.0		28	25.4
200	29	11,991	-55.1		27	28.1
175	29	12,836	-58.2		27	29.3
150	29	13,801	-60.7		27	26.1
125	27	14,924	-63.9		27	22.6
100	25	16,280	-66.8		27	18.0
80	25	17,622	-68.1		28	12.9
70	24	18,426	-66.3		28	8.8
60	24	19,366	-63.7		28	4.2
50	23	20,488	-61.4		29	2.2
40	23	21,877	-59.6		35	.6
30	23	23,687	-57.0		03	2.4
25	22	24,845	-55.8		02	2.3
20	19	26,277	-54.3		02	2.9
15	15	28,126	-52.9		33	3.5
10	7	30,750	-49.9			

ELY, NEV. 809 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,908	-5.9	-10.5	21	2.2
1000	31	218				
950	31	628				
900	31	1,063				
850	31	1,521				
800	31	2,000	-2.3	-8.2	20	2.0
750	31	2,511	-2.0	-10.7	28	.9
700	31	3,061	-4.3	-13.6	29	4.8
650	31	3,638	-6.9	-17.4	30	7.4
600	31	4,263	-10.3	-22.1	30	8.8
550	31	4,922	-14.2	-25.0	29	10.4
500	31	5,646	-19.0	-28.9	29	12.2
450	30	6,416	-24.5	-34.4	29	14.2
400	30	7,272	-30.3	-39.9	29	16.1
350	30	8,209	-37.3	-45.0	29	17.7
300	30	9,257	-44.5		29	21.7
250	30	10,457	-52.0		29	23.8
200	27	11,877	-58.6		29	26.1
175	27	12,714	-59.5		29	24.7
150	27	13,678	-59.3		29	22.6
125	27	14,817	-60.4		29	20.7
100	27	16,204	-61.5		29	13.5
80	27	17,587	-61.5		29	8.1
70	27	18,416	-60.8		31	5.9
60	27	19,376	-60.1		34	4.0
50	26	20,517	-58.5		03	2.9
40	26	21,925	-57.1		05	3.8
30	26	23,750	-55.9		06	6.1
25	24	24,911	-55.5		05	7.4
20	22	26,333	-55.4		05	9.1
15	17	28,156	-55.5		05	8.6
10	9	30,678	-55.9			

EMPALME, MEXICO 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	12	11.8	7.9	33	1.6
1000	31	140	16.0	7.4	34	2.2
950	31	576	17.1	2.8	36	2.2
900	31	1,037	14.9	-.7	30	.5
850	31	1,519	12.4	-4.4	22	1.9
800	31	2,024	10.0	-8.7	26	2.4
750	31	2,554	7.5	-11.6	27	4.2
700	31	3,123	4.4	-15.1	27	6.4
650	31	3,720	.7	-19.1	27	7.4
600	31	4,361	-3.2	-22.8	27	9.7
550	31	5,035	-8.0	-26.0	27	11.5
500	31	5,776	-13.4	-30.3	27	11.2
450	31	6,565	-19.2	-34.9	27	14.6
400	31	7,435	-25.8	-40.7	27	15.9
350	31	8,389	-32.7	-46.2	27	18.5
300	31	9,458	-40.0	-51.4	27	21.2
250	31	10,683	-47.4		27	23.0
200	28	12,117	-55.2		27	26.1
175	28	12,962	-58.8		27	26.2
150	25	13,923	-63.1		27	25.0
125	24	15,029	-66.6		28	21.9
100	24	16,369	-69.9		28	16.3
80	24	17,694	-69.8		29	10.3
70	23	18,492	-68.1		30	6.2
60	23	19,422	-65.7		31	2.8
50	23	20,539	-62.0		33	2.2
40	22	21,929	-59.3		05	1.7
30	22	23,741	-57.0		03	2.6
25	22	24,900	-55.1		35	2.8
20	20	26,327	-52.8		35	3.6
15	16	28,206	-49.4		31	3.5
10	12	30,868	-44.9			

* FAIRBANKS, ALASKA 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	135	-17.1	-22.2	01	1.4
1000	31	8				
950	31	407	-6.3	-11.7	07	3.7
900	31	824	-4.9	-11.4	11	6.4
850	31	1,274	-4.4	-12.0	13	6.3
800	31	1,751	-6.3	-14.3	15	5.5
750	31	2,254	-9.6	-17.2	16	6.9
700	31	2,783	-13.3	-20.6	17	7.0
650	31	3,342	-17.2	-24.0	17	7.6
600	31	3,938	-21.5	-28.5	18	7.9
550	31	4,569	-25.9	-32.8	18	9.2
500	31	5,258	-31.0	-37.4	19	9.2
450	31	5,991	-36.4	-41.9	19	9.7
400	31	6,804	-42.5	-45.2	19	11.5
350	31	7,693	-48.8		19	12.3
300	31	8,693	-54.0		20	14.2
250	31	9,857	-55.5		21	12.8
200	30	11,289	-52.9		21	11.5
175	30	12,155	-50.9		20	11.6
150	30	13,162	-49.3		21	11.8
125	30	14,359	-48.7		21	10.1
100	30	15,829	-47.8		21	10.7
80	29	17,303	-47.7		22	10.0
70	29	18,185	-47.5		23	10.7
60	29	19,203	-47.4		24	10.8
50	29	20,409	-47.4		24	11.5
40	29	21,885	-47.7		25	12.7
30	29	23,781	-48.5		27	14.8
25	28	24,973	-49.4		27	17.1
20	27	26,428	-50.8		28	19.5
15	25	28,292	-53.0		29	24.2
10	13	30,895	-57.0		30	35.6

FLINT, MICH. 987 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	236	-4.6	-7.9	29	1.2
1000	31	135				
950	31	537	-6.0	-9.3	30	2.6
900	31	960	-7.6	-12.3	30	3.9
850	31	1,405	-8.6	-13.9	29	4.8
800	31	1,874	-10.0	-16.1	30	6.3
750	31	2,368	-11.3	-18.5	30	7.9
700	31	2,899	-12.9	-20.2	29	9.3
650	31	3,459	-14.7	-21.8	29	11.0
600	31	4,066	-17.2	-24.6	29	13.1
550	31	4,711	-20.6	-29.5	29	14.9
500	31	5,413	-25.3	-34.0	28	17.3
450	31	6,162	-30.5	-38.7	28	19.3
400	31	6,998	-36.1	-43.5	28	21.4
350	31	7,912	-42.4	-46.4	28	23.7
300	31	8,940	-48.2		28	27.4
250	31	10,130	-51.9		28	30.0
200	31	11,571	-53.1		28	29.2
175	31	12,432	-53.0		28	26.0
150	31	13,425	-53.3		28	23.4
125	30	14,596	-54.6		28	19.9
100	30	16,018	-56.3		28	15.4
80	30	17,430	-57.4		29	12.5
70	30	18,273	-57.6		29	10.2
60	29	19,249	-57.5		30	7.4
50	29	20,400	-57.8		30	5.3
40	28	21,803	-58.2		32	5.4
30	27	23,612	-59.0		34	6.8
25	23	24,771	-59.1		34	7.5
20	20	26,177	-58.4		35	7.8
15	10	28,000	-58.4		34	8.3
10	5	30,527	-56.9			

FORT WORTH, TEXAS 995 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	180	5.5	2.1	34	1.1
1000	31	141				
950	31	565	7.8	2.2	28	2.2
900	31	1,009	7.9	.2	28	4.2
850	31	1,480	6.6	-3.2	28	5.7
800	31	1,977	5.0	-6.3	29	7.0
750	31	2,505	2.6	-9.3	28	8.7
700	31	3,057	.0	-12.3	28	10.1
650	31	3,646	-2.9	-15.2	28	12.9
600	31	4,278	-6.2	-19.4	27	15.3
550	31	4,949	-10.4	-22.6	27	17.1
500	31	5,681	-15.3	-27.3	27	19.0
450	31	6,466	-20.5	-32.0	27	20.6
400	31	7,332	-26.5	-37.3	27	22.5
350	31	8,282	-34.0	-43.9	27	24.7
300	31	9,344	-42.2	-50.1	27	26.2
250	31	10,556	-50.1		27	30.8
200	31	11,993	-56.0		27	31.5
175	30	12,835	-59.4		27	30.7
150	30	13,796	-61.0		27	30.4
125	30	14,920	-64.1		27	26.7
100	[illegible]	16,277	-66.7		27	21.0
80	29	17,624	-66.8		28	13.5
70	[illegible]	18,434	-65.8		29	9.2
60	27	19,377	-63.5		30	5.6
50	27	20,503	-61.4		33	3.1
40	27	21,893	-59.5		01	2.6
30	27	23,703	-57.0		02	3.9
25	27	24,859	-56.4		02	4.1
20	24	26,283	-55.0		36	3.6
15	21	28,122	-53.5		30	6.6
10	9	30,751	-50.0			

GLASGOW, MONT. 933 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	696	-7.0	-9.5	06	.9
1000	31	150				
950	31	554				
900	31	978	-3.3	-8.2	29	3.9
850	31	1,432	-2.1	-10.0	30	7.8
800	31	1,913	-3.8	-12.4	30	9.2
750	31	2,420	-6.4	-15.1	31	10.3
700	31	2,957	-9.3	-18.1	31	10.8
650	31	3,523	-12.6	-20.8	30	11.3
600	31	4,134	-16.1	-24.6	30	11.4
550	31	4,780	-20.2	-29.3	30	12.3
500	31	5,483	-24.7	-34.1	31	13.2
450	31	6,235	-29.6	-38.6	30	14.6
400	31	7,073	-35.5	-42.5	30	15.1
350	31	7,989	-42.1	-46.6	30	16.6
300	31	9,018	-48.8		30	18.7
250	31	10,201	-53.9		30	22.1
200	31	11,626	-55.4		30	21.9
175	31	12,480	-54.6		30	19.2
150	31	13,467	-54.1		30	17.2
125	31	14,637	-54.3		30	14.5
100	31	16,068	-54.5		31	11.5
80	31	17,494	-55.0		31	9.2
70	31	18,347	-54.7		32	7.6
60	31	19,333	-54.9		34	5.9
50	31	20,498	-54.8		35	5.4
40	31	21,922	-55.0		01	5.6
30	28	23,762	-55.1		02	7.6
25	[illegible]	24,926	-55.5		02	9.1
20	25	26,348	-56.3		03	9.8
15	16	28,144	-58.2		02	11.6
10	6	30,658	-60.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

GRAND JUNCTION, COLO. — 853 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,472	-2.8	-8.3	12	2.2
1000	31	196				
950	31	609				
900	31	1,043				
850	31	1,501			12	3.0
800	31	1,986	-.4	-9.2	16	1.4
750	31	2,501	-2.2	-11.2	24	2.0
700	31	3,046	-5.3	-13.6	27	5.1
650	31	3,621	-8.4	-16.1	28	7.6
600	31	4,242	-11.6	-19.6	29	10.1
550	31	4,899	-15.3	-24.2	29	12.1
500	31	5,618	-19.7	-29.9	29	14.8
450	31	6,383	-24.9	-34.7	29	17.3
400	31	7,239	-31.0	-39.1	29	18.0
350	31	8,172	-38.0	-44.5	29	19.5
300	31	9,217	-45.3		29	21.8
250	31	10,414	-51.9		29	24.3
200	31	11,843	-56.7		29	24.1
175	31	12,686	-58.3		29	24.6
150	31	13,655	-58.3		29	22.8
125	31	14,800	-58.9		28	18.7
100	31	16,193	-61.1		29	13.1
80	31	17,574	-62.2		29	8.9
70	31	18,401	-61.4		30	6.8
60	31	19,359	-60.5		32	4.5
50	31	20,500	-58.7		36	2.8
40	30	21,905	-57.7		05	3.4
30	29	23,725	-56.6		05	5.3
25	28	24,885	-56.4		05	6.9
20	26	26,296	-56.2		05	7.7
15	21	28,137	-54.9		03	8.9
10	6	30,637	-56.5			
7						

* GREAT FALLS, MONT. — 886 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,118	-2.5	-7.8	23	4.4
1000	31	148				
950	31	561				
900	31	1,001				
850	31	1,451	.5	-9.9	25	9.7
800	31	1,935	-2.2	-12.0	27	9.3
750	31	2,446	-5.3	-14.6	29	10.0
700	31	2,984	-8.1	-18.0	29	11.7
650	31	3,556	-11.2	-21.2	29	11.9
600	31	4,167	-15.1	-24.9	29	12.3
550	31	4,820	-19.3	-29.0	29	14.3
500	31	5,523	-23.7	-32.7	29	15.8
450	30	6,281	-29.4	-38.4	29	17.3
400	30	7,116	-35.1	-42.1	29	19.1
350	30	8,034	-41.3	-44.6	29	21.6
300	30	9,065	-47.9		29	23.6
250	30	10,252	-53.2		29	23.4
200	30	11,679	-55.8		29	19.6
175	30	12,528	-55.5		29	19.7
150	30	13,511	-54.7		29	16.8
125	30	14,679	-54.2		30	13.5
100	29	16,108	-55.3		30	9.8
80	29	17,529	-55.5		31	7.4
70	29	18,380	-55.3		32	5.6
60	29	19,362	-55.3		34	4.6
50	28	20,524	-54.7		01	4.1
40	28	21,952	-54.3		02	5.2
30	27	23,795	-54.3		03	7.2
25	25	24,958	-54.6		03	9.0
20	23	26,378	-55.4		03	11.2
15	21	28,213	-56.3		02	13.5
10	13	30,785	-58.0		01	16.1
7						

GREEN BAY, WIS. — 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	210	-6.8	-9.5	29	1.9
1000	31	134				
950	31	534	-6.7	-8.6	30	2.7
900	31	955	-8.6	-11.0	32	3.8
850	31	1,398	-9.3	-14.3	32	4.2
800	31	1,865	-10.1	-15.9	31	5.0
750	31	2,364	-11.6	-18.4	30	6.4
700	31	2,889	-13.2	-21.3	29	7.8
650	31	3,451	-15.3	-25.2	30	9.8
600	31	4,052	-18.3	-28.6	30	11.4
550	31	4,695	-21.9	-31.4	30	12.9
500	31	5,394	-25.9	-35.1	30	15.6
450	31	6,141	-30.5	-39.5	29	18.6
400	31	6,978	-36.3	-44.3	29	21.0
350	31	7,893	-42.6	-47.4	29	23.4
300	31	8,920	-48.7		28	25.7
250	31	10,105	-53.3		29	27.4
200	31	11,538	-53.9		29	25.6
175	31	12,397	-53.2		29	22.4
150	31	13,390	-53.3		29	20.9
125	31	14,562	-53.9		29	17.7
100	31	15,988	-55.9		29	14.2
80	31	17,407	-56.3		29	12.1
70	31	18,254	-56.7		30	10.6
60	31	19,232	-56.5		30	7.6
50	30	20,387	-56.9		32	6.8
40	30	21,798	-57.6		33	6.5
30	30	23,609	-58.8		34	7.7
25	30	24,752	-59.7		34	10.1
20	27	26,157	-59.7		35	10.9
15	23	27,952	-60.3		35	11.5
10	14	30,488	-59.8			
7						

GREENSBORO, N. C. — 983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	275	.9	-3.6	30	1.6
1000	31	131				
950	31	545	1.2	-6.4	30	4.3
900	31	979	-.2	-7.1	30	6.2
850	31	1,435	-1.3	-8.2	29	7.9
800	31	1,918	-1.6	-12.4	29	10.8
750	31	2,433	-2.0	-14.6	29	13.9
700	31	2,979	-3.7	-16.3	28	16.4
650	31	3,564	-6.5	-18.3	28	18.6
600	31	4,184	-9.8	-21.6	28	21.4
550	31	4,850	-13.7	-25.0	28	24.2
500	31	5,570	-18.2	-29.6	28	26.6
450	31	6,348	-23.4	-34.1	28	28.4
400	31	7,202	-29.2	-39.7	28	32.0
350	31	8,143	-36.0	-44.0	27	32.9
300	31	9,198	-43.0	-47.1	27	35.2
250	31	10,409	-49.8		27	38.6
200	31	11,849	-55.5		27	37.6
175	31	12,696	-57.3		27	38.4
150	31	13,668	-58.7		27	34.2
125	31	14,809	-60.7		27	26.3
100	30	16,186	-62.6		27	22.8
80	30	17,558	-63.7		27	16.8
70	30	18,379	-62.3		28	11.9
60	30	19,333	-61.2		28	8.0
50	30	20,468	-60.0		28	7.7
40	30	21,865	-59.0		30	5.4
30	28	23,677	-58.1		30	5.2
25	27	24,824	-57.5		30	7.9
20	24	26,232	-56.1		29	10.4
15	19	28,067	-54.5		27	15.6
10	9	30,713	-49.0			
7						

* GUAM, MARIANA IS. — 998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	111	25.5	23.5	08	3.8
1000	31	98				
950	31	550	23.3	21.4	09	9.9
900	31	1,021	20.7	17.7	09	9.7
850	31	1,515	18.4	14.2	10	9.5
800	31	2,034	15.8	9.8	10	9.3
750	31	2,585	13.4	5.0	10	9.4
700	31	3,159	10.5	-.5	09	8.5
650	31	3,771	7.0	-7.2	10	8.2
600	31	4,426	3.3	-10.1	10	7.6
550	31	5,120	-.8	-16.1	10	8.1
500	31	5,881	-4.7	-20.9	10	8.5
450	31	6,697	-9.7	-26.8	11	9.8
400	31	7,603	-15.4	-32.0	10	8.5
350	31	8,598	-22.2	-38.5	10	8.5
300	30	9,712	-30.5	-44.7	09	7.0
250	30	10,980	-40.5	-52.4	08	5.6
200	30	12,459	-52.8		08	5.0
175	30	13,306	-60.0		08	5.4
150	30	14,249	-67.9		09	5.4
125	30	15,322	-76.1		10	6.3
100	30	16,585	-82.9		11	9.4
80	30	17,828	-81.8		11	8.9
70	30	18,583	-78.1		11	5.4
60	30	19,476	-72.3		13	1.3
50	30	20,566	-66.4		24	1.5
40	29	21,935	-61.4		24	.2
30	28	23,742	-56.8		08	4.1
25	28	24,904	-54.3		08	5.6
20	26	26,347	-50.8		08	8.1
15	26	28,241	-46.7		07	9.3
10	21	30,958	-44.1		09	9.5
7	13	33,353	-41.1		09	12.9

HILO, HAWAII — 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	19.7	16.9	24	1.9
1000	31	148	20.9	17.2	26	1.5
950	31	589	17.9	15.3	08	1.9
900	31	1,052	14.8	12.4	08	3.3
850	31	1,535	12.5	7.1	07	3.5
800	31	2,043	10.8	.4	07	3.9
750	31	2,582	8.6	-5.7	09	3.2
700	31	3,149	6.4	-9.7	09	2.7
650	31	3,749	3.7	-13.3	11	1.4
600	31	4,400	.1	-17.3	31	.4
550	31	5,083	-4.2	-20.1	31	1.5
500	31	5,837	-8.8	-24.8	34	2.3
450	31	6,639	-14.3	-31.2	33	3.8
400	31	7,529	-20.9	-37.7	33	5.8
350	31	8,504	-27.3	-43.3	34	8.7
300	31	9,597	-35.3	-49.9	33	11.3
250	31	10,844	-43.9		31	12.6
200	31	12,309	-54.2		30	14.1
175	31	13,155	-59.7		30	15.7
150	31	14,108	-64.8		30	14.8
125	31	15,203	-71.3		29	13.0
100	31	16,504	-76.5		29	9.5
80	31	17,785	-76.7		29	5.5
70	31	18,558	-73.9		29	2.4
60	31	19,469	-68.9		28	1.0
50	30	20,574	-64.6		33	.8
40	30	21,952	-60.1		28	.3
30	30	23,766	-55.8		28	1.2
25	30	24,933	-53.3		30	1.7
20	30	26,379	-50.6		30	2.0
15	29	28,264	-48.3		24	3.1
10	14	30,958	-42.3		26	4.2
7						

HUNTINGTON W. VA. — 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	-2.6	-4.8	28	1.6
1000	31	136				
950	31	545	-2.5	-6.6	27	2.5
900	31	972	-3.8	-8.1	28	4.0
850	31	1,423	-4.4	-10.6	28	6.2
800	31	1,900	-5.2	-13.5	29	8.4
750	31	2,409	-6.4	-13.9	29	10.8
700	31	2,945	-8.2	-14.6	29	13.4
650	31	3,518	-10.5	-18.2	29	16.2
600	31	4,132	-13.4	-22.3	28	19.0
550	31	4,786	-17.3	-25.9	28	21.3
500	31	5,498	-21.8	-30.7	28	24.3
450	31	6,263	-26.5	-35.3	28	28.4
400	31	7,110	-31.9	-40.6	28	33.2
350	31	8,041	-38.1	-44.1	28	35.8
300	31	9,086	-44.8	-49.4	27	37.9
250	31	10,289	-50.6		27	39.0
200	31	11,730	-54.4		27	39.3
175	31	12,582	-56.1		27	36.3
150	31	13,560	-57.4		27	30.5
125	31	14,706	-59.0		27	26.5
100	31	16,100	-60.8		27	20.5
80	31	17,486	-61.1		27	13.4
70	31	18,316	-60.8		28	11.0
60	31	19,275	-60.5		28	8.9
50	31	20,414	-59.2		30	5.9
40	30	21,810	-58.9		30	4.5
30	27	23,618	-58.4		33	4.4
25	27	24,766	-58.2		32	6.4
20	24	26,169	-57.8		31	8.1
15	15	27,982	-56.5		30	13.3
10	11	30,562	-52.7			
7						

* INTERNATIONAL FALLS, MINN. — 972 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	359	-10.3	-12.0	23	.5
1000	31	139				
950	31	534	-9.3	-10.5	24	1.1
900	31	953	-9.3	-11.3	28	2.6
850	31	1,395	-10.1	-13.4	29	3.3
800	31	1,861	-11.6	-16.5	31	5.2
750	31	2,353	-12.7	-19.4	31	5.9
700	31	2,880	-14.5	-21.6	31	6.8
650	31	3,434	-16.8	-24.1	31	7.7
600	31	4,038	-19.5	-27.0	31	9.3
550	31	4,672	-22.7	-30.6	31	11.2
500	31	5,375	-26.9	-34.4	31	12.7
450	31	6,121	-31.8	-39.4	31	14.6
400	31	6,952	-37.6	-42.8	31	16.0
350	31	7,861	-43.7	-46.3	31	16.6
300	31	8,884	-49.5		30	17.1
250	31	10,066	-53.4		30	17.7
200	31	11,502	-52.8		30	16.9
175	31	12,364	-53.2		30	16.0
150	31	13,359	-52.2		30	14.3
125	31	14,539	-52.5		30	12.9
100	31	15,977	-53.4		30	11.3
80	31	17,411	-54.2		31	9.2
70	31	18,265	-54.7		32	8.8
60	31	19,250	-55.2		33	8.7
50	31	20,412	-55.7		34	8.0
40	31	21,832	-56.0		35	8.2
30	31	23,656	-57.3		36	9.5
25	30	24,800	-58.5		36	10.4
20	30	26,197	-60.2		36	13.0
15	27	27,977	-62.0		35	16.6
10	19	30,492	-63.8		34	20.4
7	7	32,678	-64.0			

JACKSON, MISS. — 1005 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	100	5.2	2.9	14	.5
1000	31	140			[illegible]	.2
950	31	564	7.2	1.0	27	2.8
900	31	1,008	6.9	-1.2	29	6.4
850	31	1,477	5.8	-3.5	28	9.3
800	31	1,972	4.4	-6.9	28	11.7
750	31	2,492	2.6	-10.2	28	13.0
700	31	3,052	.2	-13.2	28	14.7
650	31	3,639	-2.1	-16.7	27	16.4
600	31	4,276	-5.3	-20.0	28	19.1
550	31	4,946	-9.8	-24.5	27	20.9
500	31	5,683	-14.6	-28.1	27	22.4
450	31	6,465	-20.2	-33.6	27	24.7
400	31	7,337	-26.2	-39.4	27	26.7
350	31	8,288	-33.4	-45.8	27	29.0
300	31	9,352	-41.4	-49.6	26	30.5
250	31	10,567	-49.7		27	35.5
200	31	12,004	-56.4		27	37.9
175	31	12,844	-60.2		27	38.1
150	31	13,800	-62.6		27	35.6
125	31	14,917	-65.2		27	31.1
100	29	16,270	-68.1		27	23.8
80	28	17,610	-67.3		27	15.5
70	28	18,417	-66.6		28	11.4
60	28	19,354	-64.4		28	7.5
50	28	20,475	-62.0		29	4.1
40	27	21,860	-60.2		31	2.6
30	25	23,661	-58.4		31	3.4
25	24	24,814	-57.5		31	4.5
20	24	26,229	-56.0		29	7.0
15	20	28,067	-53.5		28	10.9
10	12	30,738	-47.5			
7	5	33,120	-42.2			

JOHNSTON IS., PACIFIC AREA — 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	25.1	21.2	07	7.4
1000	31	129	23.8	19.3	07	8.6
950	31	577	20.1	17.3	07	10.2
900	31	1,041	17.1	13.3	08	10.1
850	31	1,527	13.9	9.9	08	10.0
800	31	2,037	12.2	.8	08	9.3
750	31	2,581	11.3	-5.5	08	8.9
700	31	3,152	9.2	-11.2	07	8.6
650	31	3,760	6.5	-14.1	07	8.3
600	31	4,416	3.0	-18.2	06	7.4
550	31	5,110	-.8	-22.1	05	5.9
500	31	5,870	-5.4	-26.1	04	5.6
450	31	6,685	-11.0	-30.4	03	5.2
400	31	7,583	-17.6	-35.5	02	6.7
350	31	8,569	-24.7	-41.1	01	7.1
300	31	9,672	-32.9	-47.7	33	7.3
250	31	10,931	-42.2		32	8.7
200	31	12,404	-53.4		30	9.3
175	31	13,252	-59.6		31	9.5
150	31	14,202	-66.1		31	10.1
125	31	15,288	-73.4		32	8.4
100	31	16,573	-79.4		33	5.1
80	31	17,830	-80.3		36	3.6
70	31	18,588	-77.7		02	3.1
60	31	19,485	-70.5		06	1.8
50	30	20,584	-64.6		11	1.1
40	30	21,963	-59.8		33	.4
30	30	23,777	-55.4		02	1.4
25	30	24,945	-53.2		09	2.3
20	28	26,390	-50.6		08	4.4
15	27	28,277	-46.9		09	4.3
10	14	30,980	-43.4		12	4.9
7	7	33,355	-41.1			

KEY WEST, FLA. — 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	22	3	18.9	14.0	02	1.1
1000	22	134	18.6	13.3	02	1.3
950	22	570	16.1	8.4	27	.6
900	22	1,032	14.4	.1	26	2.6
850	22	1,514	12.9	-5.4	26	4.8
800	22	2,022	11.4	-8.3	27	6.3
750	22	2,558	10.0	-12.4	27	7.7
700	22	3,130	7.6	-16.5	27	8.9
650	22	3,731	4.4	-19.0	27	11.4
600	22	4,385	.4	-23.6	27	12.3
550	22	5,068	-4.2	-27.3	27	14.0
500	22	5,822	-9.5	-31.2	27	14.8
450	22	6,622	-15.3	-35.7	27	17.5
400	22	7,507	-22.0	-40.6	27	20.3
350	22	8,475	-29.3	-46.3	26	24.2
300	22	9,559	-36.9	-51.8	26	27.4
250	22	10,797	-45.7		26	30.5
200	20	12,259	-56.3		26	30.9
175	20	13,097	-61.5		26	29.4
150	20	14,041	-66.5		26	26.9
125	19	15,138	-71.3		27	23.1
100	18	16,444	-75.1		27	20.0
80	18	17,735	-75.3		27	13.1
70	18	18,513	-72.7		27	9.0
60	18	19,426	-68.6		27	4.8
50	18	20,533	-63.5		28	3.9
40	17	21,918	-58.6		27	5.6
30	17	23,745	-54.3		27	9.1
25	17	24,919	-52.6		27	10.9
20	17	26,371	-49.3		26	12.3
15	17	28,269	-45.9		26	15.4
10	11	30,956	-42.1			
7						

KING SALMON, ALASKA — 986 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	15	-3.5	-7.3	05	3.3
1000	31	-99				
950	31	308	-1.5	-5.8	07	6.5
900	31	738	-3.3	-6.8	09	7.6
850	31	1,189	-5.2	-8.8	10	7.9
800	31	1,663	-7.7	-12.1	11	7.4
750	31	2,161	-10.6	-16.6	12	8.3
700	31	2,691	-13.7	-21.1	13	8.7
650	31	3,249	-17.2	-24.0	13	8.3
600	31	3,847	-21.4	-28.0	14	8.3
550	31	4,478	-25.7	-32.9	14	8.8
500	31	5,168	-30.6	-37.2	14	9.4
450	31	5,903	-36.0	-40.7	15	9.6
400	31	6,717	-41.9	-42.5	15	9.9
350	31	7,610	-47.7		17	9.1
300	31	8,616	-52.7		17	10.8
250	31	9,789	-53.2		18	12.1
200	31	11,238	-49.3		19	10.8
175	30	12,117	-48.4		19	11.0
150	29	13,132	-47.0		19	10.5
125	29	14,343	-46.0		20	9.9
100	29	15,828	-45.8		20	9.4
80	29	17,315	-45.7		20	8.8
70	29	18,205	-45.5		20	8.2
60	29	19,233	-45.5		20	7.1
50	29	20,450	-45.2		21	6.6
40	29	21,940	-45.1		21	5.1
30	24	23,863	-45.0		22	4.1
25	24	25,081	-45.5		22	3.2
20	18	26,572	-46.4		23	1.4
15	12	28,480	-47.9			
10						
7						

+ KOROR, CAROLINE IS. — 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	28.0	24.9	07	2.1
1000	31	92	27.4	23.9	07	2.6
950	31	542	23.9	19.7	08	3.9
900	31	1,016	21.0	16.0	08	5.0
850	31	1,510	18.3	12.7	08	5.6
800	31	2,028	16.1	8.5	08	5.5
750	31	2,571	13.4	4.5	08	6.1
700	31	3,153	10.8	-1.5	09	6.2
650	31	3,764	7.2	-4.8	09	6.3
600	31	4,421	3.2	-10.1	10	7.1
550	31	5,119	-.6	-13.6	09	7.8
500	31	5,877	-5.1	-18.1	10	7.9
450	30	6,695	-9.6	-25.4	10	8.9
400	30	7,599	-15.3	-31.2	09	9.1
350	30	8,595	-22.1	-37.7	10	10.6
300	30	9,710	-30.4	-45.6	10	10.9
250	30	10,979	-40.7	-53.2	10	12.3
200	30	12,457	-53.1		10	14.1
175	30	13,303	-60.3		10	14.9
150	30	14,246	-67.9		10	15.5
125	30	15,320	-75.8		10	17.2
100	30	16,587	-81.8		10	14.7
80	30	17,845	-77.6		09	5.7
70	30	18,617	-72.9		30	1.4
60	30	19,529	-69.1		27	5.4
50	30	20,630	-64.8		27	5.2
40	30	22,005	-60.3		26	2.0
30	30	23,816	-56.4		10	8.1
25	29	24,977	-53.9		10	9.5
20	24	26,427	-50.0		10	12.5
15	15	28,312	-47.9		09	14.3
10	6	31,078	-38.7			
7						

KOTZEBUE, ALASKA — 1001 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	-12.6	-16.2	06	3.1
1000	31	9			06	3.2
950	31	409	-8.6	-13.5	08	6.1
900	31	823	-9.8	-14.3	09	6.2
850	31	1,264	-10.4	-15.3	11	6.9
800	31	1,730	-12.0	-17.8	12	6.0
750	31	2,223	-14.3	-20.7	13	6.2
700	31	2,742	-17.0	-24.4	14	6.2
650	30	3,294	-19.8	-28.2	14	6.6
600	30	3,884	-23.9	-31.7	14	6.7
550	30	4,508	-28.0	-35.4	15	7.9
500	30	5,193	-32.8	-39.2	15	8.2
450	30	5,923	-38.3	-42.2	15	9.2
400	30	6,728	-44.1	-46.1	15	9.8
350	30	7,612	-49.8		16	10.7
300	30	8,609	-54.4		17	10.9
250	30	9,772	-55.6		17	12.1
200	30	11,201	-53.1		18	12.4
175	30	12,065	-51.1		18	11.3
150	30	13,070	-49.6		19	12.4
125	30	14,268	-48.3		20	11.5
100	30	15,739	-47.7		21	13.2
80	30	17,213	-47.4		22	13.2
70	30	18,095	-47.4		22	14.1
60	30	19,114	-47.2		23	14.9
50	29	20,314	-47.3		23	16.3
40	29	21,788	-47.5		24	19.1
30	25	23,681	-47.9		24	21.6
25	17	24,846	-50.2		25	24.7
20	13	26,308	-51.1			
15	5	28,187	-51.1			
10						
7						

KWAJALEIN, MARSHALL IS. — 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	4	27.4	23.5	07	8.1
1000	30	90	26.8	23.2	08	9.4
950	30	543	23.4	21.7	08	11.8
900	30	1,014	20.4	17.6	08	12.1
850	30	1,507	17.8	14.2	09	10.9
800	30	2,026	16.2	7.4	09	9.6
750	30	2,573	13.9	2.1	09	8.8
700	30	3,152	11.1	-3.3	09	8.5
650	30	3,767	7.6	-7.1	09	9.3
600	30	4,423	3.9	-11.0	09	11.1
550	30	5,125	-.1	-14.7	09	12.7
500	30	5,882	-4.6	-20.8	09	12.1
450	30	6,704	-9.8	-23.6	09	10.0
400	30	7,603	-15.2	-29.9	09	8.0
350	30	8,600	-21.9	-36.3	09	4.2
300	30	9,717	-30.0	-43.6	10	2.6
250	30	10,988	-40.1	-51.2	18	3.1
200	30	12,471	-52.5	-61.8	22	4.5
175	30	13,319	-59.9	-69.4	22	3.8
150	28	14,264	-67.6		25	1.6
125	27	15,338	-75.9		01	2.5
100	26	16,600	-83.0		08	7.3
80	24	17,844	-80.6		09	9.4
70	23	18,607	-76.2		18	.3
60	19	19,509	-70.2		28	6.6
50	18	20,603	-66.2		29	5.2
40	16	21,974	-61.7		29	.2
30	16	23,773	-57.7		08	5.6
25	15	24,930	-55.5		09	9.2
20	13	26,362	-52.2		09	10.6
15	13	28,240	-48.1		09	13.1
10	12	30,949	-43.4		09	18.5
7	10	33,377	-38.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1969

LAKE CHARLES, LA. 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	5	8.3	7.4	02	.8
1000	31	137	11.7	7.3	06	.3
950	31	565	11.3	5.3	24	3.3
900	31	1,017	9.8	3.1	26	5.8
850	31	1,492	8.0	.0	27	8.0
800	31	1,991	6.3	-4.4	27	9.3
750	31	2,518	4.7	-6.8	27	10.3
700	31	3,079	2.5	-12.2	27	11.5
650	31	3,675	-.4	-16.0	27	14.3
600	31	4,312	-3.8	-19.2	27	15.5
550	31	4,989	-8.0	-22.9	27	17.2
500	31	5,729	-12.9	-27.7	27	19.8
450	31	6,519	-18.5	-33.4	26	22.8
400	31	7,393	-25.1	-38.6	27	23.8
350	31	8,349	-32.5	-44.7	27	26.6
300	31	9,418	-40.3	-49.9	26	29.7
250	31	10,638	-48.8		27	34.1
200	31	12,079	-56.5		27	35.2
175	30	12,918	-60.5		26	34.6
150	30	13,873	-63.3		26	33.7
125	30	14,983	-67.0		27	30.5
100	30	16,322	-69.4		27	23.8
80	30	17,650	-69.7		27	14.3
70	30	18,448	-68.2		27	9.9
60	29	19,378	-65.9		27	6.7
50	29	20,493	-62.8		28	3.0
40	29	21,877	-59.9		30	2.0
30	29	23,681	-57.9		31	3.0
25	27	24,836	-56.5		29	4.2
20	26	26,256	-54.9		30	6.3
15	22	28,113	-51.9		28	12.6
10	11	30,744	-47.8			
7	5	33,128	-44.7			
5						

LANDER, WYO. 827 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	1,697	-6.7	-11.9	23	1.1
1000	31	186				
950	31	592				
900	31	1,028				
850	31	1,480				
800	31	1,958	-1.5	-12.7	22	.8
750	31	2,469	-2.8	-15.6	30	2.2
700	31	3,016	-5.6	-18.4	30	5.9
650	31	3,588	-9.2	-21.4	30	9.6
600	31	4,209	-13.1	-25.1	30	11.6
550	31	4,858	-17.4	-27.9	30	12.4
500	31	5,575	-22.0	-32.4	30	13.0
450	31	6,334	-27.5	-36.9	30	15.2
400	31	7,180	-33.5	-41.2	30	17.6
350	31	8,105	-40.2	-46.9	29	19.9
300	31	9,141	-47.0		29	22.9
250	31	10,330	-53.5		29	24.7
200	31	11,752	-57.4		29	26.8
175	31	12,594	-57.6		29	24.7
150	31	13,567	-57.8		29	21.5
125	31	14,717	-57.8		29	18.8
100	31	16,122	-58.9		30	11.9
80	31	17,521	-58.9		30	8.1
70	31	18,358	-58.9		31	5.1
60	31	19,324	-58.7		34	4.0
50	30	20,472	-57.9		02	3.4
40	30	21,881	-57.0		04	5.4
30	29	23,702	-56.6		04	6.5
25	29	24,858	-56.4		05	8.3
20	29	26,273	-56.6		05	9.1
15	21	28,098	-57.0		04	10.2
10	11	30,664	-58.1			
7						
5						

• LIHUE KAUAI, HAWAII 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	36	21.4	17.9	03	3.5
1000	31	156	21.5	17.4	04	4.9
950	31	596	18.1	15.1	06	7.1
900	31	1,061	15.1	11.5	06	6.9
850	31	1,544	12.9	6.8	07	5.1
800	31	2,053	11.5	.3	06	3.9
750	31	2,585	9.5	-6.1	05	2.0
700	31	3,161	7.4	-10.6	35	.8
650	31	3,765	4.2	-14.2	32	2.1
600	31	4,415	.6	-18.1	31	4.0
550	31	5,100	-3.5	-21.3	32	5.1
500	31	5,855	-8.2	-25.9	32	7.6
450	31	6,660	-13.5	-30.9	31	9.0
400	31	7,552	-19.8	-35.8	32	10.6
350	30	8,529	-27.0	-42.7	32	14.1
300	30	9,621	-35.3	-49.3	32	17.5
250	30	10,867	-44.3		32	20.5
200	30	12,329	-54.4		31	22.1
175	30	13,174	-59.9		30	22.5
150	30	14,123	-65.6		30	21.5
125	27	15,222	-71.7		30	17.9
100	27	16,519	-77.0		29	14.2
80	27	17,795	-77.7		30	8.9
70	27	18,564	-74.9		29	4.7
60	27	19,473	-68.8		29	1.1
50	27	20,574	-65.1		20	.2
40	27	21,951	-60.2		04	1.0
30	27	23,760	-56.0		33	.5
25	25	24,924	-53.6		32	1.5
20	25	26,366	-51.3		29	3.3
15	25	28,245	-49.0		27	4.4
10	23	30,943	-43.4		25	8.7
7	17	33,348	-40.9		25	8.9
5	6	35,642	-39.4			

LITTLE ROCK, ARK. 1008 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	79	2.5	-1.2	34	1.6
1000	31	143	3.0	-1.8	01	1.6
950	31	559	3.6	-3.3	34	2.8
900	31	999	3.6	-5.0	32	5.1
850	31	1,463	3.3	-7.5	30	7.6
800	31	1,955	2.1	-8.2	29	9.4
750	31	2,470	.6	-10.9	28	11.7
700	31	3,026	-1.8	-12.9	28	13.6
650	31	3,608	-4.7	-15.4	28	14.7
600	31	4,240	-7.9	-19.1	28	17.3
550	31	4,905	-11.7	-23.7	28	20.3
500	31	5,636	-16.2	-28.2	27	22.2
450	31	6,410	-21.8	-33.3	27	24.8
400	31	7,279	-27.7	-39.2	27	26.6
350	31	8,225	-34.8	-44.9	28	28.6
300	31	9,283	-42.6	-48.2	27	30.8
250	31	10,493	-50.4		27	34.3
200	31	11,928	-56.4		27	36.6
175	31	12,770	-59.3		27	35.9
150	31	13,731	-61.2		27	35.3
125	31	14,858	-63.1		27	29.4
100	31	16,225	-64.4		28	20.4
80	28	17,582	-64.4		28	14.5
70	27	18,399	-63.8		28	10.0
60	27	19,347	-62.6		30	6.8
50	25	20,474	-60.9		32	4.7
40	24	21,867	-58.9		35	3.9
30	22	23,678	-57.7		36	4.6
25	21	24,832	-57.1		35	4.7
20	19	26,242	-56.1		33	6.5
15	14	28,072	-54.4			
10						
7						
5						

MCGRATH, ALASKA 980 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	13	103	-17.9	-17.0	34	.8
1000	13	-5				
950	13	392	-10.5	-11.8	07	4.6
900	13	803	-6.4	-10.5	10	7.4
850	13	1,251	-6.2	-12.1	12	7.1
800	13	1,724	-7.5	-14.1	14	6.6
750	13	2,221	-10.6	-16.5	15	9.2
700	13	2,751	-14.4	-19.5	15	9.1
650	13	3,305	-18.3	-23.9	16	10.7
600	13	3,902	-22.1	-28.0	16	11.6
550	13	4,531	-26.6	-32.0	16	12.7
500	13	5,218	-31.5	-36.3	17	14.4
450	13	5,947	-37.0	-41.3	17	15.6
400	13	6,760	-43.0		17	15.0
350	13	7,649	-48.8		18	15.6
300	13	8,647	-54.4		18	13.3
250	13	9,808	-55.5		19	14.0
200	13	11,243	-51.5		18	9.9
175	13	12,112	-50.2		19	11.4
150	13	13,124	-48.3		19	10.7
125	13	14,325	-47.8		20	10.0
100	13	15,801	-46.7		21	10.1
80	13	17,284	-46.2		21	9.4
70	13	18,171	-46.1		21	9.5
60	13	19,198	-45.3		22	10.4
50	13	20,416	-45.2		23	9.1
40	13	21,904	-45.5		23	9.8
30	12	23,814	-45.8		25	11.7
25	11	24,997	-47.2		26	13.4
20	11	26,469	-48.8		27	15.5
15	11	28,349	-51.5		27	20.3
10						
7						
5						

+ MAJURO, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	3	28.3	24.5	07	6.7
1000	31	89	27.2	21.4	08	7.5
950	31	534	23.3	17.8	07	11.0
900	31	1,012	20.7	14.2	08	10.6
850	31	1,505	18.1	10.7	09	10.1
800	31	2,023	16.3	5.4	09	9.3
750	31	2,567	13.9	1.0	09	9.2
700	31	3,150	10.8	-2.8	09	9.6
650	31	3,760	7.6	-5.9	09	9.3
600	31	4,419	4.0	-9.8	09	11.2
550	31	5,111	.2	-14.5	09	12.1
500	31	5,881	-4.0	-19.2	08	12.6
450	31	6,697	-8.9	-24.2	08	11.1
400	31	7,609	-14.2	-28.9	09	7.1
350	31	8,610	-20.8	-35.1	08	5.3
300	31	9,732	-28.9	-42.5	12	3.1
250	31	11,010	-38.9	-51.5	15	2.7
200	31	12,500	-51.5		20	2.2
175	31	13,354	-58.6		21	2.3
150	31	14,306	-66.3		21	1.4
125	31	15,399	-74.0		02	2.0
100	31	16,666	-81.3		07	7.6
80	31	17,921	-79.1		08	7.7
70	31	18,690	-74.1		34	1.2
60	31	19,602	-68.3		27	7.8
50	31	20,708	-63.6		27	8.6
40	31	22,090	-60.0		26	4.4
30	29	23,906	-55.6		09	6.4
25	26	25,077	-51.9		09	9.4
20	21	26,529	-49.1		09	12.0
15	9	28,451	-44.8			
10						

• MEDFORD, OREG. 971 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	401	2.7	1.7	22	.4
1000	31	160				
950	31	579	3.8	1.8	19	1.0
900	31	1,017	4.7	-.4	16	3.8
850	31	1,482	3.4	-3.6	19	4.1
800	31	1,973	1.1	-6.5	22	5.6
750	31	2,487	-1.5	-9.8	24	8.2
700	31	3,036	-4.2	-13.9	24	9.8
650	31	3,615	-7.2	-16.7	25	11.5
600	31	4,238	-10.6	-20.6	26	13.8
550	31	4,895	-14.6	-23.8	26	15.0
500	31	5,618	-19.5	-28.7	26	16.2
450	31	6,387	-24.9	-34.0	26	17.9
400	31	7,241	-30.6	-39.8	26	20.6
350	31	8,176	-37.4	-45.2	27	23.1
300	31	9,222	-45.5		27	26.2
250	30	10,419	-53.3		27	30.2
200	30	11,837	-57.8		28	31.9
175	30	12,678	-58.3		28	29.9
150	30	13,650	-57.6		28	24.2
125	30	14,797	-59.1		27	19.3
100	30	16,193	-59.8		28	12.9
80	29	17,586	-59.5		27	8.2
70	29	18,423	-59.2		28	5.7
60	29	19,391	-58.3		29	2.5
50	25	20,551	-57.8		03	2.1
40	24	21,960	-56.5		07	4.4
30	21	23,786	-55.4		07	7.0
25	21	24,950	-55.1		07	7.3
20	19	26,369	-55.0		06	8.5
15	17	28,215	-54.9		05	12.2
10	10	30,842	-53.6		05	13.6

MERIDA, MEXICO 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	11	15.9	15.3	10	1.0
1000	31	135	20.2	17.6	09	2.4
950	31	576	19.0	14.3	11	3.2
900	31	1,042	16.5	11.0	12	1.5
850	31	1,528	14.6	3.5	26	.9
800	31	2,039	12.9	-2.7	28	1.6
750	31	2,582	11.1	-6.7	28	3.0
700	31	3,154	8.9	-11.8	26	3.5
650	31	3,765	5.5	-16.2	25	4.6
600	31	4,413	1.3	-19.6	26	5.1
550	31	5,104	-3.5	-23.8	26	5.9
500	31	5,855	-8.6	-27.8	25	7.9
450	31	6,662	-13.8	-31.8	25	10.1
400	31	7,551	-20.1	-36.9	26	13.5
350	31	8,527	-27.2	-42.3	25	16.7
300	31	9,619	-35.5	-49.3	25	19.3
250	31	10,864	-44.4		25	21.1
200	31	12,325	-54.7		25	21.5
175	31	13,168	-60.2		25	19.7
150	30	14,117	-65.8		25	17.6
125	29	15,213	-70.0		25	16.2
100	23	16,527	-74.6		26	18.6
80	21	17,810	-76.2		27	15.6
70	21	18,583	-74.4		28	10.9
60	21	19,489	-69.5		28	6.0
50	20	20,593	-63.2		26	5.1
40	19	21,983	-56.9		27	7.1
30	19	23,827	-52.1		28	5.2
25	18	25,008	-51.3		28	3.8
20	17	26,465	-48.9		27	5.5
15	16	28,366	-45.2		24	7.1
10	14	31,107	-40.3			

MIAMI, FLA. 1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	4	15.4	12.0	30	.5
1000	31	144	17.4	12.4	34	1.2
950	31	582	15.4	9.0	26	1.2
900	31	1,039	13.3	3.9	26	2.1
850	31	1,519	12.1	-1.4	27	3.8
800	31	2,026	10.8	-4.7	27	6.2
750	31	2,560	9.0	-8.4	27	7.9
700	31	3,131	6.7	-12.0	27	9.6
650	31	3,735	3.8	-14.8	27	12.1
600	31	4,382	-.3	-17.7	27	14.2
550	31	5,070	-4.9	-21.8	27	15.7
500	31	5,816	-10.0	-25.7	27	16.8
450	31	6,616	-15.7	-30.6	27	20.3
400	31	7,499	-22.1	-36.2	27	20.6
350	31	8,468	-29.1	-41.4	27	24.4
300	31	9,552	-37.0	-47.2	27	29.2
250	31	10,791	-45.6		27	31.1
200	31	12,247	-55.3		27	33.7
175	30	13,084	-60.3		27	35.2
150	30	14,034	-65.0		27	31.6
125	30	15,133	-69.0		27	27.3
100	30	16,455	-73.3		27	22.1
80	30	17,756	-74.0		27	16.2
70	30	18,539	-71.6		27	11.0
60	30	19,457	-67.8		27	6.9
50	29	20,567	-63.0		27	4.1
40	29	21,957	-58.2		28	4.6
30	29	23,786	-54.2		28	7.5
25	29	24,960	-52.2		27	9.1
20	29	26,413	-49.4		27	12.1
15	24	28,308	-46.0		26	15.6
10	14	31,063	-40.5			

MONTERREY, MEXICO 967 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	29	423	11.2	8.9	30	2.1
1000	29	138				
950	29	572	13.3	9.4	32	1.5
900	29	1,025	13.7	6.0	29	.7
850	29	1,505	12.0	1.6	24	1.2
800	29	2,012	11.6	-3.9	26	3.6
750	29	2,550	9.2	-7.7	26	5.0
700	29	3,118	6.1	-11.5	26	7.4
650	29	3,722	2.4	-14.4	26	8.5
600	29	4,364	-1.5	-18.2	26	9.7
550	29	5,045	-6.1	-22.9	26	11.2
500	29	5,789	-11.4	-27.0	26	12.6
450	29	6,580	-17.5	-31.5	27	12.9
400	29	7,460	-23.8	-36.2	26	15.9
350	29	8,421	-31.0	-41.7	27	17.8
300	29	9,496	-39.3	-47.8	26	20.4
250	29	10,723	-47.2		26	25.9
200	29	12,172	-55.8		27	25.6
175	29	13,013	-60.3		27	25.0
150	29	13,965	-64.5		27	22.8
125	28	15,066	-69.1		27	19.5
100	27	16,386	-73.3		27	16.7
80	26	17,689	-73.0		27	10.8
70	25	18,473	-71.3		27	7.2
60	25	19,394	-67.2		28	5.4
50	24	20,505	-63.0		29	2.2
40	23	21,893	-60.0		30	2.5
30	21	23,706	-56.3		25	3.6
25	19	24,878	-54.0		27	6.1
20	18	26,320	-51.6		27	8.2
15	17	28,199	-48.7		27	14.1
10	9	30,898	-44.2			

MONTGOMERY, ALA. 1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	57	3.9	.2	25	.6
1000	31	143	5.8	-.8	28	1.8
950	31	565	6.6	-.6	28	3.9
900	31	1,008	6.7	-3.2	28	7.8
850	31	1,477	5.8	-6.7	28	10.2
800	31	1,973	4.6	-8.4	28	12.6
750	31	2,498	3.1	-9.8	28	14.4
700	31	3,055	.9	-14.1	28	16.0
650	31	3,645	-1.5	-17.0	28	18.2
600	31	4,282	-5.0	-20.5	28	20.3
550	31	4,958	-9.3	-25.3	28	22.1
500	31	5,692	-14.2	-29.9	27	23.7
450	31	6,479	-19.5	-34.4	27	26.4
400	31	7,350	-25.8	-39.5	27	29.5
350	31	8,303	-33.0	-46.0	27	31.4
300	31	9,369	-40.9	-50.0	27	35.1
250	31	10,588	-49.1		27	38.5
200	31	12,026	-56.9		27	41.3
175	31	12,866	-60.0		27	39.8
150	31	13,824	-61.5		27	38.0
125	31	14,946	-64.9		27	32.9
100	30	16,299	-66.6		27	24.4
80	29	17,647	-66.4		27	16.4
70	29	18,459	-65.0		28	11.3
60	28	19,402	-63.2		28	8.2
50	28	20,530	-61.0		28	4.5
40	27	21,924	-58.4		30	4.2
30	27	23,742	-56.3		30	4.2
25	27	24,904	-54.9		31	4.3
20	27	26,338	-53.1		29	6.9
15	27	28,200	-50.8		28	14.9
10	11	30,860	-45.4			
7						
5						

• NANTUCKET, MASS. 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	13	1.3	-2.7	33	2.9
1000	31	81			30	1.6
950	31	491	-.9	-4.8	28	2.7
900	31	924	-2.3	-6.6	29	3.8
850	31	1,377	-3.6	-9.0	26	6.0
800	31	1,856	-5.1	-10.6	26	7.3
750	31	2,362	-6.7	-13.0	26	10.0
700	31	2,899	-8.9	-16.0	26	12.2
650	31	3,466	-11.9	-19.5	26	14.0
600	31	4,079	-15.2	-23.1	26	16.5
550	31	4,728	-19.0	-28.6	26	17.2
500	31	5,437	-23.4	-32.8	26	18.8
450	31	6,196	-28.5	-37.9	26	20.5
400	31	7,034	-34.4	-40.6	26	21.9
350	31	7,956	-40.3	-44.7	26	24.9
300	31	8,994	-46.0		26	27.1
250	31	10,193	-50.8		26	29.4
200	30	11,631	-52.6		26	25.6
175	29	12,485	-52.9		26	24.0
150	28	13,469	-53.7		26	22.4
125	28	14,636	-55.5		26	20.1
100	28	16,051	-57.8		26	16.7
80	28	17,456	-58.2		27	11.8
70	27	18,297	-58.7		27	10.2
60	27	19,264	-59.1		27	8.5
50	27	20,406	-59.3		28	7.7
40	25	21,797	-59.9		29	6.4
30	24	23,581	-61.2		30	7.9
25	24	24,712	-61.3		30	9.5
20	24	26,098	-60.7		30	11.5
15	20	27,886	-59.6		28	15.3
10	17	30,464	-55.4		27	26.7
7	11	32,778	-50.6			
5	6	35,025	-41.9			

• NOME, ALASKA 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	11	5	-10.5	-17.5	05	4.7
1000	11	-22				
950	11	377	-9.1	-17.8	08	7.0
900	11	792	-10.3	-17.2	10	5.1
850	11	1,233	-10.6	-18.4	11	4.7
800	11	1,698	-12.3	-21.9	11	4.6
750	11	2,192	-14.3	-24.4	10	5.1
700	11	2,710	-17.0	-28.0	11	4.8
650	11	3,262	-20.7	-30.3	12	5.0
600	11	3,850	-24.6	-34.0	12	5.5
550	11	4,473	-28.8	-38.5	13	6.3
500	11	5,154	-33.7	-41.3	13	7.1
450	11	5,881	-38.9		14	8.2
400	11	6,684	-44.0		14	9.4
350	11	7,570	-49.0		14	10.7
300	11	8,571	-53.2		15	11.7
250	11	9,741	-54.5		16	10.3
200	11	11,173	-53.0		18	10.2
175	11	12,038	-51.0		19	11.8
150	11	13,048	-48.0		19	11.8
125	11	14,254	-46.7		20	12.8
100	11	15,736	-45.6		19	12.4
80	10	17,226	-45.5		19	11.7
70	10	18,116	-45.4		20	12.5
60	10	19,144	-45.1		20	12.3
50	10	20,362	-44.7		21	13.4
40	9	21,859	-43.6			
30	9	23,795	-43.3			
25	9	25,020	-44.0			
20	8	26,467	-47.9			
15	8	28,347	-52.3			
10	7	30,871	-59.2			
7						
5						

NORTH PLATTE, NEBR. 917 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	847	-6.4	-8.1	30	.6
1000	31	161				
950	31	567				
900	31	994	-2.8	-7.5	31	2.1
850	31	1,447	-1.1	-9.2	30	5.1
800	31	1,930	-1.8	-11.4	30	8.1
750	31	2,438	-3.9	-13.9	31	10.3
700	31	2,984	-6.7	-17.0	30	11.6
650	31	3,557	-9.5	-21.3	30	12.9
600	31	4,175	-13.0	-23.9	30	14.0
550	31	4,830	-16.9	-26.8	30	15.3
500	31	5,542	-21.5	-30.6	30	16.8
450	31	6,303	-25.7	-36.4	30	18.4
400	31	7,151	-32.8	-41.0	29	19.8
350	31	8,079	-39.3	-46.5	28	22.0
300	31	9,118	-46.4		29	23.5
250	31	10,311	-52.6		29	24.7
200	31	11,738	-56.8		29	24.4
175	31	12,583	-57.9		29	24.1
150	31	13,554	-57.9		28	21.1
125	31	14,704	-58.1		28	18.4
100	31	16,105	-59.2		29	14.3
80	31	17,501	-59.6		30	9.4
70	31	18,338	-59.4		30	7.3
60	31	19,305	-58.7		31	5.9
50	31	20,452	-58.2		34	4.5
40	31	21,859	-57.4		36	4.7
30	30	23,678	-56.8		02	6.1
25	30	24,831	-57.4		02	7.7
20	27	26,242	-58.0		02	7.9
15	22	28,062	-57.3		01	9.8
10	14	30,654	-55.8			
7	5	32,825	-55.2			
5						

OAKLAND, CALIF. 1019 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.P.S.
SURFACE	31	6	9.9	7.8	14	1.7
1000	31	160	10.6	6.9	15	2.0
950	31	589	9.5	3.5	21	1.9
900	31	1,035	7.9	-.6	24	2.8
850	31	1,505	6.4	-5.2	25	4.6
800	31	2,001	4.3	-9.6	25	5.7
750	31	2,519	1.6	-12.5	26	7.2
700	31	3,077	-1.6	-14.2	26	8.2
650	30	3,664	-5.0	-16.5	27	10.0
600	30	4,291	-8.3	-20.7	27	12.5
550	29	4,958	-12.6	-25.1	28	13.6
500	29	5,683	-17.2	-29.6	28	15.3
450	29	6,465	-22.5	-34.8	28	18.0
400	29	7,322	-28.7	-39.4	28	20.5
350	29	8,264	-35.8	-44.7	29	23.9
300	29	9,319	-43.5		29	27.3
250	29	10,522	-51.8		29	30.0
200	29	11,945	-58.0		28	31.9
175	29	12,782	-59.8		28	29.7
150	29	13,746	-60.0		28	26.1
125	29	14,879	-62.0		28	21.2
100	29	16,253	-63.7		28	15.6
80	29	17,622	-63.6		28	9.3
70	29	18,442	-62.9		29	5.4
60	29	19,396	-61.0		31	2.7
50	29	20,532	-59.6		03	2.9
40	29	21,933	-57.8		07	4.9
30	28	23,754	-56.1		07	6.3
25	28	24,915	-55.3		07	7.3
20	25	26,335	-55.0		07	9.4
15	21	28,166	-55.0		05	6.8
10	7	30,818	-51.9			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1969

OMAHA, NEBR. 969 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	403	-6.4	-8.7	32	1.1
1000	31	155				
950	31	556	-4.8	-7.9	32	2.1
900	31	984	-3.2	-10.0	32	4.5
850	31	1,436	-3.2	-12.5	30	6.8
800	31	1,915	-3.9	-13.5	30	8.7
750	31	2,421	-5.4	-15.4	29	11.0
700	31	2,963	-7.5	-17.0	30	12.4
650	31	3,534	-10.3	-19.7	30	13.6
600	31	4,151	-13.4	-22.6	29	15.4
550	31	4,801	-17.1	-25.8	29	17.2
500	31	5,518	-21.7	-30.6	29	18.6
450	31	6,279	-27.3	-35.5	29	20.0
400	31	7,126	-32.8	-41.3	29	22.1
350	31	8,053	-39.3	-46.8	29	23.9
300	31	9,094	-46.2		29	26.4
250	31	10,289	-52.0		29	30.4
200	31	11,719	-56.0		29	30.5
175	31	12,566	-56.9		28	28.2
150	30	13,540	-56.2		28	24.2
125	30	14,697	-56.5		28	19.9
100	30	16,104	-58.3		29	15.1
80	29	17,502	-59.1		29	10.9
70	29	18,339	-58.9		30	8.1
60	29	19,308	-58.3		31	6.8
50	29	20,458	-57.5		33	5.6
40	29	21,867	-57.6		35	5.2
30	27	23,689	-57.6		01	6.0
25	23	24,846	-57.6		01	7.5
20	23	26,254	-57.9		01	9.9
15	18	28,085	-57.4		01	12.9
10	9	30,649	-56.2			
7						
5						

+ PAGO PAGO, AMERICAN SAMOA 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	28.9	24.4	12	2.5
1000	31	83	27.7	22.1	12	2.7
950	31	530	23.7	18.0	10	3.0
900	31	1,007	20.5	15.0	08	2.1
850	31	1,500	17.7	11.6	05	1.5
800	31	2,017	15.5	6.7	36	1.5
750	31	2,558	13.4	3.0	33	1.2
700	31	3,141	10.4	-.8	31	1.6
650	31	3,751	6.9	-3.9	29	2.3
600	31	4,409	3.0	-8.6	27	2.7
550	31	5,105	-.7	-13.6	29	4.0
500	31	5,865	-4.8	-19.0	26	5.2
450	31	6,682	-9.6	-24.6	26	5.9
400	31	7,589	-15.3	-30.7	26	8.2
350	31	8,584	-22.3	-37.2	26	9.3
300	31	9,698	-30.5	-45.0	27	11.8
250	31	10,968	-40.6	-52.0	26	14.1
200	31	12,449	-52.6		26	16.8
175	31	13,298	-59.3		26	17.8
150	30	14,248	-66.0		26	17.7
125	30	15,335	-73.1		26	16.2
100	30	16,620	-79.6		26	11.2
80	29	17,885	-77.3		26	2.9
70	29	18,661	-71.9		13	1.9
60	28	19,579	-67.2		09	5.8
50	27	20,687	-63.0		08	7.4
40	26	22,072	-59.0		08	7.8
30	22	23,899	-54.6		09	9.8
25	17	25,072	-52.0		10	13.1
20	8	26,538	-48.3			

* PEORIA, ILL. 993 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	200	-4.6	-7.3	36	.8
1000	31	143	-			
950	31	546	-4.4	-7.1	32	2.5
900	31	973	-4.4	-9.0	31	3.5
850	31	1,424	-4.1	-13.1	30	5.5
800	31	1,902	-4.6	-15.7	30	8.3
750	31	2,409	-6.4	-17.3	30	9.6
700	31	2,947	-8.0	-19.2	30	11.0
650	31	3,518	-10.6	-21.8	30	12.7
600	31	4,134	-13.6	-25.2	29	15.1
550	31	4,786	-17.3	-28.2	30	18.1
500	31	5,499	-21.8	-31.7	29	20.8
450	31	6,263	-26.7	-35.7	29	22.6
400	31	7,108	-32.8	-41.2	28	24.8
350	31	8,034	-39.7	-46.0	28	28.3
300	31	9,072	-46.7		28	30.9
250	31	10,263	-52.7		28	33.8
200	31	11,691	-55.8		28	33.7
175	31	12,540	-56.2		28	31.0
150	31	13,518	-56.3		28	28.5
125	31	14,674	-57.3		28	22.6
100	31	16,081	-58.6		28	16.2
80	31	17,478	-59.9		29	12.8
70	31	18,312	-59.6		29	9.1
60	31	19,278	-59.1		29	6.8
50	30	20,422	-58.6		32	5.0
40	30	21,824	-58.8		34	4.4
30	28	23,626	-59.4		35	5.4
25	27	24,769	-59.0		35	6.6
20	26	26,166	-58.8		34	6.4
15	21	27,972	-58.4		31	8.6
10	18	30,552	-56.1		29	12.6
7	12	32,847	-52.1			
5	5	35,145	-46.4			

+ PONAPE, CAROLINE IS. 1004 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	39	28.4	24.1	08	3.6
1000	31	79	27.8	23.2	08	4.3
950	31	526	23.7	19.3	08	7.8
900	31	1,003	20.7	15.4	08	8.9
850	31	1,496	18.5	10.0	08	8.6
800	31	2,015	16.2	6.0	08	8.0
750	31	2,562	13.7	1.5	09	7.4
700	31	3,140	10.4	-1.8	09	8.3
650	31	3,754	6.8	-4.8	09	8.9
600	31	4,407	3.3	-9.4	09	10.2
550	31	5,107	-.6	-13.4	09	10.8
500	31	5,865	-4.7	-17.8	09	10.0
450	31	6,686	-9.4	-23.1	09	9.4
400	31	7,590	-14.7	-29.3	10	9.1
350	31	8,589	-21.2	-36.2	09	7.6
300	31	9,706	-29.5	-44.2	10	6.8
250	31	10,982	-39.8	-53.1	11	6.7
200	31	12,467	-52.2		11	6.9
175	31	13,317	-59.5		11	6.1
150	31	14,264	-67.1		10	6.0
125	31	15,342	-75.5		08	8.0
100	31	16,610	-82.1		08	11.9
80	31	17,864	-77.9		09	6.7
70	31	18,635	-73.5		23	1.2
60	31	19,544	-69.2		27	5.8
50	31	20,644	-64.8		27	6.8
40	30	22,018	-60.3		28	2.6
30	27	23,825	-56.4		09	7.5
25	25	24,989	-53.3		09	10.0
20	23	26,427	-50.5		09	12.5
15	17	28,314	-46.8		09	15.3

PORTLAND, MAINE 1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	20	-3.7	-8.4	35	2.0
1000	31	90			34	2.8
950	31	495	-3.4	-8.1	35	3.6
900	31	922	-4.8	-9.5	35	1.5
850	31	1,371	-6.3	-11.8	26	2.0
800	31	1,845	-7.3	-13.8	28	4.6
750	31	2,340	-8.6	-16.9	27	6.0
700	31	2,879	-11.1	-18.7	27	8.5
650	31	3,439	-13.9	-21.6	27	10.7
600	31	4,049	-17.1	-24.4	27	12.9
550	31	4,690	-21.2	-28.8	26	14.8
500	31	5,394	-25.6	-33.4	26	17.1
450	31	6,145	-30.5	-38.3	26	19.5
400	31	6,980	-36.0	-41.9	26	21.8
350	31	7,897	-41.4	-44.3	26	25.2
300	30	8,936	-46.9		26	27.9
250	30	10,131	-51.3		26	25.3
200	30	11,577	-52.3		26	22.2
175	30	12,440	-52.5		26	21.8
150	30	13,435	-52.9		26	17.3
125	30	14,607	-54.6		26	17.3
100	30	16,029	-57.1		26	13.0
80	30	17,439	-57.6		26	10.5
70	30	18,281	-57.9		27	8.7
60	30	19,252	-58.1		27	7.5
50	30	20,398	-58.9		28	6.5
40	30	21,795	-59.7		30	6.7
30	30	23,590	-60.7		31	8.3
25	29	24,723	-61.0		31	8.9
20	26	26,108	-61.1		30	11.4
15	13	27,892	-60.8			

* QUILLAYUTE, WASH. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	56	5.8	4.5	12	1.4
1000	30	111	5.9	4.0	10	1.9
950	30	527	5.2	2.0	16	6.1
900	30	971	2.9	-.3	18	7.9
850	30	1,432	.3	-3.8	19	8.0
800	30	1,916	-2.3	-7.9	21	8.2
750	30	2,425	-4.8	-11.8	22	8.3
700	30	2,967	-7.7	-16.5	23	9.1
650	30	3,536	-11.0	-18.3	23	9.8
600	30	4,151	-14.8	-21.4	23	11.2
550	30	4,797	-19.0	-24.9	24	12.7
500	30	5,507	-23.9	-29.3	24	13.7
450	29	6,266	-29.5	-34.6	24	15.4
400	29	7,102	-35.3	-40.3	25	17.1
350	29	8,020	-41.4	-44.4	25	20.7
300	29	9,051	-47.9		24	23.2
250	29	10,236	-53.5		25	25.0
200	29	11,661	-55.5		26	24.1
175	29	12,513	-54.6		26	20.1
150	29	13,499	-54.9		26	18.3
125	29	14,664	-55.2		26	15.6
100	29	16,086	-55.6		26	11.9
80	28	17,509	-55.4		27	6.9
70	28	18,360	-55.6		27	5.1
60	27	19,346	-55.2		27	3.0
50	26	20,512	-55.0		35	2.0
40	23	21,946	-53.9		04	3.3
30	21	23,790	-53.8		05	6.5
25	21	24,962	-53.4		05	8.1
20	19	26,400	-53.3		05	9.3
15	17	28,251	-54.3		04	10.6
10	10	30,894	-55.2			
7						
5						

RAPID CITY, S. DAK. 903 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	966	-4.9	-10.0	33	2.7
1000	31	154				
950	31	560				
900	31	989			33	2.8
850	31	1,445	-.9	-9.2	32	7.7
800	31	1,928	-2.6	-11.7	32	9.8
750	31	2,431	-5.1	-14.4	32	11.5
700	31	2,977	-8.1	-17.4	31	12.7
650	31	3,541	-11.2	-21.1	31	13.1
600	31	4,160	-14.8	-24.3	31	12.8
550	31	4,805	-18.7	-28.1	30	15.2
500	31	5,518	-23.2	-32.9	30	16.5
450	31	6,280	-28.2	-37.7	30	17.6
400	31	7,118	-33.9	-41.8	30	18.9
350	31	8,041	-40.3	-46.2	30	20.0
300	31	9,076	-47.6		30	22.0
250	31	10,263	-53.4		29	23.9
200	31	11,687	-56.3		29	23.2
175	31	12,534	-56.6		29	22.5
150	31	13,513	-56.4		29	19.3
125	31	14,670	-56.4		29	15.6
100	30	16,079	-57.4		29	12.4
80	30	17,490	-57.4		30	9.3
70	30	18,333	-57.5		32	6.6
60	30	19,308	-56.9		33	4.9
50	30	20,463	-56.6		35	4.5
40	29	21,878	-56.9		01	6.0
30	29	23,700	-57.0		03	7.4
25	28	24,857	-56.8		03	8.8
20	23	26,284	-56.5		03	10.5
15	13	28,106	-57.4			

ST CLOUD, MINN. 979 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	316	-8.4	-11.7	24	.8
1000	31	147				
950	31	549	-7.2	-9.5	29	2.0
900	31	968	-7.5	-10.9	31	3.5
850	31	1,413	-7.8	-14.1	31	5.0
800	31	1,884	-8.7	-16.0	31	6.7
750	31	2,381	-10.0	-18.2	31	8.0
700	31	2,913	-12.0	-20.4	31	9.5
650	31	3,477	-14.3	-23.2	31	10.7
600	31	4,082	-17.2	-26.6	31	12.0
550	31	4,726	-20.8	-28.8	30	13.4
500	31	5,428	-25.5	-33.2	30	14.8
450	31	6,180	-30.6	-39.0	30	16.5
400	31	7,013	-36.0	-43.8	30	19.1
350	31	7,927	-42.4	-47.4	30	21.3
300	31	8,953	-48.8		29	23.5
250	31	10,138	-53.0		29	22.2
200	31	11,570	-54.2		29	21.6
175	31	12,426	-54.1		29	19.7
150	31	13,415	-53.6		29	18.7
125	31	14,586	-54.2		30	15.9
100	31	16,013	-55.5		30	12.6
80	31	17,431	-56.2		30	10.0
70	31	18,279	-56.0		31	8.1
60	31	19,259	-56.0		33	6.4
50	31	20,417	-56.0		34	6.1
40	30	21,833	-56.6		36	6.4
30	30	23,652	-57.8		01	7.7
25	26	24,795	-58.9		01	9.7
20	21	26,181	-60.0		36	13.0
15	13	27,972	-60.3		36	18.3

* ST PAUL IS., ALASKA 988 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	10	-1.1	-3.2	04	3.5
1000	31	-90				
950	31	322	-2.1	-4.8	03	4.0
900	31	746	-5.3	-6.9	04	2.7
850	31	1,193	-8.1	-10.4	05	1.7
800	31	1,662	-10.7	-15.5	06	1.3
750	31	2,155	-13.5	-19.8	05	1.1
700	31	2,677	-16.9	-23.7	04	.7
650	31	3,229	-20.6	-27.6	15	.7
600	31	3,817	-24.5	-31.7	17	1.8
550	31	4,440	-28.9	-35.7	17	2.5
500	31	5,120	-33.7	-39.7	16	3.0
450	31	5,850	-38.8	-42.6	16	3.6
400	31	6,651	-44.4		16	3.9
350	31	7,534	-50.2		17	4.5
300	31	8,530	-53.9		17	7.4
250	31	9,701	-53.1		17	8.5
200	31	11,152	-49.3		19	8.9
175	31	12,029	-48.1		19	8.9
150	31	13,048	-46.9		19	9.0
125	31	14,259	-45.6		20	9.8
100	31	15,751	-44.3		20	9.7
80	31	17,246	-44.1		20	9.3
70	31	18,142	-43.9		20	8.7
60	31	19,177	-44.1		20	9.1
50	31	20,400	-44.3		20	7.8
40	31	21,896	-44.0		19	7.8
30	31	23,830	-43.5		18	7.6
25	31	25,057	-43.7		18	7.6
20	31	26,553	-44.8		18	6.2
15	31	28,473	-45.8		19	4.2
10	30	31,152	-47.8		27	4.6
7	27	33,515	-48.5		29	9.0
5	13	35,795	-47.5			

SALEM, OREG. 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	61	4.2	2.7	17	1.5
1000	31	138	4.5	2.9	18	1.5
950	31	554	6.2	2.2	19	5.2
900	31	1,000	4.5	-.9	21	6.9
850	31	1,464	2.1	-3.4	22	7.6
800	31	1,951	-.4	-6.6	23	8.4
750	31	2,463	-3.2	-10.8	24	9.7
700	31	3,008	-5.9	-15.8	24	10.0
650	30	3,580	-9.2	-19.8	24	10.5
600	30	4,199	-12.9	-23.7	24	11.4
550	30	4,851	-17.0	-27.3	25	11.7
500	30	5,566	-21.6	-30.4	26	13.6
450	30	6,330	-26.8	-35.8	26	16.1
400	30	7,175	-32.7	-40.1	26	19.2
350	30	8,101	-39.4	-45.0	26	20.7
300	30	9,139	-46.7		26	22.3
250	30	10,328	-53.8		28	26.9
200	30	11,747	-56.9		28	23.1
175	29	12,589	-56.8		28	21.7
150	29	13,568	-56.4		28	19.0
125	29	14,724	-56.8		28	16.3
100	29	16,134	-57.7		28	10.5
80	29	17,542	-57.3		28	6.4
70	29	18,387	-57.2		28	3.8
60	28	19,361	-57.0		31	2.4
50	27	20,522	-56.1		03	1.9
40	25	21,942	-55.2		06	4.9
30	23	23,792	-54.5		06	6.2
25	20	24,961	-54.5		06	8.2
20	18	26,393	-54.8		05	9.5
15	12	28,226	-54.8			
10	6	30,850	-54.3			

SAN JUAN, P. R. 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	6	22.8	18.9	14	1.1
1000	31	131	23.1	18.9	11	3.2
950	31	576	20.5	16.0	08	5.0
900	31	1,044	17.4	13.5	08	4.8
850	31	1,530	14.5	9.7	07	5.0
800	31	2,041	12.8	4.1	06	4.0
750	31	2,585	11.0	-1.9	06	3.5
700	31	3,156	8.5	-5.8	05	2.6
650	31	3,759	5.5	-10.0	02	1.6
600	31	4,415	1.6	-14.2	36	2.0
550	31	5,106	-2.5	-19.5	33	3.4
500	31	5,860	-7.1	-24.4	32	4.4
450	31	6,669	-12.3	-29.3	30	6.5
400	31	7,564	-18.3	-35.0	29	8.7
350	31	8,546	-25.4	-41.1	29	12.3
300	31	9,646	-33.7	-48.0	29	15.2
250	31	10,897	-43.5		28	19.0
200	31	12,361	-54.8		28	23.0
175	31	13,202	-61.1		27	23.8
150	31	14,145	-66.9		27	23.9
125	31	15,232	-71.8		28	20.4
100	31	16,532	-76.7		29	14.6
80	31	17,809	-77.3		30	8.5
70	30	18,578	-74.9		30	5.7
60	30	19,483	-70.2		29	3.0
50	30	20,587	-62.6		29	2.1
40	30	21,982	-57.4		02	1.3
30	30	23,820	-53.3		09	3.3
25	30	25,001	-50.7		09	4.6
20	27	26,459	-48.2		10	4.9
15	20	28,36[illegible]	-45.4		12	4.7
10	9	31,053	-42.8			
7						
5						

SAN NICOLAS, CALIF. 997 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	174	12.4	9.3	31	4.6
1000	30	149				
950	30	582	13.8	.4	33	5.2
900	30	1,036	11.9	-4.8	32	4.2
850	30	1,512	9.8	-9.0	32	4.3
800	30	2,014	7.7	-11.3	32	5.4
750	30	2,542	5.0	-12.3	31	5.9
700	30	3,102	2.3	-18.6	31	7.3
650	30	3,697	-1.1	-21.7	30	8.4
600	30	4,330	-4.7	-25.1	30	10.2
550	30	5,009	-9.4	-28.1	29	12.2
500	30	5,738	-14.5	-29.5	29	13.5
450	30	6,528	-20.3	-33.6	28	14.3
400	30	7,389	-26.9	-40.1	28	16.0
350	30	8,338	-34.1	-46.2	29	17.9
300	30	9,399	-42.1	-53.0	29	19.7
250	30	10,611	-50.1	-61.1	29	22.8
200	30	12,046	-56.2	-65.8	29	24.6
175	30	12,888	-59.2	-68.3	29	24.2
150	30	13,847	-62.2		29	24.9
125	30	14,966	-64.7		28	22.5
100	30	16,320	-67.2		28	14.9
80	30	17,664	-67.2		29	9.2
70	30	18,472	-65.7		30	6.9
60	30	19,414	-63.4		34	2.2
50	30	20,541	-60.8		04	2.2
40	30	21,937	-58.4		07	4.6
30	29	23,758	-55.8		07	5.8
25	29	24,922	-54.8		07	5.5
20	29	26,353	-53.4		06	6.1
15	28	28,217	-51.8		04	4.1
10	21	30,876	-48.5		35	3.4
7	11	33,240	-44.3			

* SAULT STE MARIE, MICH. 989 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	221	-7.4	-11.1	06	1.1
1000	31	131				
950	31	531	-7.8	-11.3	03	.6
900	31	949	-9.4	-11.8	30	1.7
850	31	1,390	-10.6	-14.7	30	3.0
800	31	1,855	-12.2	-16.6	31	4.3
750	31	2,348	-13.6	-18.7	31	5.3
700	31	2,870	-15.7	-22.0	30	6.3
650	31	3,426	-17.9	-25.3	30	7.5
600	31	4,023	-20.4	-28.5	30	9.0
550	31	4,661	-23.5	-30.9	29	10.5
500	31	5,355	-27.5	-34.5	29	12.6
450	31	6,099	-32.4	-39.0	29	14.8
400	31	6,928	-38.4	-43.4	29	16.5
350	31	7,834	-44.0		28	18.6
300	31	8,856	-49.4		28	19.9
250	31	10,040	-52.6		29	19.3
200	31	11,482	-52.0		28	18.9
175	31	12,347	-51.6		28	17.6
150	31	13,348	-51.6		28	16.2
125	31	14,528	-52.7		28	15.2
100	31	15,963	-54.0		28	11.7
80	31	17,390	-55.6		29	9.2
70	31	18,241	-55.3		29	7.1
60	30	19,226	-55.6		30	6.0
50	30	20,385	-56.6		32	6.2
40	30	21,797	-57.4		32	6.5
30	30	23,611	-58.4		33	7.7
25	30	24,754	-59.6		34	8.4
20	29	26,142	-60.6		34	11.6
15	28	27,927	-61.4		34	13.1
10	26	30,439	-60.9		32	16.1
7	26	32,670	-58.1		30	22.5
5	13	34,773	-55.2			

* SHEMYA, ALASKA 988 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	38	-.8	-5.3	31	1.8
1000	31	-62				
950	31	347	-2.8	-7.4	30	3.1
900	31	772	-6.4	-8.8	29	3.3
850	31	1,216	-9.8	-11.8	28	3.7
800	31	1,682	-13.1	-17.3	27	3.3
750	31	2,168	-16.6	-22.6	27	3.0
700	31	2,686	-19.8	-26.0	25	3.9
650	31	3,227	-23.6	-29.6	25	5.1
600	31	3,811	-27.6	-34.2	26	5.2
550	31	4,425	-31.9	-38.8	27	6.0
500	31	5,099	-36.6	-42.7	26	8.1
450	31	5,819	-41.8	-44.7	26	9.2
400	31	6,612	-47.2		26	9.4
350	31	7,487	-51.9		26	10.7
300	31	8,478	-54.8		25	12.3
250	29	9,647	-53.1		25	10.9
200	29	11,097	-49.9		25	12.6
175	28	11,977	-49.1		25	13.1
150	28	12,991	-48.3		24	14.5
125	28	14,196	-46.9		24	14.2
100	28	15,680	-45.9		24	13.4
80	27	17,168	-45.2		23	12.3
70	27	18,062	-44.7		23	10.8
60	27	19,092	-45.2		22	10.6
50	27	20,310	-45.1		22	9.5
40	26	21,809	-45.5		20	7.0
30	26	23,729	-44.8		18	7.6
25	26	24,951	-44.2		17	7.4
20	23	26,448	-43.8		17	7.8
15	20	28,397	-43.9		14	6.7
10	15	31,121	-44.5		14	4.0
7	7	33,476	-44.7			

* SHREVEPORT, LA. 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point †	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	79	5.7	3.1	02	.9
1000	31	139			12	.4
950	31	570	8.2	2.7	25	2.1
900	31	1,010	7.8	1.2	27	5.9
850	31	1,480	6.3	-2.2	28	7.6
800	31	1,976	4.1	-5.1	29	9.3
750	31	2,500	2.1	-9.4	28	10.9
700	31	3,055	.1	-11.7	28	12.4
650	31	3,644	-2.3	-14.9	28	14.5
600	31	4,279	-5.6	-18.6	27	17.0
550	31	4,950	-9.8	-22.7	27	18.9
500	31	5,686	-14.8	-27.7	27	21.3
450	31	6,471	-19.9	-32.8	27	23.9
400	31	7,341	-26.1	-38.3	27	26.1
350	31	8,293	-33.5	-44.6	27	25.4
300	31	9,357	-41.6	-49.4	27	27.7
250	31	10,571	-49.7		27	33.7
200	31	12,007	-56.8		27	37.5
175	31	12,847	-60.2		27	36.2
150	31	13,803	-62.4		27	33.9
125	31	14,921	-65.5		27	30.4
100	31	16,273	-67.4		28	23.4
80	31	17,617	-67.0		27	15.4
70	30	18,426	-66.0		27	10.8
60	30	19,365	-64.2		28	7.8
50	30	20,487	-61.7		30	4.5
40	29	21,873	-59.9		32	2.2
30	29	23,678	-57.8		35	3.4
25	28	24,830	-57.0		33	2.9
20	26	26,249	-55.2		31	4.7
15	24	28,099	-53.1		29	10.3
10	22	30,737	-48.2		28	19.6
7	19	33,116	-43.4		27	30.5
5	6	35,425	-39.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1969

SPOKANE, WASH. 934 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	720	-2.1	-3.5	13	.6
1000	31	168				
950	31	578				
900	31	1,010	-1.9	-2.8	18	2.1
850	31	1,465	-2.2	-5.8	22	4.3
800	31	1,946	-3.8	-8.6	25	5.4
750	31	2,452	-5.6	-11.0	26	6.4
700	31	2,993	-8.2	-15.9	27	8.3
650	31	3,561	-11.3	-19.5	27	9.5
600	31	4,175	-15.0	-23.5	28	11.5
550	31	4,825	-19.1	-27.6	28	12.9
500	31	5,531	-23.5	-32.3	28	13.8
450	31	6,289	-28.6	-36.8	28	14.2
400	31	7,129	-34.4	-40.9	28	16.9
350	31	8,050	-41.2	-44.4	27	20.2
300	31	9,082	-48.0		28	22.7
250	31	10,267	-54.2		28	24.4
200	31	11,686	-56.9		28	23.4
175	30	12,538	-55.2		29	19.8
150	30	13,523	-54.9		28	16.5
125	30	14,689	-55.1		28	14.0
100	30	16,111	-56.2		29	10.9
80	30	17,531	-55.7		29	6.7
70	30	18,381	-55.8		30	4.8
60	30	19,364	-54.9		32	2.9
50	30	20,530	-54.7		01	3.1
40	30	21,959	-54.3		04	4.9
30	30	23,805	-53.8		04	7.1
25	30	24,976	-54.0		04	8.0
20	29	26,415	-54.3		05	10.7
15	23	28,254	-55.8		04	12.2
10	10	30,858	-56.2			
7						

* SWAN ISLAND, W. I. 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	10	25.4	20.1	08	4.2
1000	31	121	24.5	19.7	05	5.5
950	31	572	21.1	16.9	05	5.8
900	31	1,037	17.9	13.9	06	4.1
850	31	1,525	15.1	10.0	06	2.5
800	31	2,038	13.3	3.0	08	1.9
750	31	2,582	12.1	-3.9	10	1.9
700	31	3,156	9.7	-8.8	12	2.2
650	31	3,765	6.2	-12.0	13	2.4
600	31	4,419	2.4	-16.9	14	1.9
550	31	5,109	-1.8	-21.7	19	1.7
500	31	5,869	-7.0	-25.1	22	2.0
450	31	6,680	-12.5	-29.2	26	3.8
400	31	7,572	-18.4	-34.1	26	7.6
350	31	8,555	-25.3	-40.1	26	11.1
300	31	9,656	-33.7	-46.7	25	14.6
250	31	10,907	-43.9		24	16.5
200	31	12,365	-56.0		24	19.3
175	31	13,202	-62.4		24	19.5
150	30	14,140	-67.8		25	18.3
125	29	15,223	-72.2		26	15.2
100	28	16,522	-77.0		26	11.3
80	27	17,797	-77.9		27	5.6
70	27	18,564	-76.0		28	4.6
60	27	19,462	-71.7		29	4.8
50	27	20,559	-63.9		28	3.8
40	27	21,946	-58.8		29	1.9
30	27	23,770	-54.5		08	1.5
25	26	24,943	-52.1		08	2.9
20	26	26,394	-49.8		09	3.3
15	22	28,288	-46.3		10	5.3
10	15	30,991	-42.5		12	5.2
7	5	33,341	-40.5			

TAMPA, FLA. 1016 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	8	11.4	9.3	03	1.4
1000	31	145	13.6	8.1	03	1.7
950	31	580	12.3	5.3	30	3.1
900	31	1,030	10.8	1.5	27	5.6
850	31	1,506	10.1	-4.0	27	7.7
800	31	2,009	8.9	-8.0	27	9.7
750	31	2,543	7.2	-11.1	27	11.1
700	31	3,107	4.7	-14.0	27	12.7
650	31	3,707	1.6	-16.5	27	14.8
600	31	4,347	-2.2	-19.6	27	16.4
550	31	5,029	-6.9	-23.3	27	18.3
500	31	5,770	-11.7	-27.2	27	20.9
450	31	6,567	-17.2	-31.7	27	23.4
400	31	7,441	-23.8	-37.3	27	24.5
350	31	8,403	-30.8	-42.8	27	28.3
300	31	9,479	-38.5	-47.3	27	32.3
250	31	10,710	-46.8		27	33.6
200	31	12,157	-56.1		26	37.4
175	31	12,997	-60.4		26	37.7
150	31	13,948	-64.4		27	37.2
125	31	15,051	-68.2		27	31.9
100	31	16,377	-71.7		27	24.8
80	31	17,689	-72.2		27	17.9
70	31	18,479	-70.1		27	12.7
60	31	19,403	-67.0		27	7.9
50	31	20,514	-63.5		28	4.6
40	31	21,897	-59.6		27	4.7
30	31	23,714	-55.6		28	5.4
25	30	24,876	-54.1		28	9.1
20	28	26,314	-52.1		27	12.7
15	22	28,190	-48.5		27	18.6
10	5	30,831	-43.0			
7						

TOPEKA, KANS. 986 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	268	-3.3	-5.7	34	.8
1000	31	156				
950	31	563	-2.0	-6.5	35	2.0
900	31	994	-.5	-8.5	32	3.4
850	31	1,451	-.8	-10.2	31	5.9
800	31	1,935	-1.9	-11.9	30	8.2
750	31	2,445	-3.8	-14.0	30	10.0
700	31	2,990	-6.0	-16.0	30	12.0
650	31	3,565	-8.9	-18.1	29	13.4
600	31	4,184	-12.2	-21.1	29	16.0
550	31	4,841	-15.9	-26.4	29	18.0
500	31	5,557	-20.4	-31.1	29	20.1
450	31	6,326	-25.6	-35.7	28	21.9
400	31	7,174	-31.8	-40.9	28	23.1
350	31	8,105	-38.6	-46.2	28	25.5
300	31	9,148	-45.7		28	28.7
250	31	10,345	-52.1		28	29.6
200	31	11,773	-56.7		28	30.1
175	31	12,617	-57.8		28	30.1
150	31	13,586	-58.6		28	27.8
125	31	14,730	-59.7		28	22.9
100	31	16,123	-60.9		29	17.9
80	30	17,508	-61.6		30	11.5
70	30	18,336	-60.8		30	8.7
60	30	19,296	-60.2		31	6.3
50	29	20,437	-59.4		34	4.5
40	28	21,839	-58.5		01	4.8
30	26	23,644	-58.3		02	5.6
25	24	24,793	-58.2		01	5.9
20	20	26,206	-58.2		01	7.8
15	17	28,037	-57.4		36	8.7
10	5	30,531	-57.7			
7						

* TRUK, CAROLINE IS. 1010 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	2	28.7	24.5	06	3.4
1000	31	88	27.7	22.9	06	4.4
950	31	537	23.9	18.8	08	6.8
900	31	1,014	21.0	14.7	08	7.6
850	31	1,507	18.5	10.5	08	7.2
800	31	2,026	16.2	6.3	09	7.0
750	31	2,572	13.6	2.2	09	7.2
700	31	3,152	10.6	-2.1	09	8.0
650	31	3,766	7.4	-6.3	09	9.0
600	31	4,421	3.5	-10.8	09	9.2
550	31	5,118	-.5	-14.5	10	8.1
500	31	5,879	-4.6	-19.6	09	8.9
450	31	6,695	-9.2	-24.8	09	10.0
400	31	7,604	-14.7	-30.8	09	8.7
350	31	8,602	-21.[illegible]	-37.2	09	8.2
300	31	9,722	-29.5	-44.7	09	7.4
250	31	10,996	-39.[illegible]	-53.7	10	7.5
200	31	12,480	-52.2		10	8.3
175	31	13,330	-59.4		10	8.0
150	30	14,277	-67.3		09	8.4
125	30	15,354	-75.5		09	10.4
100	30	16,622	-82.1		09	13.4
80	30	17,877	-78.1		09	7.5
70	30	18,649	-73.1		34	.9
60	30	19,561	-68.8		28	5.7
50	29	20,665	-64.3		27	6.0
40	29	22,045	-59.8		29	2.0
30	29	23,861	-56.1		10	6.7
25	29	25,020	-53.6		10	9.6
20	26	26,476	-50.0		09	13.0
15	23	28,368	-46.3		09	15.1
10	9	31,100	-40.0			
7						

* TUCSON, ARIZ. 925 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	789	6.4	.6	14	2.9
1000	31	147				
950	31	572				
900	31	1,020	11.3	.5	14	3.1
850	31	1,495	9.2	-3.1	17	1.3
800	31	1,995	6.3	-6.7	25	1.4
750	31	2,520	3.5	-10.6	28	2.7
700	31	3,079	.3	-15.0	27	5.2
650	31	3,667	-3.0	-18.6	27	7.6
600	31	4,300	-6.8	-22.0	27	9.3
550	31	4,964	-11.3	-26.5	28	10.5
500	31	5,699	-16.2	-30.8	29	11.8
450	31	6,474	-21.8	-35.8	28	13.6
400	31	7,342	-28.1	-41.2	29	16.5
350	31	8,288	-34.9	-46.6	29	18.9
300	31	9,346	-42.6		29	20.7
250	31	10,558	-49.5		29	23.4
200	29	12,015	-55.7		28	25.9
175	29	12,860	-58.4		28	26.7
150	29	13,823	-60.9		28	27.0
125	27	14,956	-64.7		28	23.5
100	27	16,306	-68.2		28	16.8
80	26	17,640	-67.8		28	11.9
70	26	18,443	-67.4		29	7.7
60	26	19,377	-64.5		31	3.0
50	26	20,500	-61.4		36	1.9
40	26	21,892	-59.1		04	2.1
30	25	23,703	-57.0		06	4.7
25	25	24,860	-55.6		05	4.8
20	25	26,286	-54.4		04	4.5
15	24	28,140	-52.1		35	4.4
10	15	30,779	-49.9		32	8.0
7	9	33,149	-44.5			

* VANDENBERG AFB, CALIF. 1007 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	100	8.6	6.3	08	1.7
1000	31	160	10.3	6.0	07	1.9
950	31	590	11.1	1.5	36	3.5
900	31	1,040	9.8	-2.4	35	3.4
850	31	1,513	7.9	-5.9	33	3.5
800	31	2,011	6.0	-9.2	31	4.1
750	31	2,532	3.6	-12.0	31	6.0
700	31	3,094	.6	-15.7	30	7.4
650	31	3,679	-2.5	-19.6	30	9.4
600	31	4,317	-6.0	-22.6	30	11.9
550	31	4,985	-10.3	-25.1	29	12.1
500	31	5,720	-15.3	-28.9	29	14.1
450	31	6,500	-20.8	-33.6	28	16.0
400	31	7,367	-27.2	-39.5	29	17.4
350	31	8,316	-34.1	-44.4	29	19.8
300	31	9,377	-42.3	-48.1	30	22.3
250	31	10,586	-50.7		30	24.0
200	31	12,015	-57.5		30	25.8
175	31	12,854	-59.9		29	24.3
150	31	13,812	-61.9		29	23.6
125	30	14,932	-64.5		28	19.5
100	30	16,288	-67.0		29	14.2
80	29	17,632	-66.3		29	8.0
70	28	18,440	-64.8		30	6.0
60	27	19,383	-62.8		33	2.8
50	27	20,511	-60.9		02	2.8
40	26	21,902	-58.8		04	5.0
30	25	23,717	-56.6		06	5.2
25	24	24,877	-55.0		08	7.7
20	24	26,306	-54.0		07	7.4
15	22	28,155	-52.2		06	6.8
10	20	30,777	-50.2		33	4.2
7	9	33,090	-47.4			

VICTORIA, TEXAS 1012 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	33	11.4	10.2	36	.4
1000	31	134	13.3	9.2	20	.4
950	31	564	13.1	5.9	21	3.5
900	31	1,021	11.5	3.4	24	4.5
850	31	1,498	9.7	-1.2	26	5.9
800	31	2,000	7.9	-6.4	26	6.9
750	31	2,528	6.0	-10.7	27	8.2
700	31	3,094	4.0	-15.1	27	10.2
650	31	3,690	.9	-16.4	26	12.5
600	31	4,332	-3.0	-19.7	27	14.2
550	31	5,010	-7.2	-23.3	26	16.2
500	31	5,752	-12.3	-27.3	26	18.9
450	31	6,541	-18.3	-33.2	26	20.1
400	31	7,418	-24.7	-38.9	26	22.1
350	31	8,376	-31.8	-44.8	26	23.9
300	31	9,448	-40.0	-49.9	26	26.4
250	31	10,669	-48.5		26	31.9
200	31	12,112	-56.1		26	33.6
175	31	12,953	-59.9		27	33.3
150	31	13,908	-63.3		26	31.7
125	31	15,017	-67.6		27	27.9
100	30	16,351	-70.7		27	20.7
80	28	17,671	-70.4		28	13.6
70	27	18,465	-69.0		28	9.5
60	27	19,390	-66.8		29	5.9
50	27	20,501	-63.0		28	2.8
40	27	21,884	-59.7		31	2.1
30	26	23,694	-57.3		29	2.2
25	23	24,856	-55.4		29	4.0
20	23	26,283	-54.0		29	6.7
15	19	28,147	-51.1		28	13.0
10	14	30,804	-46.8		27	18.5
7	6	33,191	-42.3			

* WAKE IS., PACIFIC AREA 1016 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	5	25.9	22.1	08	7.4
1000	31	142	24.3	19.5	08	8.9
950	31	585	20.8	17.8	08	10.1
900	31	1,056	17.5	14.8	08	9.4
850	31	1,544	15.2	10.1	09	8.5
800	31	2,057	13.9	3.0	09	7.9
750	31	2,599	12.4	-4.1	09	7.5
700	31	3,176	10.1	-8.2	09	5.8
650	31	3,786	6.9	-11.0	08	4.8
600	31	4,443	3.5	-15.6	07	4.0
550	31	5,140	-.7	-20.3	07	3.2
500	31	5,899	-5.2	-24.7	06	2.9
450	31	6,712	-10.7	-29.4	05	2.1
400	31	7,613	-17.1	-34.7	03	1.8
350	31	8,601	-24.0	-40.6	02	2.3
300	31	9,708	-32.3	-47.2	36	3.7
250	31	10,968	-42.2		33	4.3
200	31	12,439	-53.6		32	5.4
175	31	13,286	-59.6		31	5.5
150	31	14,236	-66.4		32	4.5
125	31	15,320	-73.6		32	3.9
100	30	16,602	-79.9		35	1.8
80	25	17,853	-82.3		12	1.0
70	23	18,610	-80.0		12	1.9
60	22	19,494	-73.6		10	2.1
50	20	20,578	-66.9		09	2.0
40	19	21,948	-60.6		16	.9
30	19	23,765	-55.4		33	1.7
25	18	24,932	-53.1		35	3.0
20	17	26,382	-50.4		04	1.4
15	11	28,272	-47.3		02	3.3
10	7	30,973	-44.5			
7						

* WALLOPS IS., VA. NASA 1013 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	4	1.3	-2.1	29	3.7
1000	31	104	1.8	-2.9	30	4.8
950	31	518	1.2	-4.6	29	6.3
900	31	952	-.2	-7.2	29	6.8
850	31	1,409	-1.4	-8.6	29	7.4
800	31	1,892	-2.5	-11.8	28	9.1
750	31	2,401	-4.3	-14.0	27	11.3
700	31	2,944	-6.7	-16.0	27	13.3
650	31	3,517	-9.1	-19.9	27	16.4
600	31	4,137	-11.9	-23.8	27	18.8
550	31	4,793	-16.0	-26.2	27	20.2
500	31	5,510	-20.5	-30.6	27	22.7
450	31	6,279	-25.1	-35.2	27	25.9
400	31	7,130	-30.8	-40.4	27	28.1
350	31	8,066	-37.0	-44.2	28	31.0
300	31	9,117	-44.0	-48.4	27	33.8
250	31	10,323	-49.8		27	36.2
200	31	11,768	-53.9		27	37.5
175	31	12,624	-55.0		27	36.5
150	31	13,606	-56.1		28	32.1
125	31	14,760	-58.1		27	26.4
100	30	16,151	-60.0		27	22.6
80	29	17,537	-60.5		27	16.1
70	29	18,369	-60.0		27	10.8
60	29	19,332	-59.4		27	8.3
50	29	20,473	-59.1		29	6.7
40	29	21,874	-58.4		30	5.6
30	28	23,684	-58.3		30	6.0
25	28	24,831	-58.0		29	6.7
20	28	26,239	-56.9		29	8.1
15	22	28,074	-54.6		28	13.2
10	15	30,699	-48.8		28	22.1
7	9	33,064	-42.1			

WASHINGTON DULLES INT. AP 1005 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	30	85	-2.3	-6.4	32	2.6
1000	30	121			33	3.3
950	30	534	-2.2	-7.5	32	7.3
900	30	959	-3.0	-8.5	30	8.3
850	30	1,411	-3.5	-9.8	30	8.3
800	30	1,890	-4.7	-11.9	29	10.0
750	30	2,404	-6.1	-14.4	28	11.5
700	30	2,935	-7.9	-15.7	28	13.1
650	30	3,511	-10.2	-19.3	28	15.0
600	30	4,123	-13.4	-22.4	28	16.7
550	30	4,784	-16.9	-26.3	27	18.4
500	30	5,491	-21.1	-31.0	27	21.0
450	30	6,258	-26.1	-35.2	27	24.8
400	30	7,104	-31.9	-40.8	27	28.0
350	30	8,035	-38.7	-44.9	27	30.7
300	30	9,079	-44.9		27	34.7
250	29	10,275	-50.5		27	38.1
200	28	11,722	-54.0		27	39.1
175	28	12,577	-55.1		27	36.4
150	28	13,559	-56.4		27	33.4
125	28	14,713	-57.7		27	25.9
100	26	16,100	-58.9		27	20.0
80	26	17,497	-59.6		27	15.6
70	26	18,332	-59.7		28	11.7
60	26	19,297	-59.1		28	8.8
50	24	20,442	-58.7		29	6.6
40	24	21,844	-58.6		31	5.3
30	24	23,654	-58.6		31	6.8
25	23	24,798	-58.8		30	7.2
20	22	26,200	-58.5		31	9.4
15	19	28,017	-56.4		29	15.9
10	18	30,610	-52.1		28	25.9
7	8	32,919	-48.6			

WAYCROSS, GA. 1012 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	44	4.4	1.7	29	1.3
1000	31	137	6.5	.4	29	2.3
950	31	558	7.1	-1.2	29	4.6
900	31	1,004	7.0	-5.4	27	7.4
850	31	1,474	6.9	-6.7	27	9.6
800	31	1,971	5.7	-7.6	27	12.2
750	31	2,498	4.0	-9.7	27	14.3
700	31	3,057	1.9	-11.4	27	16.8
650	31	3,648	-.9	-14.9	27	18.8
600	31	4,287	-4.3	-18.5	27	20.7
550	31	4,962	-8.5	-22.4	27	23.0
500	31	5,700	-13.6	-26.4	27	24.0
450	31	6,484	-19.2	-31.5	27	26.9
400	31	7,360	-25.6	-37.3	27	27.7
350	31	8,314	-32.4	-42.6	27	29.8
300	31	9,383	-40.3	-45.7	27	32.4
250	31	10,604	-48.5		27	37.0
200	31	12,043	-56.8		27	41.7
175	31	12,882	-60.2		27	43.1
150	31	13,838	-62.4		27	40.2
125	31	14,953	-65.7		27	33.3
100	31	16,299	-68.6		27	24.9
80	31	17,633	-68.9		27	18.1
70	31	18,434	-67.3		27	12.6
60	31	19,369	-65.0		27	7.9
50	30	20,486	-62.2		28	4.7
40	30	21,874	-59.6		29	3.2
30	29	23,683	-57.0		29	2.7
25	28	24,840	-55.7		29	5.2
20	25	26,264	-53.9		27	10.5
15	22	28,113	-51.5		27	13.8
10	13	30,769	-45.8			
7						

WINNEMUCCA, NEV. 871 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,312	-4.3	-8.0	17	1.2
1000	31	210				
950	31	619				
900	31	1,056				
850	31	1,509	1.5	-6.5	17	2.1
800	31	1,997	.5	-8.8	22	3.8
750	31	2,512	-2.1	-11.2	25	5.5
700	31	3,059	-5.0	-14.3	26	7.2
650	31	3,638	-7.6	-17.4	27	9.2
600	31	4,258	-11.0	-20.7	28	11.4
550	31	4,918	-15.2	-23.7	28	12.5
500	31	5,636	-20.2	-28.1	28	13.8
450	31	6,405	-25.4	-34.1	28	15.6
400	31	7,254	-31.1	-39.9	28	18.9
350	31	8,188	-37.7	-44.1	29	22.3
300	31	9,234	-45.5		29	22.6
250	31	10,428	-53.0		28	25.6
200	31	11,848	-57.6		28	27.4
175	31	12,689	-58.5		28	24.8
150	31	13,656	-58.9		29	22.5
125	31	14,799	-59.9		29	19.4
100	31	16,188	-60.9		29	13.5
80	31	17,574	-60.8		29	7.9
70	31	18,404	-60.6		30	5.0
60	31	19,367	-59.2		34	2.4
50	31	20,513	-58.0		02	2.1
40	31	21,924	-56.6		06	4.1
30	29	23,753	-55.6		04	7.2
25	29	24,916	-55.1		06	8.2
20	28	26,344	-54.5		05	9.0
15	20	28,177	-54.6		05	10.9
10	5	30,970	-48.9			
7						

WINSLOW, ARIZ. 852 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	1,487	-2.2	-6.5	25	.7
1000	31	192				
950	31	604				
900	31	1,041				
850	31	1,505			20	.8
800	31	1,994	3.1	-6.4	27	2.8
750	31	2,513	1.3	-8.9	27	3.7
700	31	3,068	-1.9	-11.9	28	5.4
650	31	3,649	-5.3	-15.2	29	6.7
600	31	4,279	-8.7	-20.0	29	8.2
550	31	4,943	-12.7	-24.3	29	9.8
500	31	5,670	-17.8	-28.4	29	12.7
450	31	6,445	-23.2	-33.5	29	14.8
400	31	7,304	-29.1	-38.7	29	18.2
350	31	8,246	-35.8	-44.2	29	21.5
300	31	9,300	-43.5	-48.3	29	21.2
250	31	10,507	-50.5		29	24.3
200	31	11,943	-55.9		29	25.3
175	31	12,788	-58.4		28	25.6
150	31	13,754	-60.1		28	25.6
125	31	14,886	-62.6		28	21.8
100	31	16,252	-65.4		28	16.7
80	31	17,607	-65.8		28	11.1
70	31	18,419	-64.8		29	7.2
60	31	19,363	-63.4		31	3.8
50	31	20,489	-61.2		36	1.4
40	29	21,881	-59.3		05	2.5
30	29	23,691	-57.4		06	4.7
25	26	24,846	-56.3		07	5.6
20	25	26,275	-54.8		06	6.4
15	22	28,119	-54.3		04	5.8
10	11	30,722	-5[illegible].2			
7						

YAKUTAT, ALASKA 999 MB

Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SURFACE	31	12	1.4	-1.2	11	3.5
1000	31	6			12	4.5
950	31	419	2.8	-2.6	12	8.6
900	31	857	-.1	-4.2	13	10.2
850	31	1,313	-3.0	-6.8	14	11.2
800	31	1,791	-6.1	-9.9	15	10.6
750	31	2,295	-9.1	-13.4	16	9.6
700	31	2,824	-12.4	-17.6	17	9.4
650	31	3,386	-15.9	-21.8	17	10.4
600	31	3,985	-19.9	-25.3	18	11.6
550	31	4,619	-24.2	-30.6	18	12.4
500	31	5,314	-28.9	-34.8	19	13.0
450	31	6,055	-34.4	-38.5	20	13.1
400	31	6,874	-40.6	-42.0	20	14.0
350	31	7,771	-46.8		20	15.3
300	31	8,780	-52.0		20	13.2
250	31	9,953	-53.7		20	10.6
200	31	11,395	-51.5		21	9.0
175	31	12,253	-50.8		21	9.4
150	31	13,269	-49.7		22	10.5
125	31	14,466	-48.3		22	9.8
100	31	15,938	-48.3		22	8.1
80	31	17,409	-48.0		22	7.6
70	31	18,289	-47.9		23	6.5
60	31	19,337	-47.7		23	5.8
50	31	20,510	-47.8		25	4.8
40	30	21,982	-47.7		26	4.7
30	27	23,855	-48.0		29	4.6
25	27	25,086	-48.0		31	4.1
20	26	26,551	-49.6		33	6.6
15	22	28,419	-52.1		34	8.1
10	9	31,053	-58.0			
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	YAP, CAROLINE IS. + 1008 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.	YUCCA FLAT, NEV. 883 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.	YUMA, ARIZ. 1000 MB: No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind: Direction	Resultant Wind: Speed M.p.s.
SURFACE	31	14	28.3	24.6	10	2.6	31	1,198	-3.2	-8.7	32	1.3	22	131	8.4	1.6	03	.7
1000	31	86	27.2	23.1	09	3.5	31	201					22	133				
950	31	530	23.3	18.6	09	6.6	31	611					22	563	13.8	.3	36	2.1
900	31	1,010	20.5	15.0	09	7.4	31	1,047					22	1,018	11.8	-2.7	36	2.5
850	31	1,503	18.2	11.1	09	7.4	31	1,508	4.8	-8.3	36	3.6	22	1,494	9.1	-6.2	35	2.1
800	31	2,021	15.9	6.4	09	7.4	31	2,001	2.8	-10.2	01	1.9	22	1,993	6.5	-9.9	31	2.6
750	31	2,561	13.4	1.5	09	7.8	31	2,520	1.2	-12.8	29	1.5	22	2,518	4.2	-14.9	29	3.5
700	31	3,145	10.4	-3.0	09	8.4	31	3,074	-1.1	-15.6	30	4.5	22	3,079	1.1	-17.0	29	4.6
650	31	3,755	7.2	-7.0	09	8.9	31	3,656	-4.7	-18.7	30	5.8	22	3,667	-2.1	-19.4	29	7.3
600	31	4,413	3.5	-10.0	09	9.4	31	4,287	-8.5	-23.1	30	7.6	22	4,303	-5.8	-21.9	29	8.9
550	31	5,108	-.6	-14.2	09	9.1	31	4,948	-12.7	-26.4	29	11.6	22	4,972	-10.3	-25.1	29	10.3
500	31	5,870	-4.6	-19.6	09	8.4	31	5,679	-17.4	-30.5	29	15.3	22	5,707	-15.6	-29.5	29	11.8
450	31	6,686	-9.5	-23.9	10	8.7	31	6,451	-22.8	-35.0	29	16.2	22	6,485	-21.6	-34.5	29	13.1
400	31	7,594	-15.0	-29.7	09	9.2	31	7,315	-29.0	-40.3	29	19.6	22	7,350	-27.6	-41.6	29	16.5
350	31	8,590	-21.7	-36.6	09	9.6	31	8,256	-35.7	-45.2	29	20.9	22	8,296	-34.9	-45.2	29	16.3
300	30	9,705	-30.2	-44.4	10	9.8	31	9,311	-43.3	-50.1	28	20.7	21	9,354	-42.9		29	18.4
250	30	10,975	-40.3	-52.9	10	10.7	31	10,516	-51.1		28	24.6	20	10,564	-51.4		28	21.0
200	30	12,456	-52.8		10	12.2	31	11,945	-56.8		29	28.4	10	11,918	-58.0			
175	30	13,303	-60.0		10	13.2	30	12,792	-58.9		29	24.8						
150	30	14,248	-67.5		11	12.8	30	13,756	-60.1		29	23.1						
125	30	15,324	-75.6		10	12.6	30	14,889	-61.6		29	20.2						
100	30	16,591	-82.5		10	13.3	29	16,264	-63.7		29	14.1						
80	30	17,845	-77.9		10	8.5	27	17,631	-63.3		28	9.5						
70	30	18,616	-73.8		06	1.9	26	18,450	-62.6		30	6.4						
60	30	19,525	-69.2		30	2.7	26	19,404	-60.8		35	2.8						
50	30	20,627	-64.5		28	3.4	26	20,543	-59.1		05	3.6						
40	29	22,007	-59.5		12	.6	26	21,946	-57.8		07	4.3						
30	29	23,829	-55.0		10	6.7	25	23,771	-55.8		07	7.0						
25	28	25,000	-52.6		10	9.8	25	24,934	-54.8		07	8.0						
20	27	26,452	-50.1		10	11.4	23	26,366	-53.8		06	9.2						
15	24	28,357	-46.4		09	13.4	17	28,226	-52.2		06	8.1						
10	13	31,085	-39.7		09	13.8	8	30,875	-50.2									

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G. C. T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Dec									
1-----	1.07	1.17	1.27	1.42	1.40	1.36	1.17	1.07	0.97
6-----	.87	1.01	1.14	1.30	----	----	----	----	----
8-----	----	----	1.28	1.41	1.44	1.42	----	----	----
10----	1.09	1.20	1.31	1.47	1.48	1.46	1.34	1.22	1.12
11----	1.05	1.15	1.27	1.37	1.35	1.30	1.23	1.14	1.03
12----	----	----	----	1.37	1.41	1.36	1.20	1.15	----
13----	----	----	1.30	1.43	1.46	1.44	----	----	----
14----	1.07	1.17	1.28	1.32	1.44	1.40	1.28	1.14	1.08
15----	1.14	1.22	1.33	1.47	----	----	----	----	----
20----	1.00	1.00	----	----	1.37	1.31	1.24	1.13	1.01
21----	.99	1.12	1.22	1.38	1.41	1.40	----	----	----
22----	----	----	----	----	----	----	----	1.02	.95
23----	----	----	----	----	----	----	----	----	1.03
24----	.91	1.02	1.16	----	1.36	----	1.22	1.10	.99
25----	1.05	1.17	1.28	1.41	1.43	1.40	1.25	1.13	1.00
26----	1.07	1.16	1.27	1.41	1.43	1.39	----	----	----
27----	----	1.14	1.27	1.45	----	----	1.27	----	----
31----	----	----	1.25	1.42	1.41	1.37	1.26	1.16	1.06
Averages	1.03	1.13	1.26	1.40	1.41	1.39	1.25	1.13	1.02
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Dec.									
1-----	0.95	1.03	1.10	----	1.24	----	1.18	1.02	0.86
2-----	.99	1.07	1.19	----	----	----	----	----	----
3-----	----	1.04	1.19	----	1.24	----	H 1.10	----	HS .92
7-----	1.10	----	----	----	----	----	----	----	----
18----	HS .92	1.03	1.16	----	----	----	----	----	----
25----	----	----	1.10	----	----	----	HS1.06	HS .93	HS .71
31----	----	----	----	----	2.48	----	----	----	----
Averages	0.99	1.04	1.15	----	1.24	----	1.11	0.96	0.83

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Dec.									
1-----	----	----	----	----	----	1.30	----	----	----
11----	0.98	1.00	1.19	1.39	1.41	1.37	1.22	1.09	0.98
12----	.92	1.08	1.19	1.31	1.41	1.34	1.20	1.07	.97
13----	----	1.07	1.18	1.29	1.39	1.33	1.22	1.09	.98
14----	.98	1.09	1.23	1.37	1.38	1.33	1.18	1.04	.93
15----	1.02	1.11	1.24	1.37	1.42	1.35	1.16	1.02	.93
16----	.91	----	----	1.31	----	----	----	----	----
18----	.84	.47	1.10	1.25	1.28	1.30	1.03	.89	.77
19----	.91	1.00	1.10	1.29	1.35	1.24	1.08	.94	.86
20----	.81	.90	1.00	1.17	1.20	1.19	.97	.84	.76
21----	.86	.96	1.10	1.24	1.30	1.25	1.10	1.00	.88
22----	.84	.95	1.06	1.23	1.28	1.26	1.10	.92	.85
23----	.87	.95	----	----	1.31	1.25	1.04	----	----
24----	.95	1.03	1.17	1.29	1.32	----	1.14	----	.93
25----	.97	1.10	1.20	1.34	1.39	1.32	1.18	1.08	.95
26----	.97	1.07	1.18	1.32	----	----	----	----	----
27----	.90	1.00	1.14	1.31	1.32	1.27	----	----	----
29----	.77	----	----	----	----	1.25	----	----	----
30----	----	.91	1.05	----	----	1.32	1.09	1.00	.91
31----	.95	1.03	1.18	1.35	1.40	1.34	1.20	1.06	.97
Averages	0.91	1.01	1.14	1.30	1.34	1.29	1.13	1.00	0.90
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Dec.									
1-----	----	----	----	----	----	----	S 1.21	S 1.08	S 0.97
4-----	S 0.88	S 0.99	S 1.12	----	S 1.22	----	----	----	----
Averages	0.88	0.99	1.12	----	1.22	----	1.21	1.08	0.97

H Haze
S Slight haze - indeterminable
HS Slight haze

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	298	268	139	[illegible]	---	[illegible]	125	275	159	292	278	278	290	278	285	272	253	[illegible]	214	[illegible]	[illegible]	198	255	246	275	244	290	108	169	275	---	[illegible]
AMES IOWA	188	174	134	[illegible]	42	18	83	193	92	---	218	161	179	83	171	83	24	132	136	72	62	59	176	67	176	218	48	78	99	121	102	[illegible]
ANNETTE ALASKA	[illegible]	4	5	64	8	6	2	33	25	39	4	12	8	16	53	73	44	12	52	25	37	52	30	47	40	61	21	29	27	[illegible]	18	31
APALACHICOLA FLORIDA	363	[illegible]	354	368	347	124	317	306	33	177	328	357	352	246	310	265	342	322	318	289	54	349	[illegible]	320	[illegible]	358	359	349	225	299	187	284
ARGONNE NAT. LAB.	195	149	157	218	206	71	27	128	117	169	65	202	122	144	143	139	77	52	58	[illegible]	49	134	82	207	74	160	126	55	92	120	186	[illegible]
ASTORIA OREGON	157	132	152	120	69	9	69	84	29	18	---	102	5	38	137	25	10	102	13	16	82	7	15	70	52	15	15	79	32	74	62	[illegible]
ATLANTA GEORGIA	316	324	317	235	231	41	163	40	135	46	170	159	294	303	239	280	293	221	276	241	26	42	74	268	19	300	308	221	167	27	64	174
BETHEL ALASKA	2	10	11	10	0	1	2	2	5	2	20	9	1	1	34	19	6	3	12	5	9	19	12	24	4	11	1	4	8	5	4	8
BISMARCK N.DAK.	183	133	177	149	33	77	141	95	97	94	163	113	164	75	74	164	104	66	163	83	87	81	102	168	154	105	96	140	161	93	171	[illegible]
BOISE IDAHO	188	186	195	167	205	51	50	42	---	83	15	32	71	72	119	85	62	119	38	50	49	104	51	137	59	51	194	192	129	217	104	[illegible]
BROWNSVILLE TEXAS	157	375	--	160	100	335	377	204	234	370	360	355	307	345	362	341	247	---	328	297	--	314	289	327	334	361	315	209	45	314	102	279
BURLINGTON VERMONT	---		--	--	--	---	---	---	--	---	---	---	- -	---	---	74	77	108	52	95	93	20	147	189	145	16	38	70	190	80	85	---
CAPE HATTERAS N.C.	302	301	230	298	308	229	52	153	77	51	73	246*	244	119	289	277	259	276	278	291	263	94	283	247	160	49	294	296	239	241	270	219*
CARIBOU MAINE	191	84	179	34	112	141	179	63	29	69	22	29	102	68	60	67	88	173	68	93	176	40	169	181	204	60	26	84	130	161	181	106
CHARLESTON S.C.	323	326	298	--	305	83	36	114	49	119	226	286	---	198	---	307	295	286	269	[illegible]	194	175	298	291	---	225	314	307	302	188	269	237
CLEVELAND OHIO	51	148	69	123	82	105	50	49	195	50	53	65	76	14	48	112	102	19	63	93	73	[illegible]	86	163	68	44	164	112	81	84	75	83
COLUMBIA MISSOURI	263	261	265	250	91	[illegible]	91	278	155	90	181	175	170	228	148	228	183	177	190	168	45	107	107	79	127	236	99	42	41	61	117	151
DAVIS CALIFORNIA	233	215	199	222	204	184	206	66	200	104	60	36	143	113	133	61	99	53	25	29	75	96	56	25	206	225	230	233	228	226	221	142
DODGE CITY KANSAS	272	273	215	40	28	112	---	91	89	28	265	216	222	240	119	235	121	257	237	68	[illegible]	137	126	178	266	128	55	204	104	291	282	174
E. LANSING MICHIGAN	198	98	93	136	59	178	59	79	134	94	92	87	37	34	100	123	134	---	117	---	---	148	85	176	78	91	250	72	69	122	193	112
EL CENTRO CALIF. NPF	239	239	141	200	181	280	302	291	296	292	298	299	298	298	296	223	265	257	257	264	266	285	270	262	262	285	208	259	305	306	310	266
EL PASO TEXAS	344	258	96	253	205	351	238	340	236	257	333	330	330	331	326	337	264	257	326	314	329	330	269	326	315	334	349	156	166	272	361	288
ELY NEVADA	267	269	178	222	281	86	111	112	189	238	155	225	254	185	195	154	262	173	128	47	223	244	138	124	225	178	259	240	247	276	287	199
EPPLEY NEWPORT R.I.	59	216	132	206	206	219	184	22	79	40	66	190	145	75	60	145	124	141	109	174	184	---	178	83	181	7	39	118	203	40	28	122
FAIRBANKS ALASKA	1[illegible]	4	8	6	4	9	10	16	8	5	16	4	10	4	4	2	[illegible]	4	4	9	10	15	7	4	11	7	3	4	2	6	4	7
FLAMING GORGE UTAH	264	265*	155	74	131	201	245	264*	69	170	226	167	207	235	220	140	[illegible]	226	165	201	118	235	---	112	215	158	185	141	229	---	152	189*
FORT WORTH TEXAS	327	325	291	107	31	59	300	311	153	271	318	308	306	304	301	255	122	---	--	61	304	303	285	186	287	310	50*	36	---	119	323	226*
FRESNO CALIFORNIA	226	209	203	185	188	161	160	80	128	200	185	225	230	208	165	150	193	161	23	142	63	79	159	121	85	195	123	153	242	258	249	166
GAINESVILLE FLORIDA	352	342	332	348	339	142	167	298	16	177	408	335	356	320	336	200	316	307	260	310	259	220	335	232	233	336	350	328	345	228	200	282
GENEVA NEW YORK	73	137	127	135	177	181	52	25	110	71	77	52	113	26	65	154	117	60	89	142	123	70	81	154	88	36	116	198	188	68	69	102
GLASGOW MONTANA	168	154	150	93	25	48	68	88	---	92	146	128	137	117	140	180	126	103	129	54	24	102	138	154	156	105	78	117	72	144	45	109
GRAND JUNCTION COLO.	279	266	144	41	182	233	228	250	---	168	---	---	---	---	---	---	---	---	---	---	---	---	---	127	143	54	224	256	255	235	220	---
GREAT FALLS MONTANA	188	169	179	85	100	183	138	96	108	159	121	110	96	108	84	105	125	55	156	85	65	154	162	71	171	86	58	175	92	168	99	121
GREENSBORO N.C.	185	279	264	287	254	80	14	64	42	15	201	130	249	210	251	252	240	227	259	250	140	209	151	204	61	220	262	253	129	39	260	183
INDIANAPOLIS INDIANA	172	232	170	186	166	56	22	138	150	86	54	115	125	52	205	190	195	11	47	167	37	102	49	229	96	133	152	63	59	88	101	117
ITHACA NEW YORK	59	88	169	108	131	155	160	65	52	98	56	57	93	96	39	39	126	111	69	74	133	161	62	87	---	---	---	---	---	---	---	95
LAKE CHARLES LA.	277	341	325	327	24	94	135	240	76	217	377	363	346	---	---	---	---	---	---	---	---	---	---	130	---	343	134	52	88	---	103	---
LAKELAND FLORIDA	397	382	392	400	392	294	60	364	33	235	381	382	390	385	295	214	353	378	318	245	309	311	367	355	350	372	402	372	370	262	256	323
LANDER WYOMING	235	227	204	101	140	218	226	249	176	206	204	172	173	124	156	182	157	113	133	149	158	190	144	173	204	185	145	196	191	224	112	176
LARAMIE WYOMING	234	227	190	79	116	234	210	213	157	111	211	111	210	200	179	183	198	188	72	130	49	143	77	99	208	123	179	214	240	148	121	163
LAS VEGAS NEVADA	196	276	211	296	304	197	274	125	264	279	---	---	290	379	---	206	271	232	159	251	271	263	150	250	274	275	---	283	---	---	---	249
LEXINGTON KENTUCKY	232	270	186	251	220	105	23	192	171	22	15	237	213	30	182	228	221	25	212	198	26	118	22	195	67	112	200	84	15	22	45	134
LITTLE ROCK ARKANSAS	314	293	292	268	177	13	89	268	230	190	259	263	240	265	256	241	159	134	243	50	33	170	275	165	94	264	96	18	37	35	60	177
LOS ANGELES CALIF.	229	250	258	241	230	219	240	108	228	263	249	290	261	251	252	145	162	99	72	155	164	204	153	196	101	297	293	296	275	267	273	217
LOS ANGELES CALIF. U	227	235	269	250	244	245	245	105	220	265	266	312	291	270	232	171	164	111	85	219	148	138	182	184	184	310	310	309	283	287	---	225
MADISON WISCONSIN	217	142	163	213	121	49	55	172	145	44	107	163	155	115	212	130	95	101	134	203	108	164	151	160	99	163	154	74	128	160	191	138
MANHATTAN KANSAS	235	244	241	167	34	79	250	156	57	56	98	221	156	214	199	51	48	226	194	---	---	45	224	66	186	59	17	194	77	84	81	137
MATANUSKA ALASKA	9	15	19	16	7	6	20	8	11	12	34	33	11	9	7	11	36	12	6	15	31	9	10	15	12	7	9	9	---	16	13	14
MEDFORD OREGON	207	200	80	70	71	133	184	123	125	119	41	28	148	120	95	72	61	131	47	27	90	57	71	76	121	87	151	110	35	30	32	95
MIAMI FLORIDA	439*	419	403	401	364	268	237	176	330	152	399	414	430	404	397	375	345	355	303	362	241	343	388	394	407	384	431	419	431	242	354	355*
MIDLAND TEXAS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	217	255	318	316	275	310	327	331	263	---	---	338	343	---
NASHVILLE TENNESSEE	270	272	265	277	131	47	21	204	---	57	14	76	248	250	101	238	230	48	245	217	21	39	21	89	32	187	254	24	9	16	25	131
NEW YORK N.Y. U	74	228	143	185	221	219	60	32	127	43	69	172	152	16	119	182	192	90	142	202	162	7	98	144	158	14	97	221	206	20	13	123
NORTH OMAHA NEBRASKA	223	218	228	206	25	65	207	220	107	127	156	222	195	153	223	89	58	198	170	109	82	39	189	173	229	204	62	188	145	203	144	157
OAK RIDGE TENNESSEE	291	293	302	290	174	94	103	57	154	37	55	89	255	203	128	275	258	87	252	230	39	59	36	155	44	77	190	88	68	25	36	143

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
[illegible]	[illegible]	[illegible]	[illegible]	61	[illegible]	[illegible]	245	[illegible]	32	[illegible]	273	[illegible]	247	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	138	[illegible]	167	118	[illegible]	[illegible]	[illegible]	144	[illegible]	94	[illegible]	171	[illegible]	169
PHOENIX ARIZONA	[illegible]	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	88	242	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	177	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PORTLAND MAINE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	182	[illegible]	[illegible]	[illegible]	[illegible]	169	[illegible]	171	80	170	[illegible]	[illegible]	128	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	198	[illegible]	[illegible]	[illegible]
[illegible] WASHINGTON	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28	47	[illegible]	[illegible]	48	153	25	44	[illegible]	[illegible]	[illegible]	48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	98	[illegible]	41	[illegible]	[illegible]
RAPID CITY S.DAK.	[illegible]	[illegible]	[illegible]	118	[illegible]	174	138	114	155	[illegible]	199	108	[illegible]	[illegible]	[illegible]	181	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	49	[illegible]	205	[illegible]	135	[illegible]	[illegible]
RENO NEVADA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	146	178	180	[illegible]	138	220	[illegible]	[illegible]	[illegible]	[illegible]	149	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	212	[illegible]	248	[illegible]	[illegible]
[illegible] WASH.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]	[illegible]	[illegible]	158	28	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	148	[illegible]	[illegible]	[illegible]	[illegible]	86	[illegible]	[illegible]	[illegible]	[illegible]
RIVERSIDE CALIFORNIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	324	[illegible]	[illegible]	[illegible]	219	218	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	241	[illegible]	[illegible]	316	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	184	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	288	[illegible]	[illegible]	[illegible]	[illegible]	216	117	[illegible]	[illegible]	49	[illegible]	[illegible]	[illegible]	[illegible]	256	[illegible]	54	[illegible]	[illegible]	[illegible]	[illegible]
SAINT CLOUD MINN.	174	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	77	143	139	66	110	[illegible]	141	58	[illegible]	[illegible]	147	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	67	[illegible]	[illegible]	[illegible]	[illegible]
SALT LAKE CITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	184	[illegible]	[illegible]	[illegible]	[illegible]	180	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	269	[illegible]	[illegible]	[illegible]	[illegible]
SAN ANTONIO TEXAS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	280	313	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SANTA MARIA CALIF.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	---	291	[illegible]	280	[illegible]	171	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	284	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] MICH.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	34	[illegible]	74	[illegible]	42	[illegible]	88	147	[illegible]	[illegible]	48	64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	155	[illegible]	85	149	[illegible]	[illegible]
[illegible] WASH.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]
[illegible] WASHINGTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84	[illegible]	75	[illegible]	[illegible]	47	[illegible]	[illegible]	132	[illegible]	[illegible]	28	[illegible]	41	16	[illegible]	88	44	[illegible]	56	[illegible]	66	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] VIRGINIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	189	[illegible]	220	141	[illegible]	207	[illegible]	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81	178	[illegible]	243	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] P.R.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	378	[illegible]	187	[illegible]	259	347	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	401	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] FLORIDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	182	[illegible]	[illegible]	[illegible]	202	309	287	[illegible]	[illegible]	264	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] FLORIDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	265	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] ARIZONA	[illegible]	[illegible]	[illegible]	44	[illegible]	31	[illegible]	[illegible]	[illegible]	174	[illegible]	310	308	[illegible]	308	280	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	174	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	448	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	304	287	409	399	[illegible]	325	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	185	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Note.--Langley is the unit used to denote one gram calorie per square centimeter.

Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a. m.) at Palmer, Alaska

DECEMBER 1969

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-73	-54	-64	-65	-53	-76	-104	-97	-91	-134	-120	-87	-25	-24	-33	-94	-126	-81	-97	-159	-141	-158	-32	-93	-42	-44	-14	-32	-19	-59	-38	72

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 A) Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	5.92	5.62	6.31	5.92	2.27	1.28	2.36	7.20	4.34	7.00	7.00	6.71	6.81	4.44	6.21	3.94	2.07	5.03	5.13	3.94	3.55	3.25	7.00	3.65	6.71	7.50	3.15	1.34	5.32	6.21	5.32	5.01

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code $\lambda s \Omega \Omega \Omega$ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3

Data will be delayed

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\Omega \Omega \Omega$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. DELAYED DATA

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
AUGUST 1968																																
INYOKERN CALIFORNIA	[illegible]	665	689	675	649	617	552	623	609	533	625	438	613	653	637	620	636	617	630	630	637	626	624	596	618	442	603	597	586	574	574	[illegible]
SEPTEMBER 1968																																
INYOKERN CALIFORNIA	562	572	568	568	558	554	558	552	543	553	---	---	---	544	541	544	543	533	546	552	546	593	595	[illegible]	590	595	584	[illegible]	581	524		[illegible]
OCTOBER 1968																																
INYOKERN CALIFORNIA	372	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	316	377	377	374	[illegible]	356	241	---
NOVEMBER 1968																																
INYOKERN CALIFORNIA	[illegible]	315	393	356	351	312	270	328	329	328	294	237	307	273	[illegible]	279	278	301	309	306	305	300	299	---	---	307	262	[illegible]	288	247		[illegible]
DECEMBER 1968																																
INYOKERN CALIFORNIA	286	[illegible]	[illegible]	[illegible]	291	277	267	---	211	233	278	268	211	---	208	272	281	[illegible]	267	[illegible]	---	263	[illegible]	[illegible]	74	259	217	[illegible]	277	278	272	241
WAKE ISLAND W.I.	441	412	442	[illegible]	411	382	314	174	92	362	423	404	354	224	385	391	440	266	407	410	428	197	315	391	135	391	361	425	238	280	396	346
JANUARY 1969																																
INYOKERN CALIFORNIA	[illegible]	228	249	264	264	283	292	[illegible]	165	282	277	232	132	148	293	270	296	145	175	294	276	[illegible]	245	73	147	212	346	287	354	336	[illegible]	[illegible]
FEBRUARY 1969																																
INYOKERN CALIFORNIA	346	[illegible]	304	[illegible]	[illegible]	204	361	375	361	[illegible]	227	259	396	295	198	[illegible]	369	74	251	376	418	331	67	137	253	---	412	241				[illegible]
MARCH 1969																																
INYOKERN CALIFORNIA	[illegible]	[illegible]	471	475	475	456	[illegible]	495	264	245	517	---	238	541	537	505	524	486	527	[illegible]	[illegible]	538	542	567	580	572	566	576	570	559	[illegible]	484
APRIL 1969																																
INYOKERN CALIFORNIA	570	565	593	[illegible]	323	621	605	616	395	584	602	576	632	631	621	637	631	635	644	[illegible]	632	625	662	673	670	679	662	665	657	667		611
LEXINGTON KENTUCKY	---	56	394	[illegible]	168	551	581	547	164	309	594	611	389	109	258	581	[illegible]	317	148	662	[illegible]	[illegible]	197	556	648	642	656	[illegible]	157	--		[illegible]
PULLMAN WASHINGTON	356	374	337	343	239	58	435	532	516	95	509	380	498	439	555	551	[illegible]	501	[illegible]	388	[illegible]	510	62	375	588	634	612	[illegible]	[illegible]	278		[illegible]
MAY 1969																																
DAVIS CALIFORNIA	681	674	581	670	708	707	693	668	662	667	674	708	741	690	727	719	718	746	768	750	722	713	[illegible]	[illegible]	771	665	765	762	741	[illegible]	[illegible]	711
GENEVA NEW YORK	632	571	406	601	655	607	274	217	141	367	247	376	398	529	656	632	[illegible]	---	180	413	659	249	226	[illegible]	[illegible]	[illegible]	682	531	585	668	662	[illegible]
INYOKERN CALIFORNIA	---	---	---	---	---	---	---	661	669	575	583	668	607	731	694	698	673	706	689	680	697	660	696	693	715	716	713	[illegible]	697	[illegible]	677	[illegible]
LEXINGTON KENTUCKY	576	628	[illegible]	[illegible]	554	570	517	287	[illegible]	385	433	643	622	281	666	447	432	237	450	575	426	472	[illegible]	[illegible]	542	616	697	693	666	621	[illegible]	[illegible]
PULLMAN WASHINGTON	155	247	308*	521*	638	500*	431*	507*	428*	637	532*	661	357	183*	347*	367*	535*	628	122	338	693	529*	676	359	[illegible]*	327*	288*	625	275	330*	[illegible]*	441*
RICHLAND U NW WASH.	157	[illegible]	538	656	667	693	692	699	670	692	683	684	475	548	725	383	704	447	273	697	716	721	665	373	581	335	734	474	[illegible]	[illegible]	736	[illegible]
JUNE 1969																																
DAVIS CALIFORNIA	695	720	725*	[illegible]*	704	742	593	286	237	536	322*	716*	695	716	734	732	722	672	697	733	702	702	695	788	740	774	774	784	798	767		[illegible]
E. LANSING MICHIGAN	433	298	199	395	[illegible]	348	603	188	779	762	555	593	361	385	492	732	---	---	316	336	---	---	---	---	--	--	575	609	[illegible]	543	3[illegible]1	471
FLAMING GORGE UTAH	746	622	653	681	635	343	450	485	623	484	666	479	361	640	309	179	252	569	437	---	---	---	---	---	---	299	474	665	761	747	[illegible]	[illegible]
GENEVA NEW YORK	523	289	179	[illegible]	390	144	560	256	710	712	588	562	374	397	76	668	642	---	386	113	703	540	116	792	419	434	614	622	---	---		[illegible]
INYOKERN CALIFORNIA	670	704	689	673	701	701	675	706	560	716	---	---	570	---	399	428	519	694	[illegible]	693	---	680	673	729	742	743	--	729	726	726		[illegible]
LEXINGTON KENTUCKY	594	278	752	594	692	660	618	663	268	382	521	575	518	269	175	744	689	225	[illegible]	513	324	318	273	[illegible]	637	664	636	539	629	519		[illegible]
LOS ANGELES CALIF. U	168	207	402	378	281	356	200	497	541	146	115	267	618	365	237	---	323	591	567	[illegible]	442	184	358	154	335	497	511	641	[illegible]	[illegible]		387
PAGE ARIZONA	---	---	--	--	---	---	---	826	830	702	601	595	824	777	553	514	576	798	813	[illegible]	794	771	441	658	---	862	825	828	891	[illegible]		[illegible]
PROSSER WASHINGTON	749	714	740	735	414	704	668	590	640	668	778	655	655	759	742	714	704	649	636	735	678	454	266	[illegible]	622	691	463	774	678	[illegible]		[illegible]
PULLMAN WASHINGTON	473*	450*	684	701	440	665	664	678	653	591	718	533	736	723	717	723	627	606	597	651	676	[illegible]	266	[illegible]	---	---	---	---	---	---		[illegible]*
RICHLAND U NW WASH.	743	728	737	727	457	599	634	667	433	663	763	676	737	713	715	742	695	655	660	736	655	497	217	[illegible]	[illegible]	529	386	[illegible]	635	720		[illegible]
TALLAHASSEE FLORIDA	633	651	606	618	251	596	682	594	545	505	634	509	431	555	529	516	605	664	594	431	524	621	562	514	540	511	498	[illegible]	556	[illegible]		[illegible]

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION TOTALS

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

DELAYED DATA

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
JULY 1969																																
DAVIS CALIFORNIA	765	[illegible]	765	714	726	748	724	724	741	727	716	751	737	745	735	742	734	[illegible]	73[illegible]	711	720	694	689	722	734	[illegible]	729	725	741	734	[illegible]	[illegible]
GENEVA NEW YORK	---	554	597	476	474	680	657	695	678	274	484	391	538	556	628	598	[illegible]	246	385	[illegible]	5[illegible]4	58[illegible]	531	452	348	491	160	[illegible]	[illegible]	[illegible]	294	488
INYOKERN CALIFORNIA	72[illegible]	710	723	719	701	698	697	685	692	693	618	669	689	683	---	692	[illegible]	[illegible]	[illegible]	[illegible]	---	539	609	646	662	668	[illegible]	41[illegible]	61[illegible]	624	56[illegible]	[illegible]
LEXINGTON KENTUCKY	445	49[illegible]	574	66[illegible]	647	407	553	369	435	183	362	673	418	648	568	585	57[illegible]	57[illegible]	[illegible]	[illegible]	[illegible]	244	431	526	[illegible]	63[illegible]	464	549	355	651	[illegible]	[illegible]
PULLMAN WASHINGTON	7[illegible]8	378	288	479*	644	55[illegible]	556*	697	318*	559*	735*	610	701	724	705	688	666	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SEATTLE WASH. UNIV.	618	276	198	292	[illegible]	386	380	511	642	167	323	423	503	579	658	485	[illegible]	[illegible]	[illegible]	187	[illegible]	[illegible]	623	6[illegible]9	340	626	615	[illegible]	624	588	517	46[illegible]
TALLAHASSEE FLORIDA	500	49[illegible]	487	61[illegible]	40[illegible]	464	594	42[illegible]	499	513	585	338	621	564	467	[illegible]	[illegible]	[illegible]	45[illegible]	364	77	345	571	155	258	377	371	---	379	388	475	[illegible]
AUGUST 1969																																
BLUE HILL MASS.	461	48[illegible]	467	250	446	474	551	516	531	191	557	537	581	545	423	27[illegible]	398	513	43[illegible]	553	597	564	560	524	547	479	556	462	497	492	438	481
DAVIS CALIFORNIA	692	693	692	70[illegible]	705	699	680	621	659	470	672	692	680	684	676	675	60[illegible]	654	639	640	637	614	663	654	649	643	622	619	616	[illegible]	[illegible]	651
LEXINGTON KENTUCKY	[illegible]	593	522	[illegible]	448	499	583	38[illegible]	366	554	437	586	587	570	572	319	434	482	[illegible]	47[illegible]	11[illegible]	59[illegible]	595	576	515	478	577	491	517	519	545	484
LOS ANGELES CALIF. U	[illegible]	67[illegible]	644	677	645	558	618	51[illegible]	626	583	613	656	642	652	647	664	583	648	674	661	668	667	636	591	612	---	564	527	600	[illegible]	601	623
PULLMAN WASHINGTON	182	632	643	361	634	638	612	611	603	586	600	546	587	553	554	540	[illegible]	458	[illegible]	[illegible]	[illegible]	541	433	480	559	541	519	491	54[illegible]	484	52[illegible]	[illegible]
SEATTLE WASH. UNIV.	314	373	546	245	464	547	266	554	534	238	312	8[illegible]	492	501	150	531	46[illegible]	36[illegible]	27[illegible]	111	435	484	48[illegible]	372	391	271	282	414	421	475	471	379
SEPTEMBER 1969																																
ATLANTA GEORGIA	175	191	318	---	---	---	---	---	---	---	---	---	---	---	---	-	---	---	--	---	---	--	---	---	512	[illegible]	[illegible]	473	47[illegible]	284		--
FLAMING GORGE UTAH	57[illegible]	28[illegible]	345	[illegible]	30[illegible]	[illegible]	52[illegible]	423	443	279	480	261	255	223	239	276	477	---	501	457	21[illegible]	495	484	482	469	443	322	373	---	258		396
LEXINGTON KENTUCKY	256	365	528	450	285	440	427	332	410	551	401	458	514	458	410	456	340	47[illegible]	163	251	484	407	118	133	260	467	144	482	47[illegible]	410		381
LOS ANGELES CALIF. U	577	592	600	597	520	600	511	600	589	577	480	501	507	482	358	326	37[illegible]	[illegible]	35[illegible]	[illegible]	354	495	498	464	439	330	390	477	482	479		478
PULLMAN WASHINGTON	503	475	503	21[illegible]	461	---	---	---	---	---	---	364	432	179*	306*	299	327	198	[illegible]	94*	---	---	---	252	213	307	313	323	218	94		3[illegible]4*
SEATTLE WASH. UNIV.	447	224	310	1[illegible]7	348	435	435	359	354	375	352	69	273	410	369	72	[illegible]	[illegible]	118	182	225	97	15[illegible]	68	237	288	9[illegible]	133	90	199		237
OCTOBER 1969																																
ITHACA NEW YORK	---	---	---	---	---	---	---	---	---	---	362	252	277	186	324	86	117	263	10[illegible]	10[illegible]	92	12[illegible]	206	240	234	126	114	123	231	280	258	---
LOS ANGELES CALIF. U	455	1[illegible]7	444	458	508	438	452	376	450	467	463	470	450	426	393	390	434	434	443	428	314	305	328	149	317	318	324	2[illegible]3	---	387		387
RICHLAND 25 NW WASH.	91	385	400	409	303	390	140	237	288	370	371	362	374	358	298	119	270	341	262	208	307	282	145	320	314	183	119	262	173	197	2[illegible]3	27[illegible]
SEATTLE WASH. UNIV.	231	175	164	234	248	273	26	139	204	164	236	265	265	251	168	43	159	114	15	15	177	9	100	148	186	51	84	176	7	37	158	147
NOVEMBER 1969																																
BLUE HILL MASS.	162	77	59	28	5	50	19	229	15	11	19	7[illegible]	239	6	109	217	214	120	110	151	225	213	162	131	211	105	142	1[illegible]5	153	168		12[illegible]

See reference notes with current data

C O R R E C T I O N S

page 341: Illinois

Month: June 1969

Storm Summary: Property damage by lightning should be category 6.

page 380: New Mexico

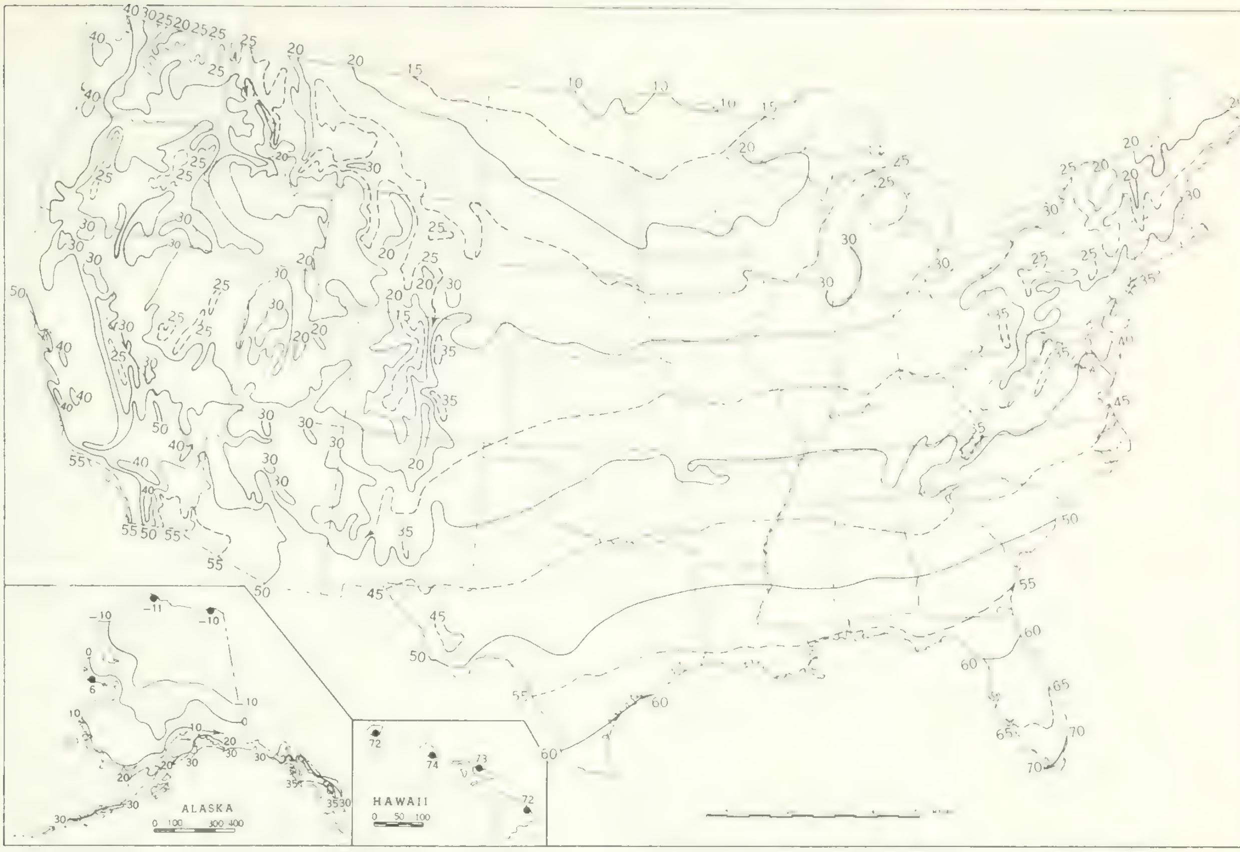
Month: July 1969

Condensed Climatological Summary: The greatest monthly extreme precipitation should be Chacon, 8.40.

1968 Annual

Page 69 - Frequency of Tropical Cyclones Reaching Hurricane Intensity by Months and Years. Sept. total should be 146.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), December



B. Temperature Departure from 30 - Year Mean (°F 1931-60), December 1969.

Chart II. Total Precipitation (Inches), December 1969.

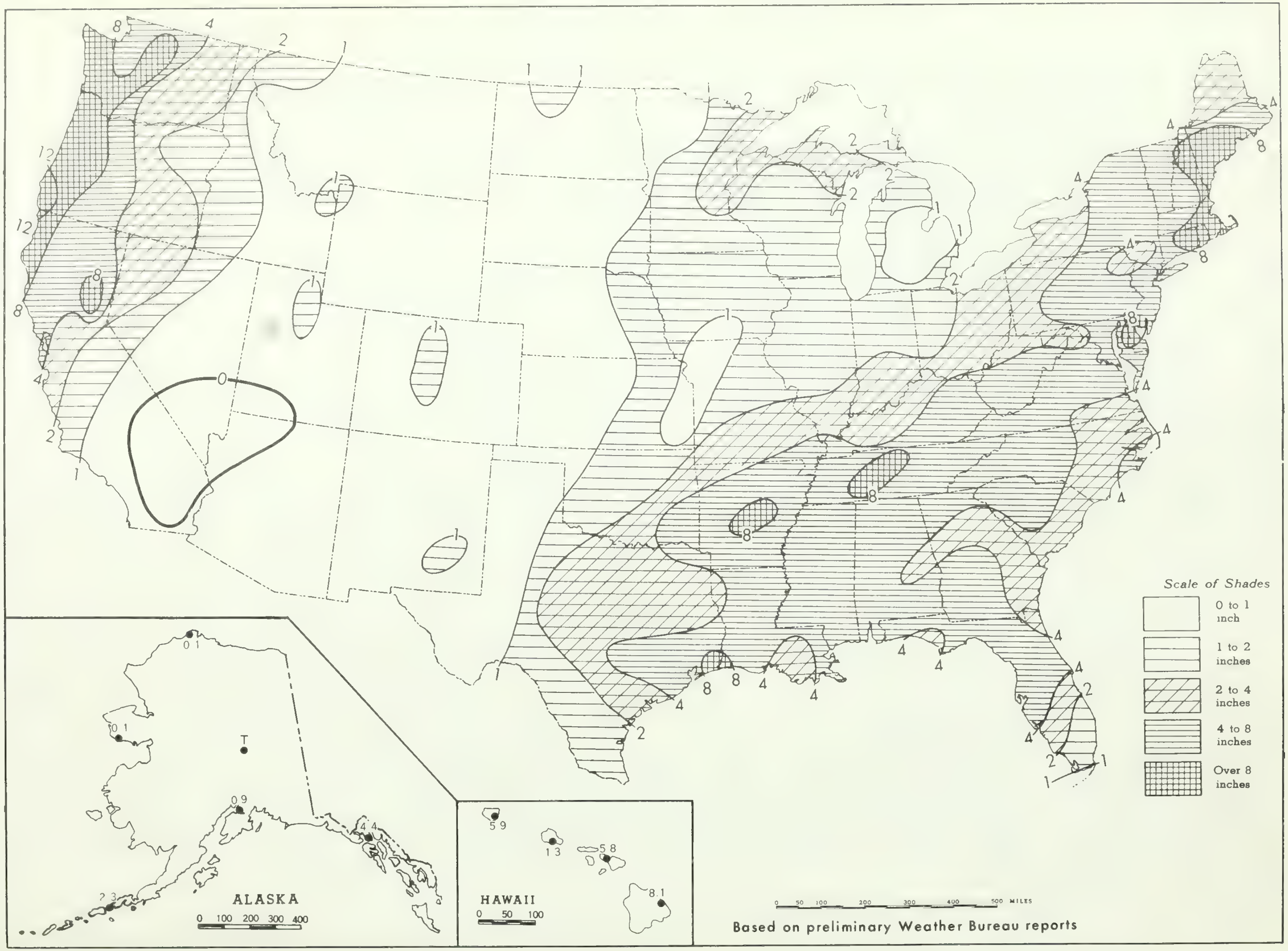


Chart III. Percentage of Normal Precipitation, December 1969.

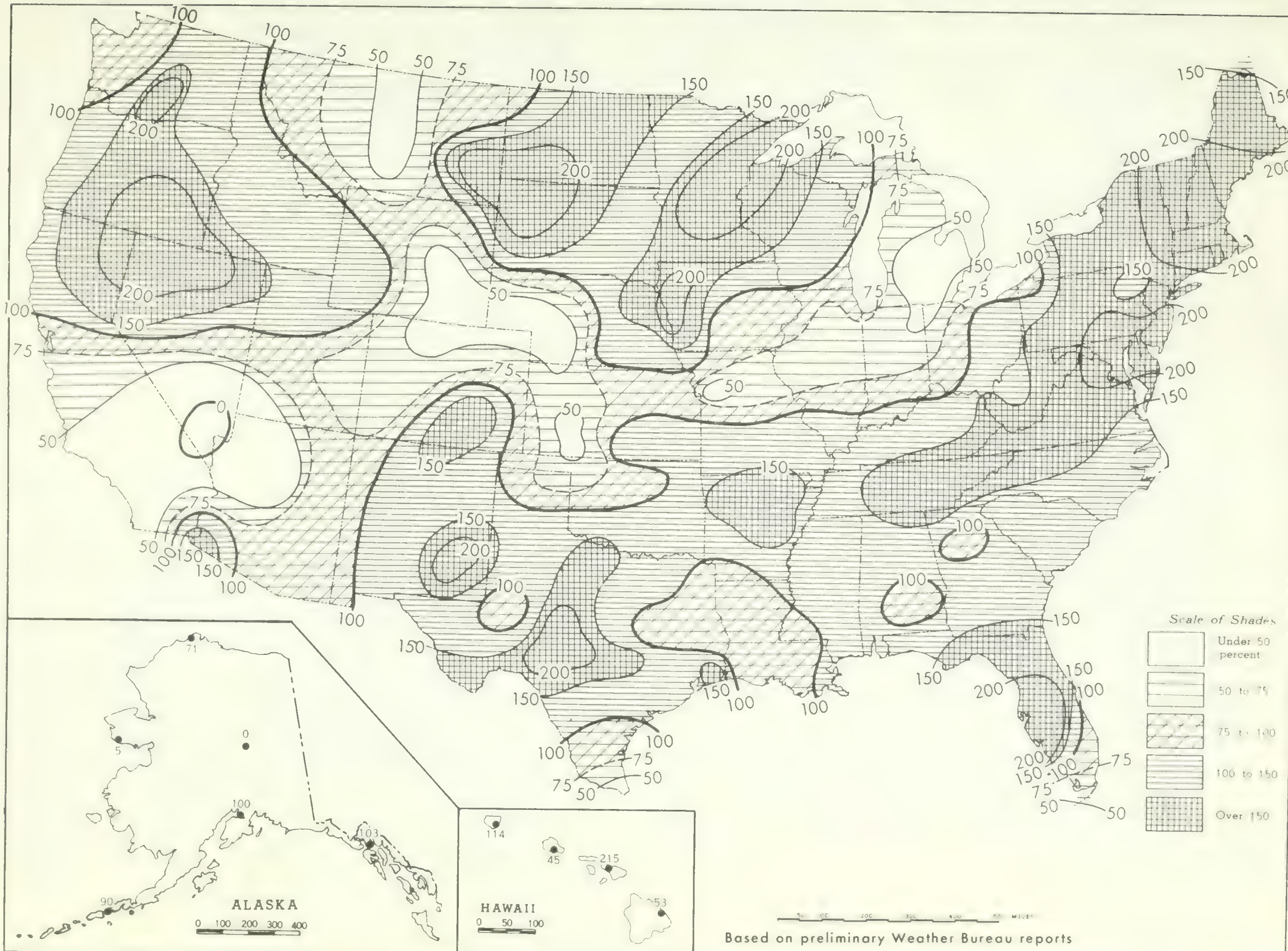
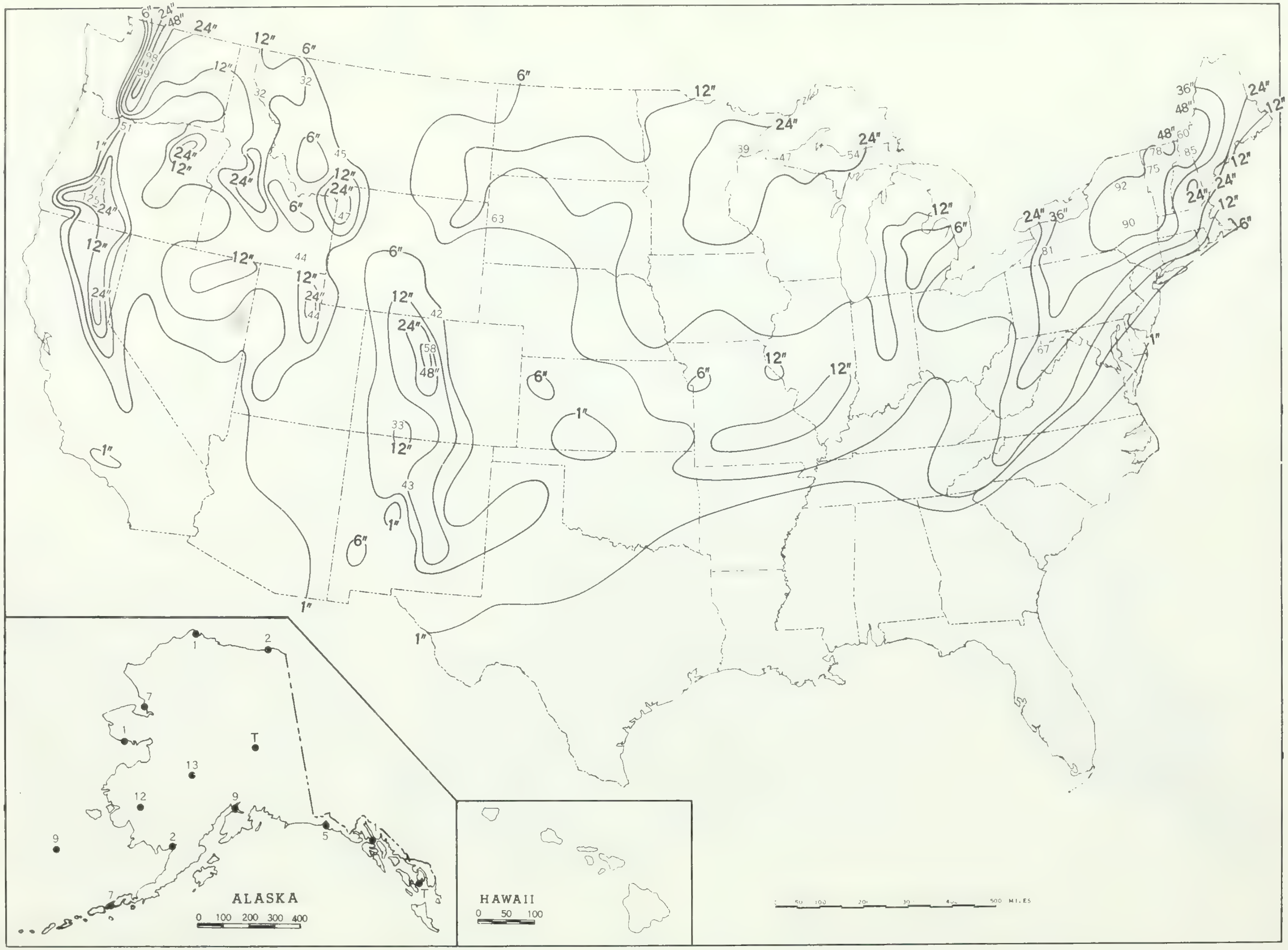
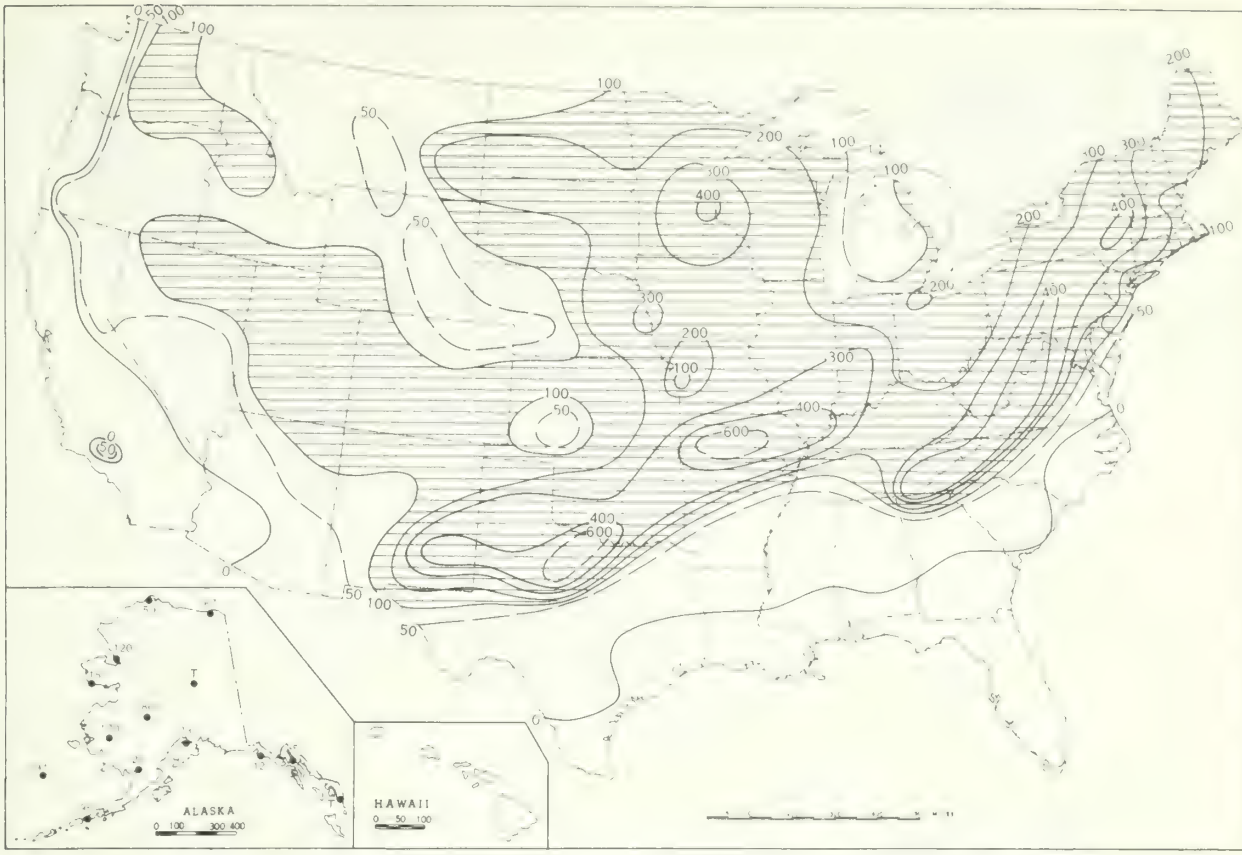


Chart IV. Total Snowfall (Inches), December 1969.

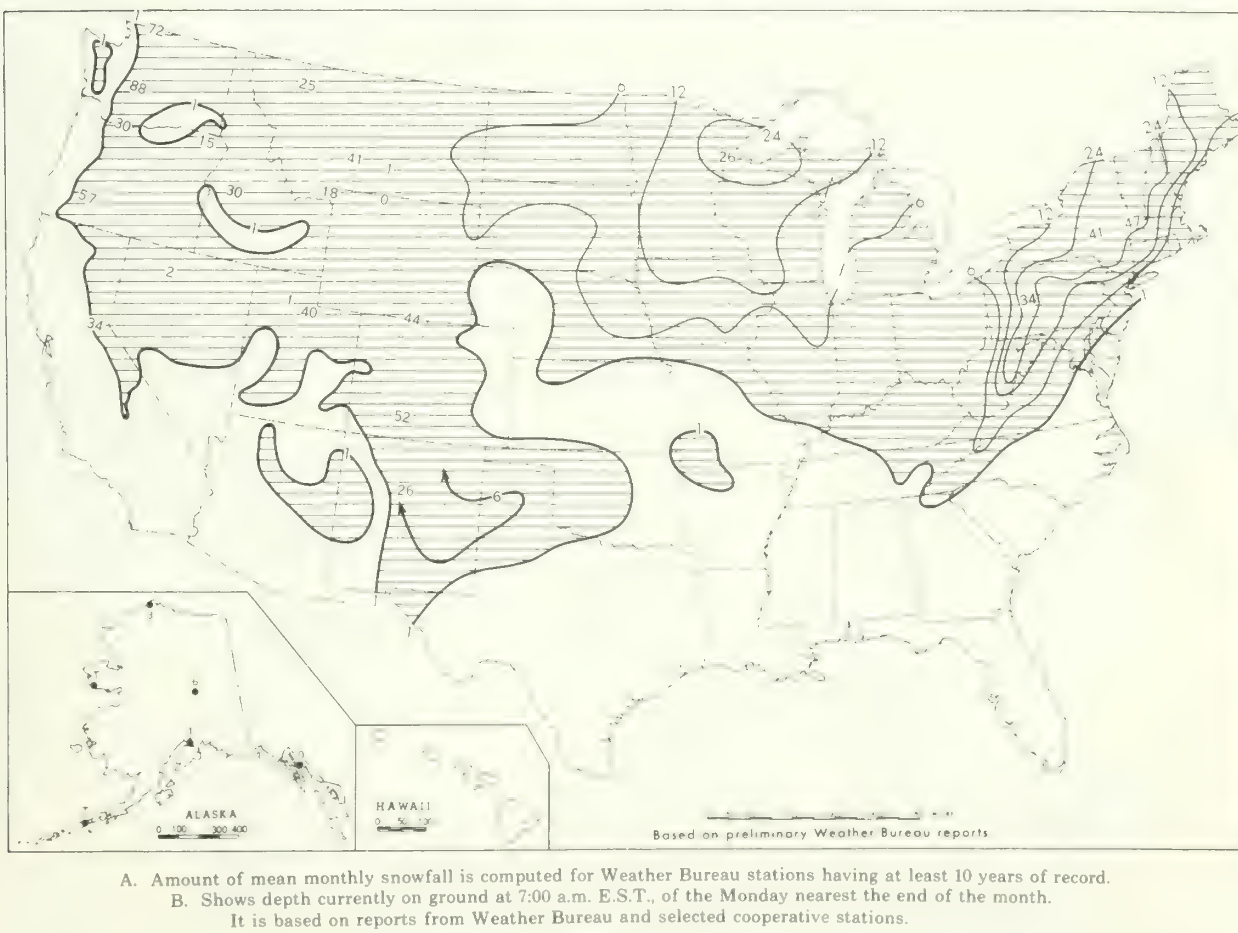


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, December 1969.

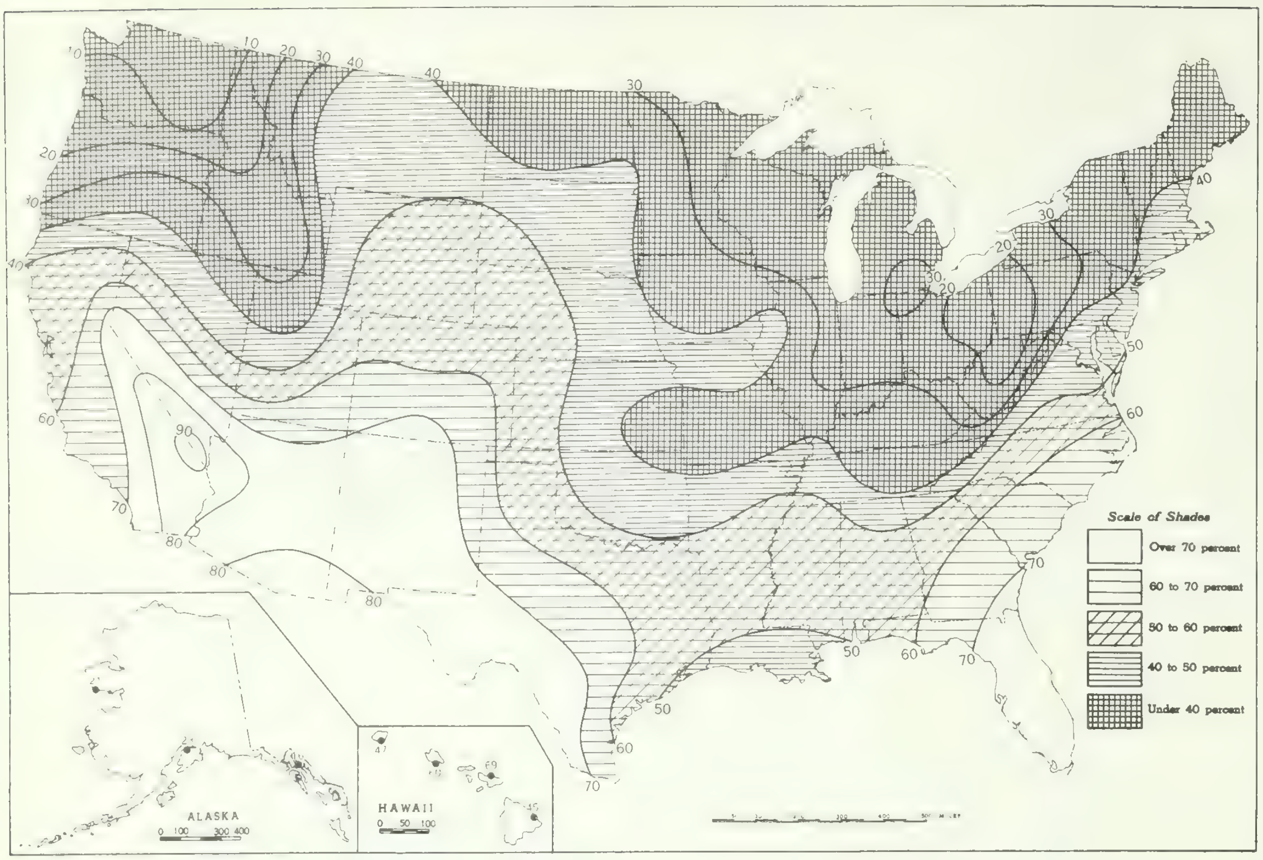


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., December 29, 1969.

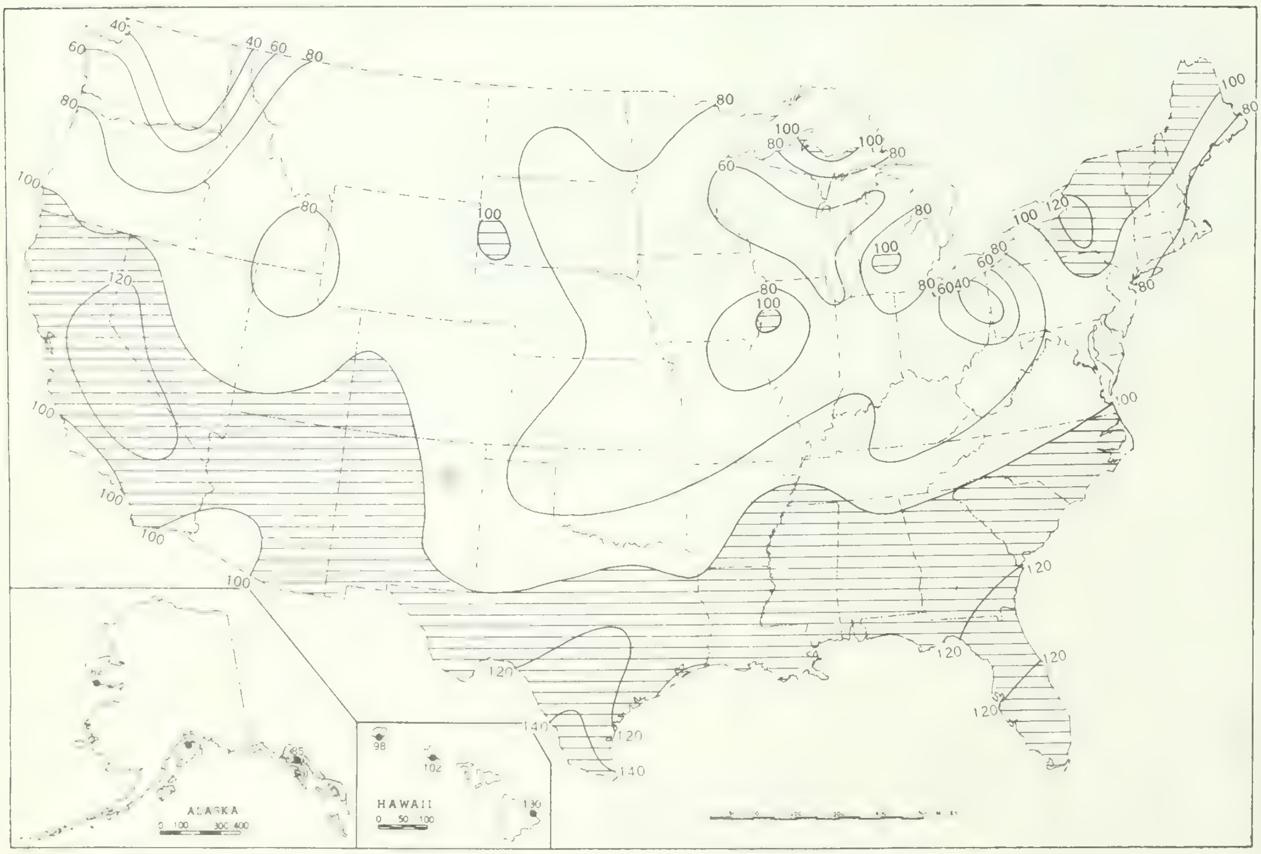


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, December 1969.

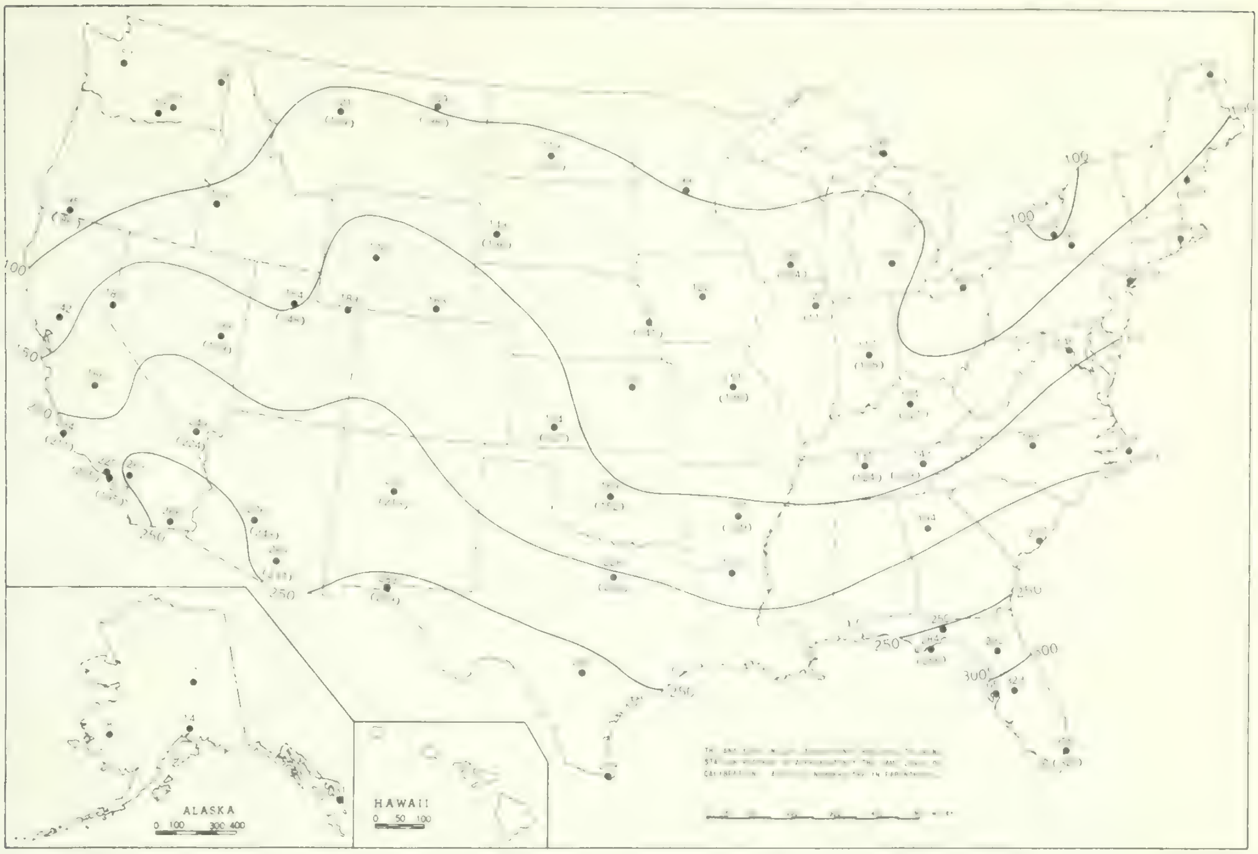


B. Percentage of Mean Monthly Sunshine, December 1969.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

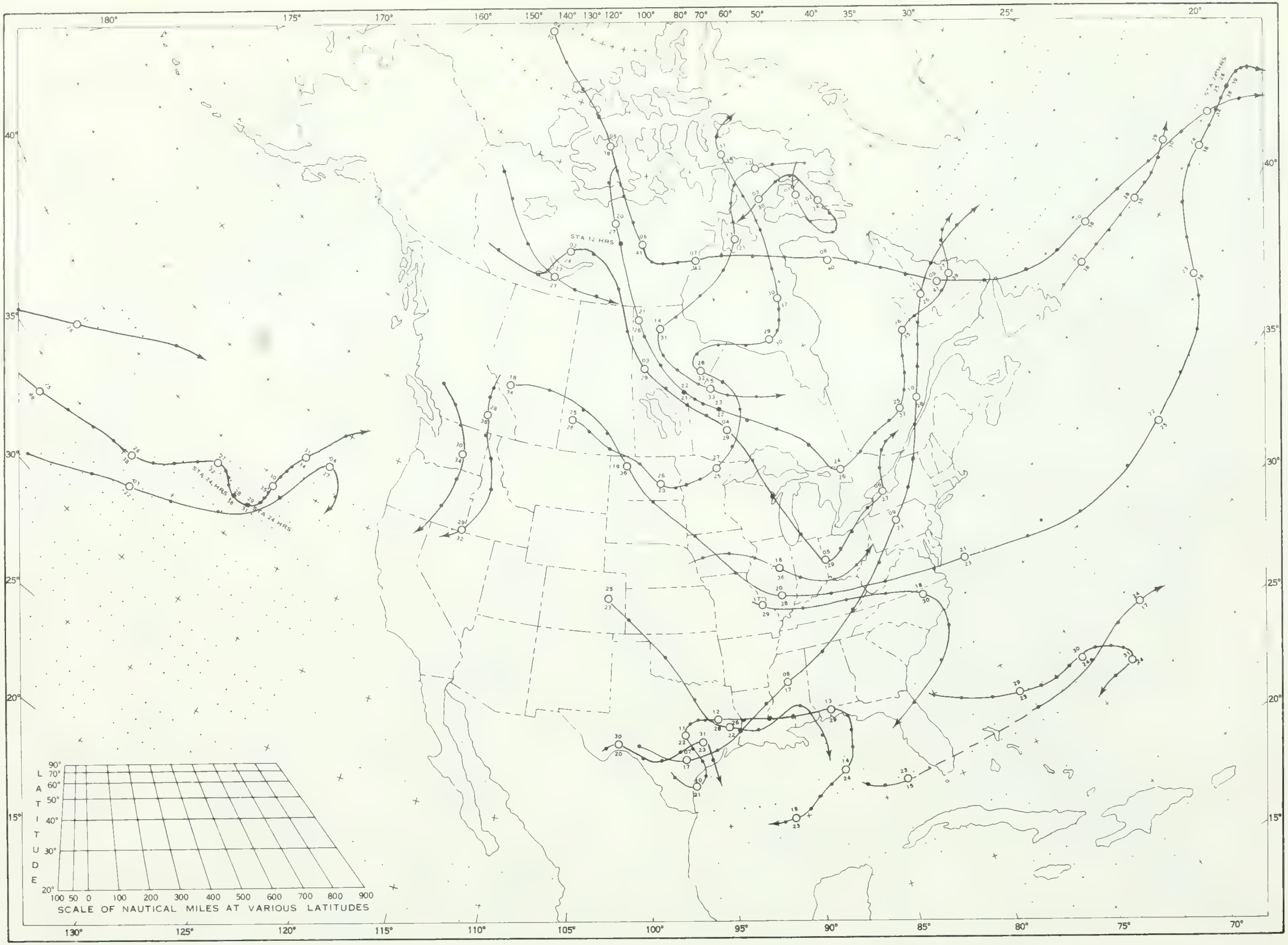
Chart VII. A. Average Daily Values of Solar Radiation, Langleys, December 1969.



B. Percentage of Mean Daily Solar Radiation, December 1969.

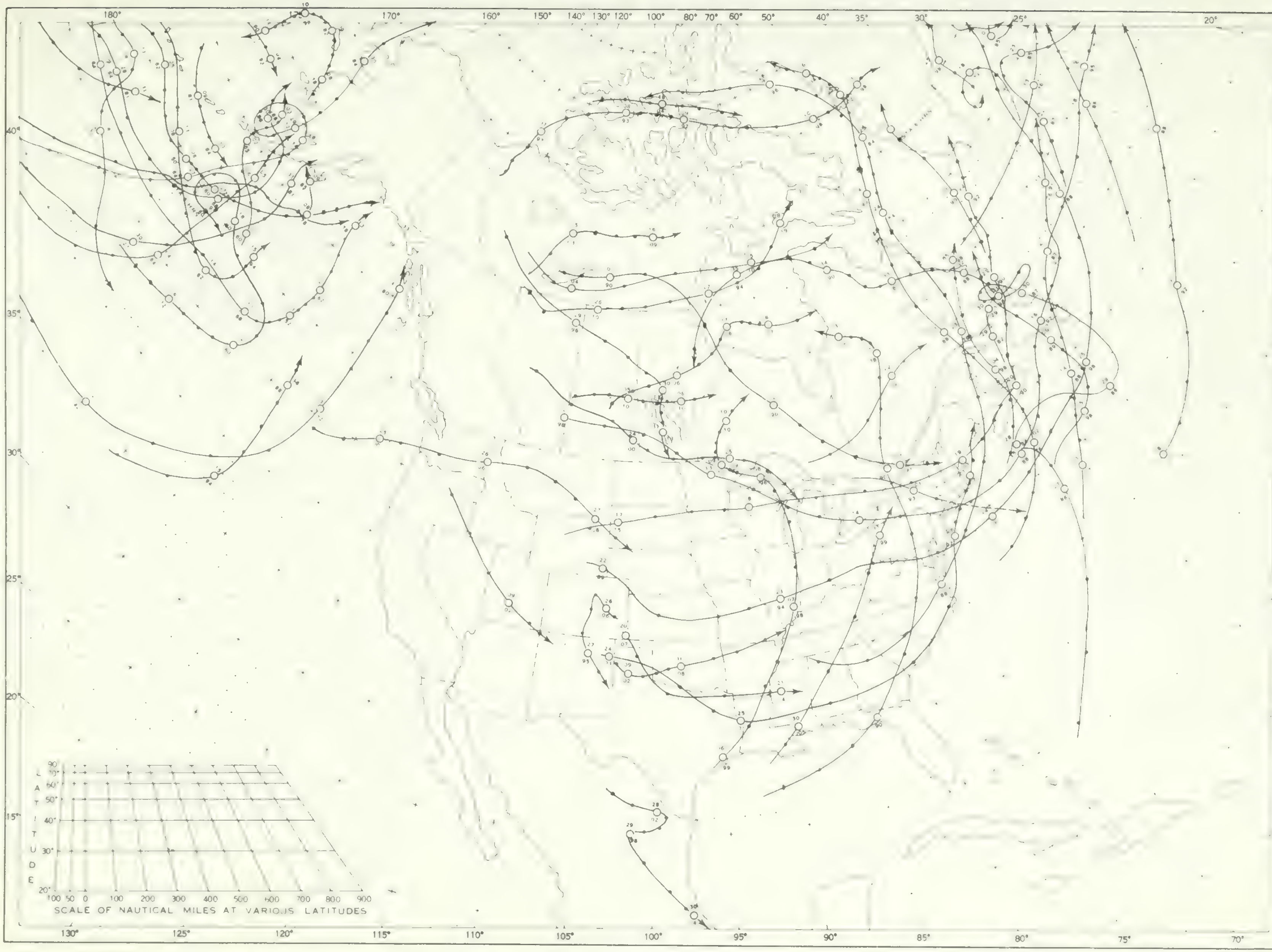
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, December 1969.



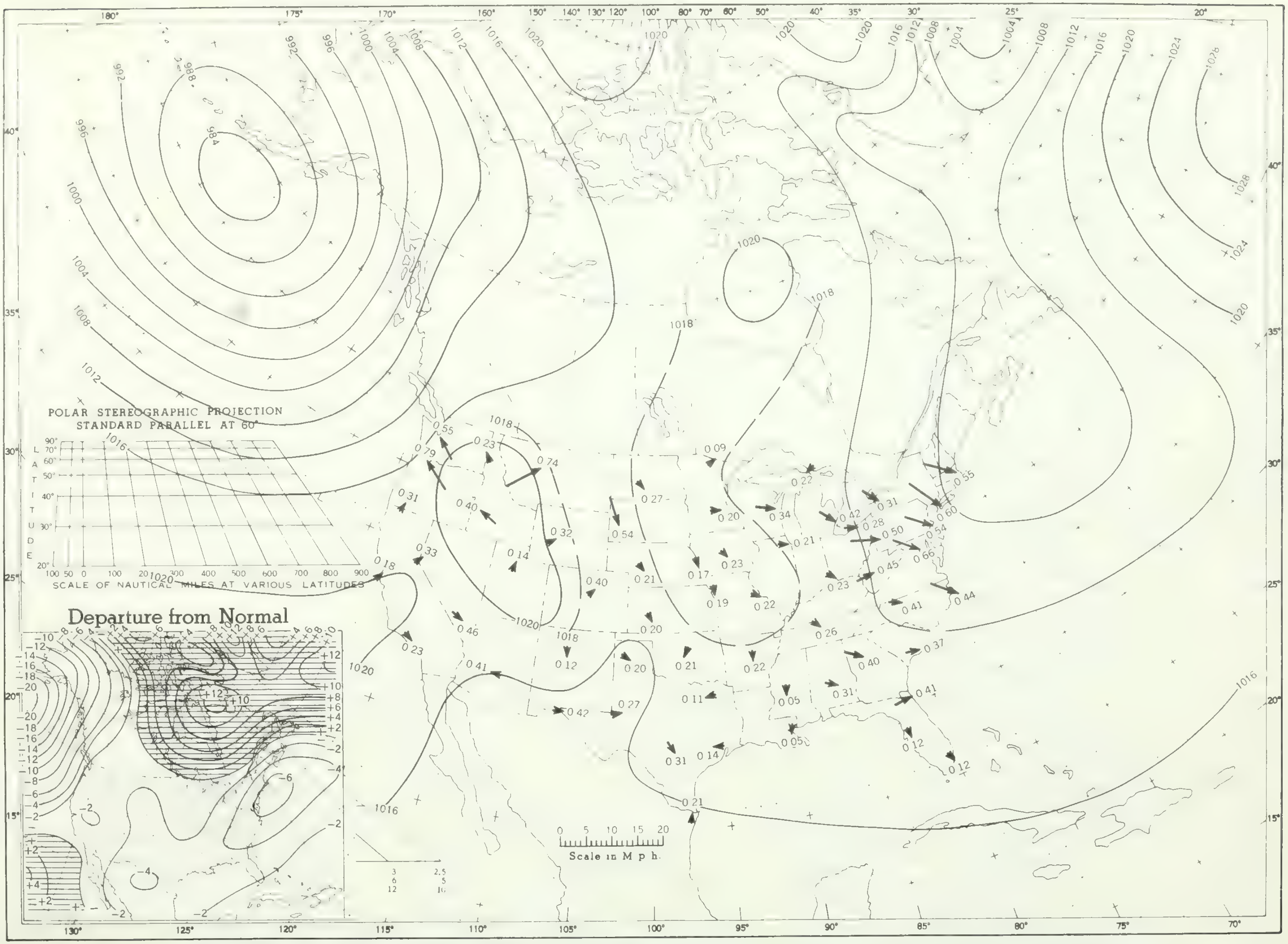
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, December 1969.



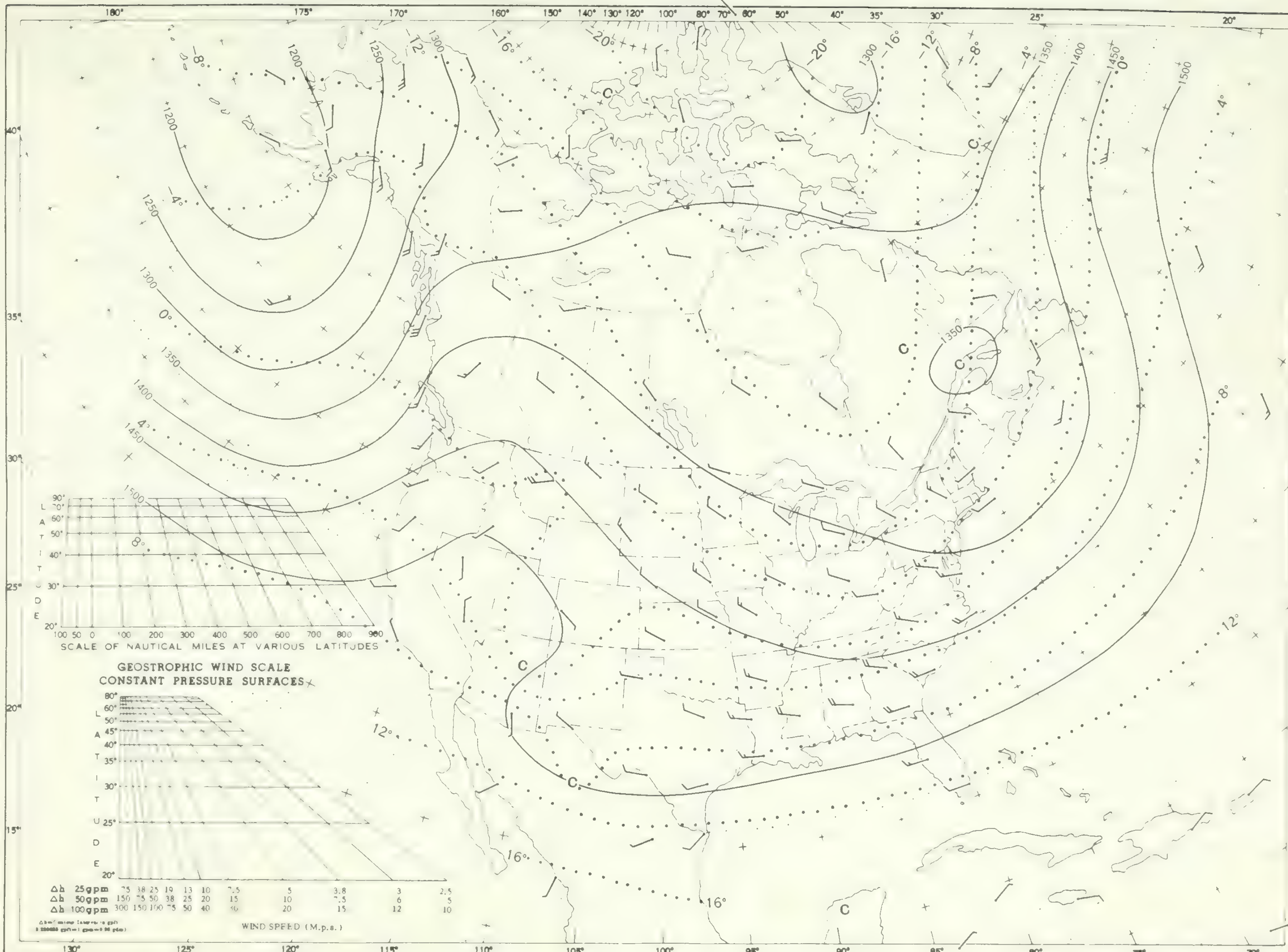
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, December 1969. Inset: Departure of Average Pressure (mb) from Normal, December 1969.



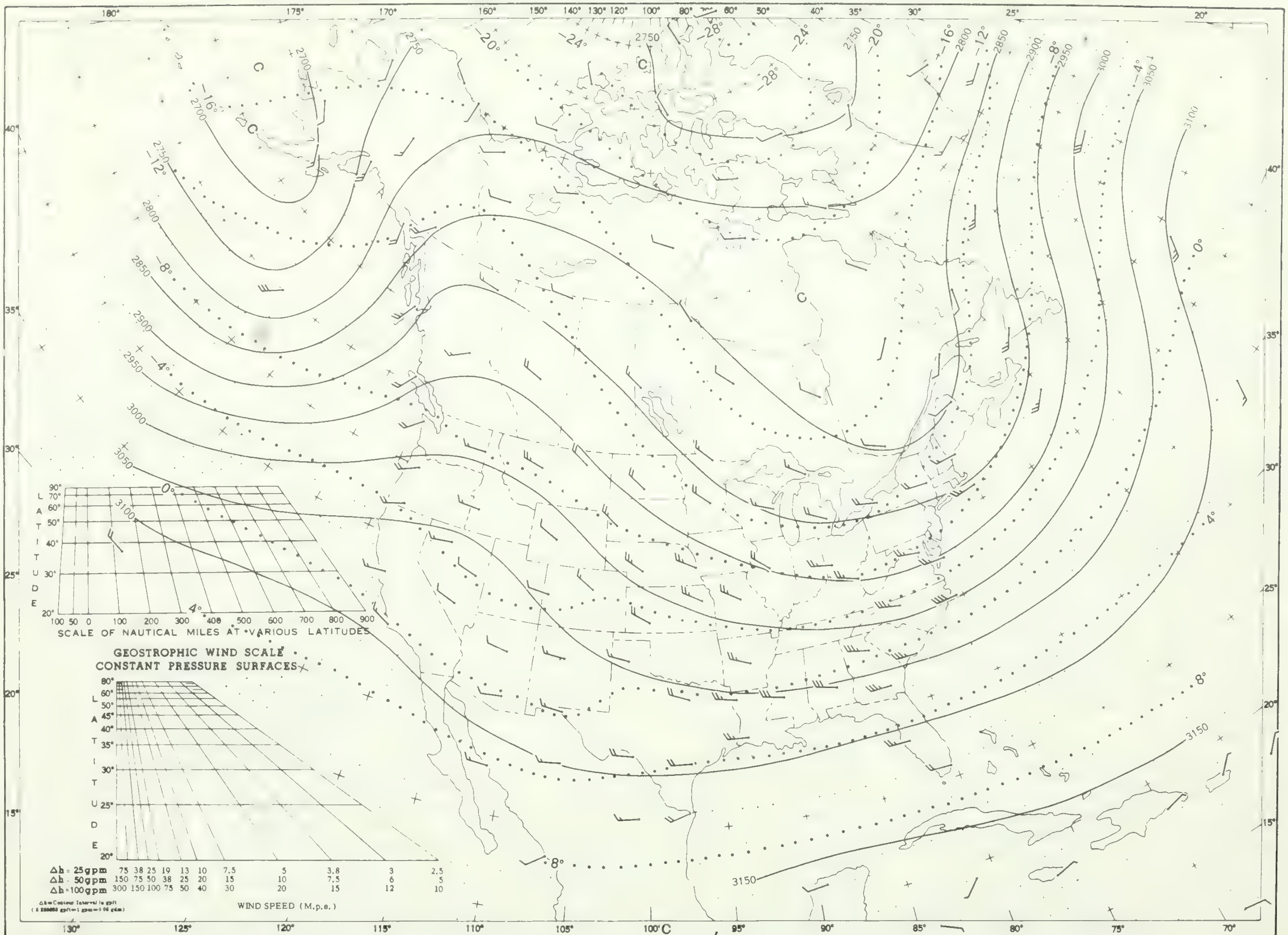
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XI 850-mb Surface, 1200 GMT, **December 1969**. Average Height and Temperature, and Resultant Winds.



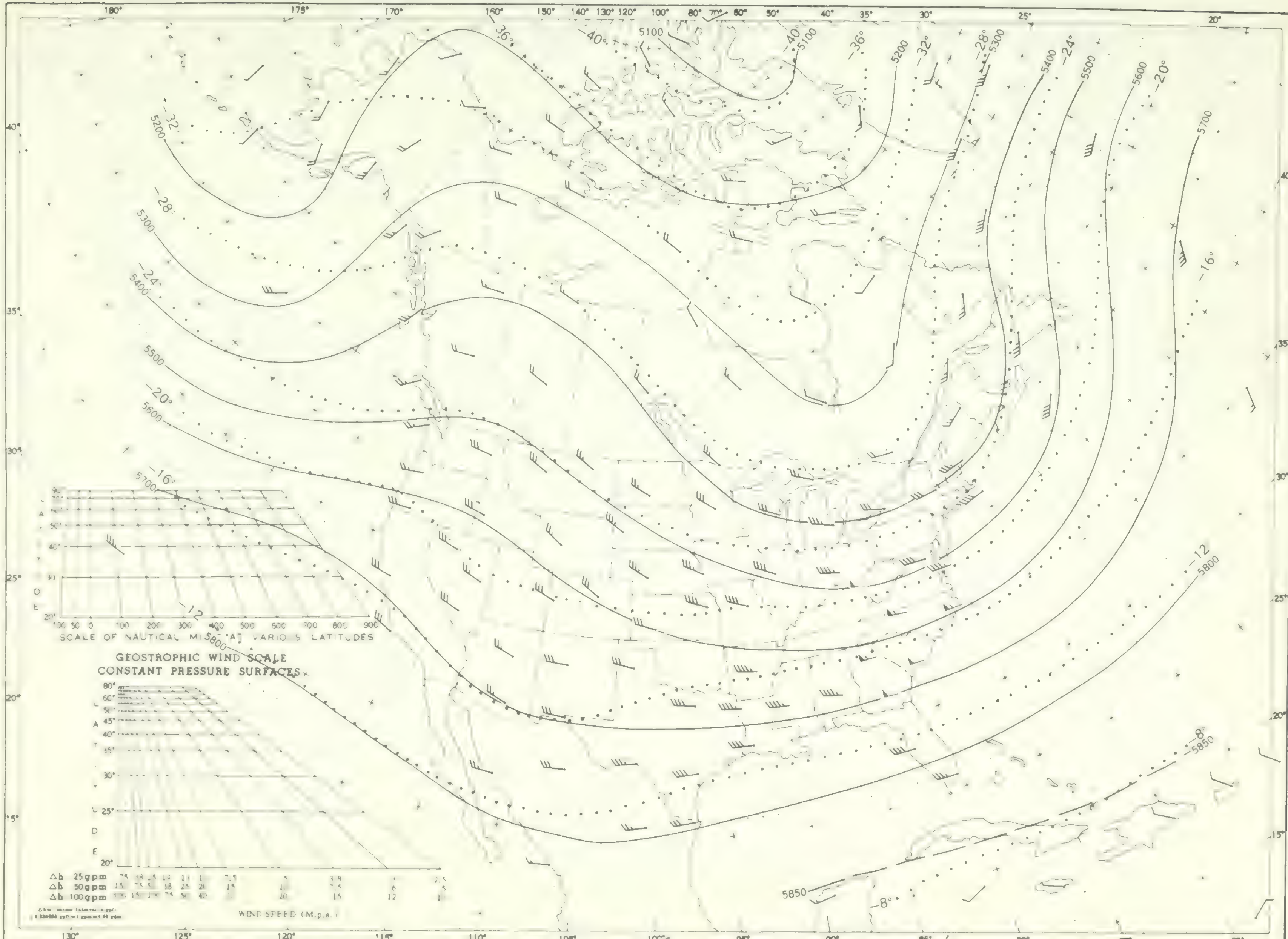
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, **December 1969.** Average Height and Temperature, and Resultant Winds



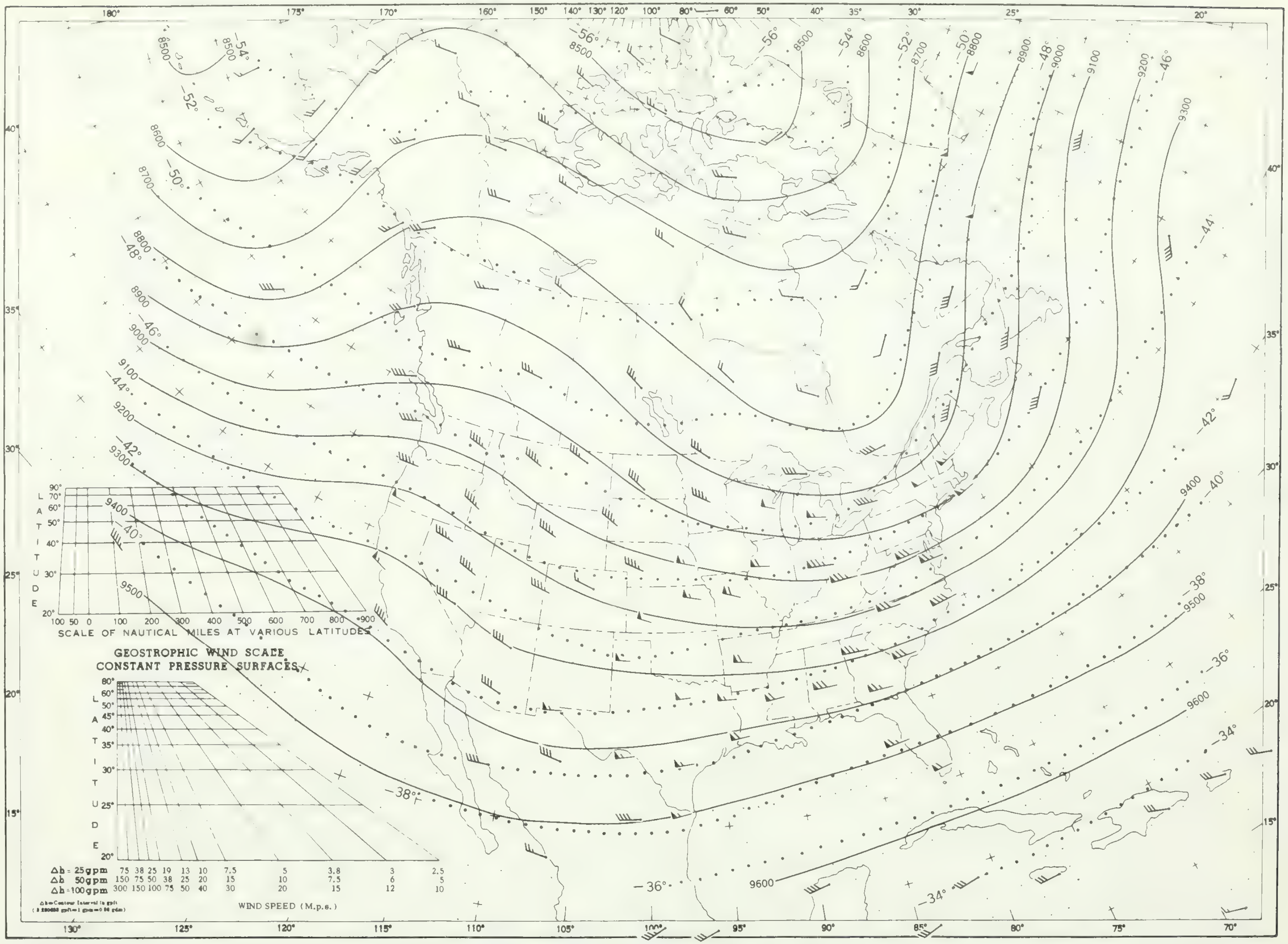
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25mps, full feather 5mps, and half feather 2.5mps. All wind data are based on rawin observations.

Chart XIII 500-mb. Surface, 1200 GMT, **December 1969**. Average Height and Temperature, and Resultant Winds.



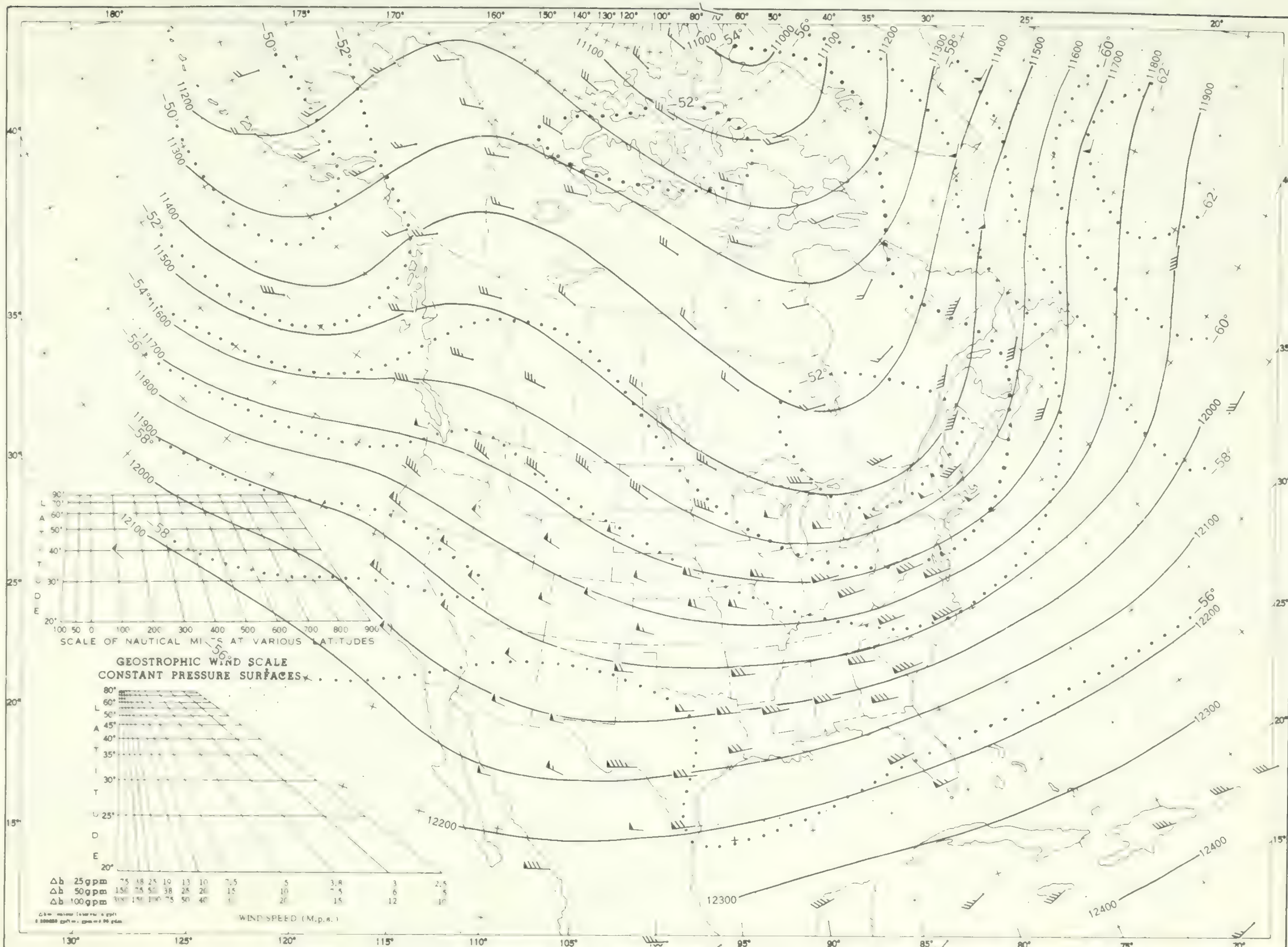
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, **December 1969**. Average Height and Temperature, and Resultant Winds.



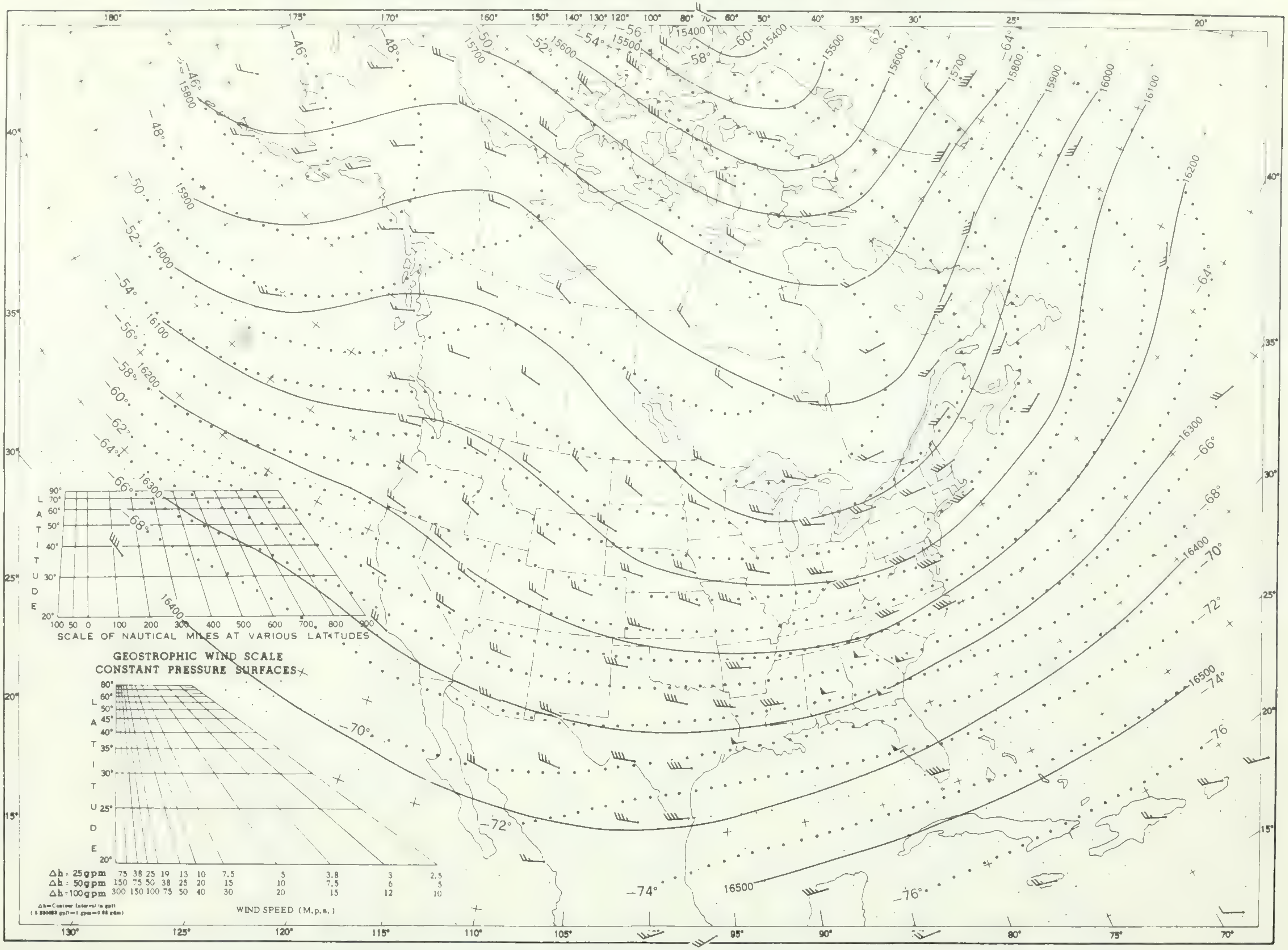
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, December 1969. Average Height and Temperature, and Resultant Winds.



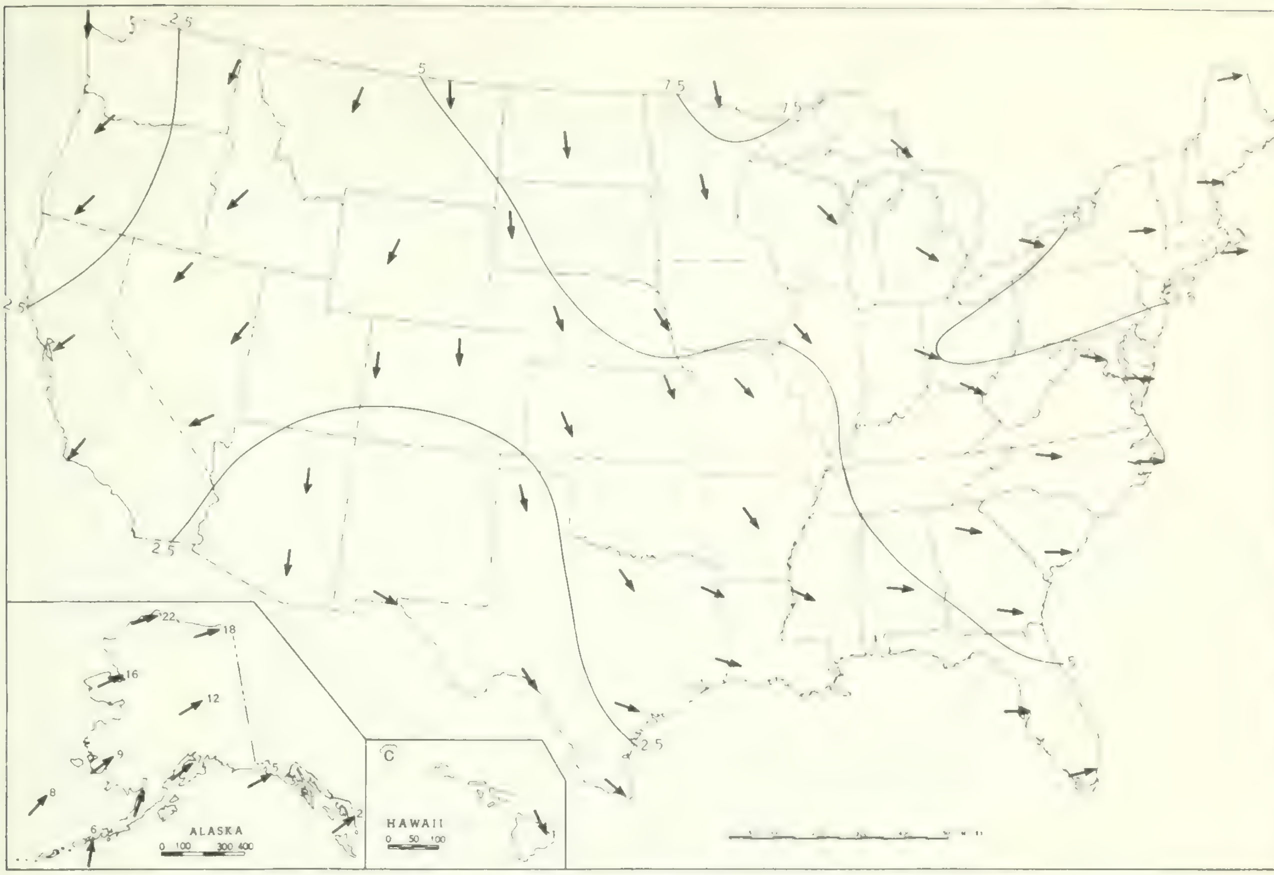
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25mps, full feather 5mps, and half feather 2.5mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, December 1969. Average Height and Temperature, and Resultant Winds.

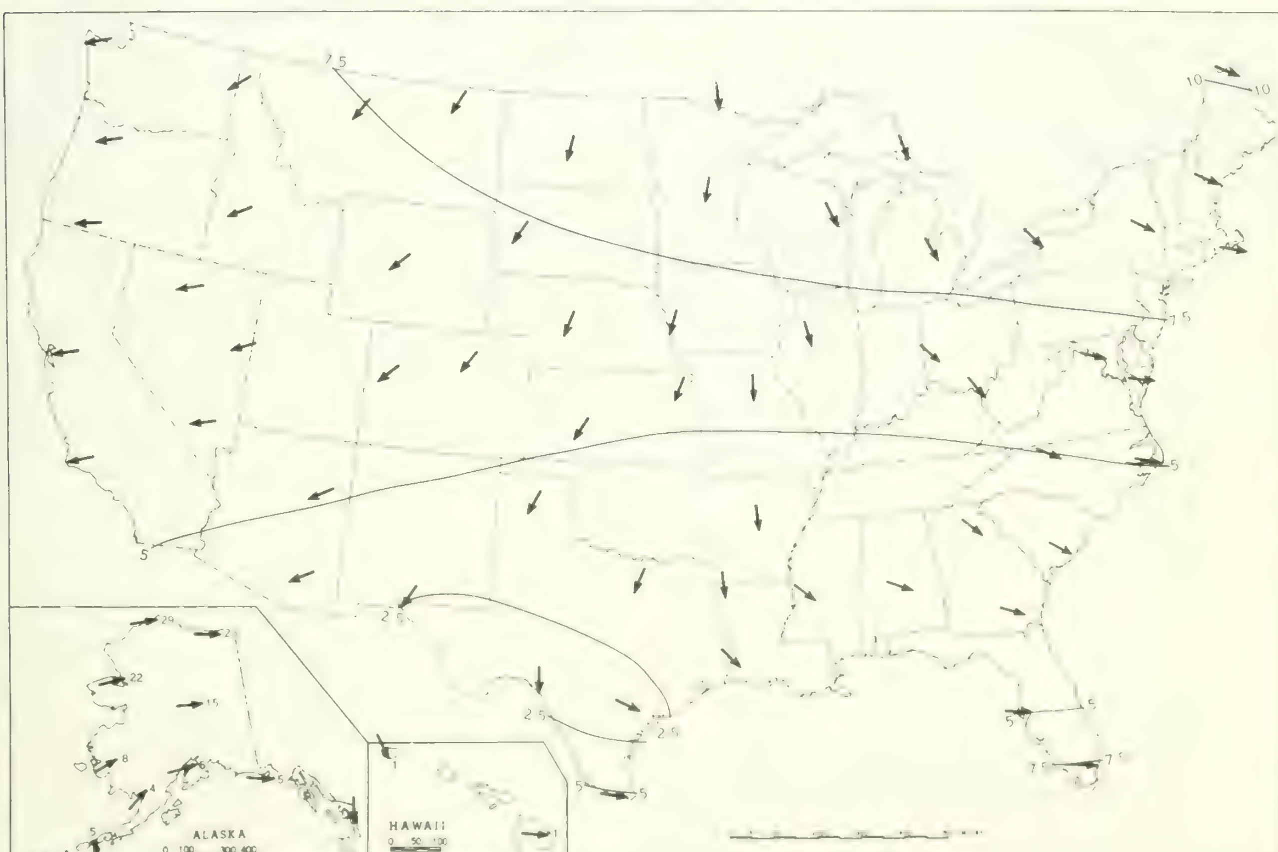


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, December 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, December 1969. Resultant Winds.



Wind speed (isotachs) in meters per second. Arrows show resultant wind direction. All wind data are based on rawin observations.

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631

U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

ANNUAL 1969
Volume 20 No. 13

Asheville 1970

CONTENTS

RAWINSONDE DATA (Average Annual Values) - tabulation discontinued. The tabulation RAWINSONDE DATA (Average monthly Values) is carried in the monthly issue of the publication CLIMATOLOGICAL DATA NATIONAL SUMMARY.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington, D. C. 20402

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 13 Year 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

L. H. Seamon
Environmental Data Service, ESSA
Washington, D. C.

HIGHLIGHTS:

1. Heavy to recordbreaking snowfall in North and Far West.
2. California storms in January and February.
3. February among snowiest months in New England history.
4. A cold March and October, warm April.
5. Camille, record damaging hurricane, August 17-20.
6. April floods in upper Midwest.
7. Numerous severe local storms in midcontinent area.
8. Coldest year some southeastern points.
9. Favorable weather for most major crops.
10. Northern Ohio's worst flash floods, July 22.

Weather conditions favored production of most crops. Warm season rainfall generally was sufficient in the Corn Belt, although May rains delayed corn planting in some sections. Irrigation water supplies were good to excellent in most of the Far West. Spring freeze damage was limited mostly to tung crop damage in Mississippi. Severe thunderstorms with damaging hail, wind, and heavy downpours were numerous, particularly in the midcontinent area, during the spring and summer and took a heavy toll of crops and property. Snowfall was unusually heavy in many northern and far western areas, with a number of recordbreaking snowstorms in the Northeast causing millions of dollars damage. Hurricane Camille was one of the most damaging storms in history. Below-normal temperatures were so persistent in the Southeast that several locations reported their lowest annual temperature on record.

TEMPERATURE.--WINTER The December 1968-February 1969 winter was unusually cold in Montana and abnormally cold elsewhere except slightly warmer than normal in Texas, southern portions of the western Great Plains immediately east of the Rocky Mountains, and in the central Great Basin. Hinsdale, Mont., recorded -55°F. on January 25, the lowest temperature during 1969 in the 48 Contiguous States, and Chalkyitsik, Alaska, recorded -69°F. on January 8-9, the lowest during 1969 in the United States. Severe cold persisted nearly all winter in Montana, and some locations in the State had their coldest winter on record. This was also the coldest January on record in southeastern Alaska.

SPRING March was abnormally cold in the 48 Contiguous States, the coldest in more than 50 years in many southern areas. At Concord, N. H., -15°F. on March 6 was the lowest there of the cold season, the first time the lowest temperature occurred in that area in March since 1884. A freeze in Mississippi on March 11 with a low of 27° at Poplarville caused moderate to severe damage to the tung crop.

April was abnormally warm in the 48 Contiguous States, except relatively cool in the Pacific States. This was the warmest April in 23 years at Cheyenne, Wyo., and the first April in 23 years without a temperature as low as 32°F. at Indianapolis, Ind.

May temperatures were milder than usual, except slightly cooler than normal in the Gulf States and from the Great Lakes region through New England. Abnormally mild temperatures persisted all month west of the Continental Divide, but alternating warm and cool periods were the rule east of the Rocky Mountains. The Nation's Capital recorded 97°F. on the 29th, equaling the highest temperature there for May in the past 100 years.

SUMMER During the June-August period, temperatures averaged below normal in the central Great Plains and from the northern Rocky Mountains to the Great Lakes and slightly above normal in most other areas. June, relative to normal, was warm in coastal areas and cool in the interior. A number of stations in Wisconsin reported their coldest June on record. A freeze in extreme north-central areas just before midmonth caused some damage and slowed growth of crops.

July was abnormally cool in the northern half of the 48 Contiguous States and hot in the South. Concord, N. H., had its coolest July, while Greensboro, N. C., Waco, Tex., and Pueblo, Colo., had their hottest July. The weather was persistently hot and humid in the southern Great Plains, and daily maxima frequently rose to 100°F. or higher during the first half of the month.

August, relative to normal, was cool in the southeastern quarter of the Country and warm elsewhere. In the Southeastern States rain and clouds were an important factor in keeping temperatures below normal the first 3 weeks, and the advection of cool air masses helped maintain below-normal temperatures the rest of the month. Unusually hot weather persisted in the southwest deserts where highs ranged from 110°F. to over 120°F. on a few days, and in Texas where highs ranged from 90°F. to over 100°F. the first 3 weeks of the month.

AUTUMN Temperatures for the September-November period averaged below normal, except slightly above in a few small scattered areas. In September above-normal temperatures persisted in the western half of the Country except for a cool spell during the third week, while relatively cool weather persisted in the eastern half after the first week. This was the warmest September on record at Lander, Wyo., Bakersfield, Calif., and in 17 years at Salt Lake City, Utah.

October was unusually cold in the Upper Rocky Mountains and colder than normal elsewhere in the 48 Contiguous States, except slightly above along the California, Gulf, and south Atlantic coasts. A number of stations including Cheyenne, Wyo., Goodland, Kans., Grand Junction, Colo., and Fresno, Calif., had their coldest October of record and many others had their coldest October in 20 to 50 years. The month was abnormally warm in Alaska, with a recordbreaking high of 65° for Fairbanks on the 13th.

November was warmer than normal in New York, New England, and in most of the area from the Great Plains westward, and over 6° above normal in north-central Montana. The month was colder than usual from the middle Great Lakes region southward and southeastward to the Gulf and Atlantic coasts. Some stations in the Mississippi Valley had their coldest November since 1959.

DECEMBER Temperatures averaged near to above normal over the western portion of the Country and

below normal over the eastern portion, being generally 2° to 3° warmer than usual over the Rocky Mountain region and Southwest and 3° to 6° below normal over the Southeast where cold weather persisted most of the month. In the Northeast many stations reported the coldest Christmas of record, such as -22° at Albany, N. Y.

PRECIPITATION.--WINTER Precipitation during the December 1968-February 1969 winter was much above normal in New England, north-central interior regions, and the Rocky Mountain and Pacific States, and slightly below normal elsewhere.

Much of the above-normal precipitation was in the form of snow. Near record to record amounts in the Far West almost assured a good warm season water supply, a very important factor in the economy of the Far West. Heavy winter snowfall in the central and northern Great Plains and Upper Mississippi Valley resulted in severe spring flooding. Snowfall in New England, particularly in February, was notable for some of the worst snowstorms in the history of that area.

SPRING Above normal precipitation during the March-May period was limited mainly to the Gulf and south Atlantic coastal areas, the lower Great Plains, and parts of Michigan, Iowa, Missouri, New Mexico, Arizona, and Washington. Elsewhere the spring amounts were below normal, although only a few small scattered areas had less than 50% of normal. The most important deficiency was in an area reaching from Pennsylvania and Maryland southwestward into parts of West Virginia, Ohio, Kentucky, and Tennessee. At the end of May, however, moisture conditions were mostly satisfactory. Owing to the unusually low temperatures of March, considerable snowfall was recorded in some areas. Snowfall increased the snowpack in the mountains of Colorado and New Mexico, areas that were not favored with the near-record snowfalls in most other sections of the Far West during the winter months.

SUMMER The June-August rainfall was adequate in most areas, with above-normal amounts in most of the East, the Midwestern Corn Belt, and much of the Rocky Mountain and Great Basin areas. Amounts ranged from 4 inches in the western Great Plains to over 8 inches in the eastern Great Plains, from 12 to 16 inches in the Corn Belt, and from 8 to over 24 inches in the East. The main dry area extended from Alabama through eastern Texas where some sections received less than 50% of normal rainfall, with some crop deterioration in Texas.

AUTUMN The September-November period was drier than usual in most areas, and mostly favorable for harvesting operations. Above-normal rainfall was limited mainly to the lower portions of the Rocky Mountains and Great Plains, New England, and Florida. Most areas had light rainfall in September, but the mid-continent area was unusually wet in October which caused some delay of harvesting operations. November was unusually dry in most of the midcontinent area.

DECEMBER In the West frequent storms from the Pacific, often accompanied by strong winds, brought above normal precipitation to northern areas west of the Rockies, with heavy snowfall in the mountains. Precipitation was also heavy in the Dakotas and Upper Mississippi Valley, and from New Mexico and the Gulf States to New England, with heavy snowfall in the Appalachians. Amounts generally were below normal elsewhere, and were less than one-half the usual amounts in the southwest desert and the western edge of the central Great Plains.

In a number of areas -- parts of the Northeast, southern Florida, and Upper Mississippi Valley -- this was one of the wettest Decembers on record. New record amounts for December were measured at Portland, Maine, 9.69 inches; Boston, Mass., 9.74 inches (a 152-year record); Wilmington, Del., 7.90 inches; and St. Cloud, Minn., 2.04 inches.

SNOWFALL.--Outstanding snowfalls occurred in three areas during January and February 1969 -- the Far West, the Upper Mississippi Valley, and the Northeast. In the Far West 1969 was a year of the "Big Snow." During January and February storms deposited an abnormally heavy snow mantle on an already above average snowpack built up during the closing months of 1968. Snowfall for the three winter months left one of the heaviest snowpacks on record in the Cascade and Sierra Nevada Mountains, and in parts of Nevada, Utah, and Idaho. The cover was extremely heavy even at lower elevations, owing to abnormally cold weather which prevented melting and also resulted in heavy snowfall in many areas where rain is the usual form of precipitation. By the end of February many mountain snow areas in California, the Columbia Basin, and in the Great Basin exceeded the average April 1 accumulation which is the usual time of maximum depth. Helena, Mont., had a record snowfall for January of 35.6 inches. In February Mt. Shasta, Calif., had 83.7 inches of snowfall, its second greatest in an 80-year record and Salt Lake City, Utah measured 27.9 inches, the greatest in 40 years.

During the spring months in the Far West snowfall generally was below normal, although there were above normal falls in the southern Rockies in March and parts of the Colorado Rockies in May. During April warm weather caused considerable melting of low and intermediate elevation snow covers, removing the snow form lower levels. Timely cool spells generally prevented serious flooding. The main exception was California's Tulare Lake Basin where thousands of acres of agricultural land were flooded. The heavy seasonal snowfall, however, was the basis for a good to excellent outlook for warm season water supplies.

In the North Central Interior a heavy snow mantle of 1 to nearly 3 feet covered northeastern Nebraska, eastern South Dakota, Minnesota, most of Wisconsin, and northern Michigan at the end of December 1968. From 1- up to 4-foot falls in this region during January, and up to 2 feet in the upper Great Plains, southwestern Minnesota, and western Iowa during February combined with rather persistent cold weather maintained a heavy cover even though February falls in much of the Upper Mississippi Valley and Michigan were less than 50 percent of normal. At the end of March, a month of below normal snowfall, Sioux Falls, S. Dak., reported a seasonal fall of 94.7 inches, a new record, and Grand Island, Nebr., reported 54.4 inches, the second highest in 20 years.

Frequent snowstorms and cold weather which accounted for the persistent heavy snow cover from the Upper Great Plains to the western and central Great Lakes region closed many roads for long periods, hampered business activities, imposed a hardship on farm families, forced many schools to close, and required millions of dollars for snow removal. The greatest damage, however, in many areas was caused by flooding when the snow melted in April.

The Northeast, especially New England, had more than the usual number of heavy snowfalls during the winter. February 1969 was one of the snowiest months in New England's history. Many stations recorded new record amounts, not only for February but for any month. For example, the 1968-69 season total at Mt. Washington,

N. H., by the end of February was 440.4 inches far exceeding the previous record for an entire season of 344.1 inches in 1957-58.

December snowfall was generally below normal west of the Great Plains, although above in parts of California, Utah, Colorado, and in northern New Mexico. From the middle and upper Mississippi Basin eastward, however, snowfall was unusually heavy, setting new records for December in Minnesota and the Northeast. A number of stations reported record snowfall. Stations measuring December record snowfall included Harrisburg, Pa., 28.3 inches; and Minneapolis, Minn., 33.2 inches. This was the snowiest month on record at a number of stations among which were Albany, N. Y., 57.5 inches, and Burlington, Vt., 50.8 inches. In Vermont 75.0 inches at Waitsfield and 78.5 inches on Mt. Mansfield both broke the old state record for any month.

SEVERE STORMS.--WINTER-TYPE STORMS Several major snowstorms swept over the Northeast during the winter of 1968-69, and two storms in February 1969 were particularly outstanding. The first of these two moved up the coast from Virginia on the 9th and 10th. Falls generally ranged from 1 to 2 feet in Massachusetts and northern New England, up to 25 inches in Connecticut, and from 6 to 21 inches in Rhode Island. In extreme southeastern New York and northern New Jersey, falls generally ranged from 12 to 18 inches but as much as 25 inches locally. New York City measured 15 inches, the greatest fall there in 8 years. At Pinkham Notch, N. H., 30 inches of snow fell in 24 hours, increasing the depth on the ground to 100 inches. Greenville, Maine, had 63 inches on the ground, the deepest since 1935. Throughout the area of heaviest snowfall, high winds gusted to 70 m.p.h. locally. Huge drifts (up to 9 feet in Maine) halted air and surface transportation. Many utility outages were reported and a number of roofs and buildings were crushed under the weight of the snow. This was the heaviest and most devastating snowstorm in years in Massachusetts. Damage in New England exceeded $5 million. New York City and Nassau County, N. Y., were nearly paralyzed on the 10th and 11th, and the estimated cost of snow removal in New York City exceeded $4 million.

The second snowstorm, far exceeding the record-breaker of the 9th and 10th in some areas, struck New England February 23-28. In this storm 2 to 4 feet of snow fell in much of southern and central Maine, northeastern Vermont, most of New Hampshire, eastern Massachusetts, and northern Rhode Island, and even heavier amounts were reported in the White Mountains. In parts of Massachusetts this was the heaviest snowstorm in 100 years. In Allston, Mass., the snow load on one fallen roof measured 102 pounds per square foot. Some sections of northern Rhode Island received up to 52 inches of snow from the two coastal storms and were virtually buried in large drifts. In New Hampshire, Mt. Washington Summit measured a new storm total of 97.8 inches, many buildings collapsed under the weight of the snow, and even ski resorts were closed by too much snow. In Maine 57 inches at West Forks was a new official state storm record. The snow depth at Rumford, Maine, was 6 feet. Estimates of losses in New England were at least $60 million.

A storm in the Carolinas on February 15-17 deposited up to 24 inches of snow in the mountains and heavy glaze in northeastern and north-central South Carolina and south-central North Carolina. This ice storm caused great forest damage and heavy utility losses. Many towers carrying high voltage wires were downed. Total damage was estimated at about $65 million.

Unusually heavy snow fell in Oregon's Columbia Basin and western counties on January 25-30. Falls of 2 to 3 feet at lower elevations in coastal areas from Coos County northward and heavier amounts at higher elevations broke all previous records. In Eugene the depth was 34 inches on the 30th. More than 200 farm buildings and 10 to 15 large industrial buildings collapsed under the weight of snow. Thousands of sheep perished, and thousands of telephone and power customers were without service for periods up to several days. Many roads and highways were closed by deep drifts. Three counties and parts of several others were declared disaster areas. Damage amounted to hundreds of thousands of dollars.

One of the worst spring snowstorms in many years occurred in southeastern Montana and northeastern Wyoming on April 25-27. Gale-force winds and snowfall ranging up to 2 feet or more damaged utility lines and forests. Tens of thousands of livestock were lost. Total losses were estimated at $5.5 million dollars in Wyoming and more than $1 million in Montana.

Snowfall was unusually heavy during October in northern New England, Idaho, and Colorado. In Colorado this was the coldest October, with major snowstorms on October 3 to 5 and 29 in the northeastern sections and on the 11-12th over most of the State. Snowfall during the first storm ranged up to 16 inches at Denver and 3 feet in the mountains. After the second storm, snowfall set new records for October in many areas.

Damage to crops, trees, and utility lines in Colorado totaled many thousands of dollars.

HAIL.--Hail losses during 1969 were unusually heavy. The Iowa Monthly Weather Summary for September gave the total hail losses in that State for the 1969 growing season as $25,350,000, a new record. A few of the most damaging hailstorms in the Nation are listed below.

On April 18 hail fell in Warren County, Ky., including about three quarters of the city of Bowling Green. Hailstones averaged about one inch in diameter but ranged up to 3 inches or larger in diameter. Insured damage to stationary objects, such as buildings, totaled about $2.1 million, according to preliminary estimates. In addition, many vehicles (perhaps as many as 15,000) were damaged, the amount ranging from $100 to $15,000 per car.

In parts of five southeastern Kansas Counties on May 21 hail with largest stones about 3 inches in diameter damaged property to the extent of $2.8 million at Hutchinson, $1.5 million at El Dorado, and $500,000 at Derby.

Many very severe hailstorms occurred in Texas during June. One of these hailstorms with high winds caused $3.2 million damage in Plainview and Hale County on the 10th. Another hailstorm, with stones up to 4 1/2 inches in diameter and some stones described as the size and shape of a brick, accompanied by winds of 50 to 60 m.p.h., caused estimated losses of $3 million in Winters and Runnels Counties on June 12. On the 13th several storms occurred, one of which struck parts of Baily, Hall, and Lamb Counties resulting in $3.6 million damage. But the most damaging hailstorm of the month struck Amarillo and vicinity on the 17th, causing $15 million property damage in the city and $1 million crop losses in the vicinity. This rates among the most damaging hailstorms on record.

TORNADOES.--During 1969 the total number of tornadoes was 607, the 1953-69 average is 642. Deaths

totaled only 66, much lower than the 17-yr. average of 119. Damage was also much less than usual.

The tornado season, as usual, began in the South. The first major tornado there on January 23 left a path of destruction from Jefferson to Newton Counties, Miss., killing 32 persons and injuring 241. Damage may have exceeded $2 million.

Tornadoes in southern portions of Alabama and Georgia on April 18 killed 2 persons, injured 45, and caused property losses of at least $2.5 million.

On May 8-10 tornadoes in western Ohio killed one person, injured 75 persons, and caused property losses estimated at more than $3 million.

In southern Missouri on June 22 tornadoes killed 6 persons, injured 42, and damaged or destroyed many buildings.

A tornado in Washtenaw and Wayne Counties, Mich., on July 4 injured 50 persons and caused property losses estimated at $2 million.

On August 9 a tornado in the Cincinnati area of Hamilton and Clermont Counties, Ohio, killed 4 persons and injured 247. Total storm damage was estimated at $10 to $12 million in Hamilton County and $200,000 in Clermont County.

On June 21 a tornado in Saline County, Kans., severely damaged or completely destroyed 104 homes, slightly damaged 571 others, and destroyed 7 business structures. Sixty persons were injured and total damage was estimated at $10 million.

HURRICANES.--Highlighting the storm weather scene for 1969, hurricane Camille took a high toll of human lives and set a new high for value of property destroyed. Camille on August 17 struck the Mississippi coast with winds estimated up to 200 m.p.h. and tides up to 24 feet. With intensity decreasing to that of a tropical storm as she moved northward over Mississippi, Camille swung eastward across Kentucky and Tennessee, the Virginias and southern Maryland. Recordbreaking rainfall and floods in southwestern Virginia caused further devastation. Deaths in the Gulf coastal area and southwestern Virginia totaled 256 and 68 persons were missing. Total damage was estimated at $1.42 billion, slightly exceeding the record amount set by Hurricane Betsy in 1965. Of the 10 hurricanes occurring in the north Atlantic during 1969, Camille was the only one that had a major effect on the United States.

OTHER STORMS.--One of the most destructive storms of the year produced heavy rain and snow in California on January 18-28. Heavy rains caused flooding and mudslides. Many homes and several sewage disposal plants were damaged or destroyed, bridges and parts of highways and railroads were washed out, utilities disrupted, and thousands of persons evacuated from their homes. The storm was blamed for at least 45 deaths and 10 injuries. Damage was estimated at $125 million for the seven counties adjoining the Los Angeles area and $10 million in the Central Valley. Additional heavy losses occurred in the Salinas Valley. Heavy snow fell in the mountains.

Southern California was again the victim of a severe storm of rain and snow on Feb. 20-25. At least 12 persons were killed by mudslides and snowslides and 5 were drowned. Utilities were disrupted, and more than 6,000 persons had to be evacuated from their homes. Much farmland was inundated with widespread loss of crops and livestock. Mountain snowfall approached the greatest of record. Property damage was at least $50 million and 6,000 persons had to be evacuated from their homes.

A tornado, hurricane-force winds and up to 11-inch rains battered the middle and upper Texas coast on February 13-14. Tides and high seas, up to 25 feet offshore, were the worst since hurricane Carla. Seven persons lost their lives, and property damage exceeded $6 million.

A devastating combination of wind and hail struck the lower Rio Grande Valley of Texas on May 12, causing at least $10 million damage to crops and $4 million to property. Hail averaging near an inch in diameter but varying from 1/2 to as much as 4 inches and high winds severely damaged or completely destroyed 80,000 to 85,000 acres of valuable crops such as melons, citrus, vegetables, and cotton.

Wind and hail in west-central and southern Iowa on June 28 injured 8 persons and caused at least $10 million damage to crops and property.

In central, east-central, and the northeast quarter of Kansas on June 21-22, hail, winds with measured gusts (unofficial) up to 104 m.p.h. at Kanapolis Dam, and lightning moved across seven counties. Fifty-six persons were injured and total damage exceeded a half million dollars.

On June 15 rain and hail in New Mexico caused $2 million damage to crops and property in Belen, and $3 million in Dona Ana County.

Statewide heavy rains, wind, hail, and lightning in Tennessee on June 23 took two lives, injured one person, and caused $8.6 million damage. In middle Tennessee 6 to 8 inches of rain fell in a 6- hour period. Winds gusted to 60 m.p.h.

Wind, rain, and hail caused heavy crop and property damage in the southern tier of counties of Wisconsin on June 29. Flood and crop losses were believed to be in excess of $10 million.

Rain, wind with gusts up to 80 m.p.h., and up to 2 3/4-inch hailstones struck the greater Kansas City, Mo., area and moved eastward to Saline County on July 9. Damage exceeded $5 million.

Heavy rains and melting snows caused a massive landslide in the Beaver Falls area of Alaska on November 28. An electrical generator was buried, causing a loss in excess of $1.5 million.

On July 4-5, 4 to over 11 inches of rain fell on 21 counties in northern Ohio between 6 p.m. of the 4th and 11 a.m. of the 5th. Wind gusts up to 100 m.p.h. and severe lightning accompanied the first line of thunderstorms, causing at least 15 deaths and considerable property damage. The heavy rainfall resulted in record floods in a number of streams, and 26 persons were drowned. Total storm losses included 41 deaths, 559 injuries, and over $65 million in damages.

FLOODS.--The snowmelt floods of March to May in the Red River of the North, Upper Mississippi, and the Missouri Basins caused 8 deaths and estimated property losses of $175 million.

Record flooding occurred in the mountains of western Virginia in the Upper James River Basin during the night of August 19-20 during the passage of the remanents of Hurricane Camille. Total rainfall ranged up to 12 inches at official stations and substantiated amounts up to 31 inches at other locations. The heavy rains caused landslides as well as flooding. As a result of the disaster 151 persons were reported dead or missing and damage in the State was estimated at $140 million which was included in the total damage of $1.42 billion caused by Camille.

EXCESSIVE PRECIPITATION

(Excessive Short Duration Rainfall)

Year 1969

This table contains statistics of maximum amounts of rainfall during the calendar year 1969. Data presented in this table are generally from stations equipped with recording gages. Stations are at Airport locations unless otherwise shown.

Excessive precipitation data for the years 1896-1935 inclusive, generally present the accumulated amounts of precipitation for each 5, 10, or 20 minute intervals during storms in which the rate of fall equaled or exceeded .25 inch in any 5 minute period, or .30 in any 10 minute period, or .35 in any 15 minute period, etc., the tabulation beginning with the 5 minute period where the rate of .05 inch in 5 minutes began and continuing by 10 or 20 minute intervals up to 120 minutes. A detailed explanation of the method used may be found in the publications listed in the last paragraph of this explanation.

The present method, adopted with data for the calendar year 1936, gives the maximum fall of precipitation for the periods 5 to 180 minutes, the maximum amounts being taken for the periods in which the fall is greatest for the given time, and is tabulated to show maximum amounts for 5, 10, 15, 20, 30, 45, 60, 80, 100, 120, 150 and 180 minutes, even if the fall does not equal the excessive rate for some of the periods. (The 15 minute amount was not computed for 1936-43 and the 150 minute amount was not computed for 1944 through 1948).

The following Table A shows limits at which precipitation was considered excessive in this publication:

TABLE A

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.25	60	.80
10	.30	80	1.00
15	.35	100	1.20
20	.40	120	1.40
30	.50	150	1.70
45	.65	180	2.00

This table is made up from the formula, $A = t + 20$ where A is the accumulated depth in hundredths of inches and t is the time in minutes.

For the years 1936 through 1948 stations in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, Oklahoma, and San Juan, P. R., used the limits shown in the following Table B:

TABLE B

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.40	60	1.50
10	.50	80	1.90
15	.60	100	2.30
20	.70	120	2.70
30	.90	150	3.30
45	1.20	180	3.90

This table is made up from the formula $A = 2t + 30$. Its use, however, was discontinued at the end of 1948 and Table A is used by all sections for 1949 and the following years.

Publication of Data. A summary of maximum precipitation data for the years prior to 1896 is published in the annual report of the Chief of the Weather Bureau for 1895-1896. Excessive precipitation data for the period 1881-1896 are published in the annual report of the Chief of the Weather Bureau 1896-1897. Data for the years 1897 through 1934 have been published in the appropriate annual reports of the Chief of the Weather Bureau. For the years 1935 through 1949 these data are published in the appropriate issue of the United States Meteorological Yearbook. For 1950 and succeeding years, excessive precipitation is presented in the annual issues of the Climatological Data National Summary.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
ALABAMA												
BIRMINGHAM												
JAN 23	.25	.38	.41	.47	.56	.60	.61	.68	.94	1.01	1.12	1.12
MAR 23	.38	.49	.52	.56	.67	.73	.85	.93	1.03	1.14	1.28	1.31
APR 5	.25	.34	.36	.44	.46	.46	.47	.47	.47	.48	.48	.52
MAY 9	.25	.43	.52	.58	.71	.74	.82	.87	.96	1.01	1.18	1.33
MAY 17	.22	.35	.40	.48	.62	.71	.78	.84	.88	.88	.89	.98
MAY 18	.34	.62	.71	.79	.96	1.03	1.10	1.14	1.22	1.35	1.42	1.50
MAY 19	.28	.45	.56	.67	.97	1.36	1.58	1.87	2.27	2.30	2.63	2.76
MAY 31	.30	.47	.51	.54	.56	.91	1.00	1.16	1.19	1.20	1.20	1.20
JUN 14	.38	.73	.82	1.06	1.20	1.28	1.68	1.69	2.00	2.23	2.23	2.26
JUL 1	.26	.29	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
JUL 7	.25	.30	.30	.33	.33	.33	.33	.33	.33	.34	.34	.37
JUL 22 T	M	M	M	M	M	M	1.05	1.05	1.05	1.05	1.05	1.05
SEP 3	.23	.42	.51	.58	.61	.63	.64	.65	.65	.65	.65	.65
SEP 5	.33	.65	.90	1.05	1.05	1.06	1.12	1.13	1.13	1.13	1.13	1.13
SEP 18	.26	.46	.61	.85	1.10	1.25	1.28	1.30	1.30	1.30	1.30	1.30
OCT 20	.17	.30	.37	.43	.47	.49	.52	.67	.67	.69	.70	.70
DEC 30	.39	.52	.55	.56	.56	.56	.56	.58	.61	.63	.63	.63
HUNTSVILLE												
APR 9	.27	.27	.27	.28	.35	.35	.35	.35	.35	.38	.38	.50
APR 9	.25	.35	.42	.55	.67	.77	.87	.95	1.05	1.13	1.27	1.37
MAY 5	.12	.22	.34	.41	.45	.45	.46	.46	.46	.46	.46	.46
MAY 18	.19	.25	.27	.30	.48	.75	.90	1.17	1.33	1.52	1.77	1.99
JUN 13	.35	.56	.60	.63	.69	.70	.70	.70	.70	.70	.70	.70
JUN 14	.50	.97	1.20	1.44	2.30	2.85	*3.20	3.95	4.35	*4.38	4.41	*4.42
JUN 20	.17	.30	.35	.40	.60	.61	.63	.65	.65	.65	.65	.65
JUL 9	.30	.53	.70	.83	1.01	1.06	1.07	1.07	1.07	1.07	1.07	1.07
JUL 23	.30	.40	.50	.80	.93	.94	1.03	1.06	1.07	1.07	1.09	1.10
JUL 27	.35	.50	.56	.61	.64	.66	.68	.70	.70	.71	.75	.75
AUG 14	.35	.52	.57	.60	.68	.68	.68	.68	.68	.68	.68	.68
AUG 20	.29	.45	.58	.62	.70	.72	.73	.73	.73	.73	.73	.73
AUG 31	.35	.50	.53	.60	.60	.60	.60	.60	.60	.61	.65	.65
SEP 5	.20	.40	.41	.44	.48	.50	.50	.55	.63	.67	.69	.82
SEP 7	.10	.20	.25	.31	.50	.70	.70	.70	.70	.70	.70	.70
NOV 19	.30	.35	.38	.40	.45	.50	.55	.63	.69	.73	.80	.87
DEC 29	.38	.48	.51	.55	.63	.87	.90	1.17	1.40	1.53	1.63	1.68
DEC 30	.35	.40	.45	.48	.53	.78	.78	1.02	1.22	1.24	1.39	1.57
MOBILE												
MAR 6	.20	.31	.35	.45	.65	.78	.94	1.18	1.40	1.47	1.52	1.55
APR 5	.28	.35	.50	.65	1.00	1.08	1.19	1.20	1.21	1.21	1.21	1.21
APR 10	.20	.39	.55	.62	.68	.69	.69	.72	.75	.89	.92	.97
MAY 8	.29	.57	.73	.91	1.25	1.65	1.81	1.93	2.00	2.00	2.03	2.05
MAY 16	.25	.45	.64	.83	1.13	1.32	1.70	2.23	2.30	2.33	2.62	2.66
MAY 17	.20	.35	.39	.44	.46	.51	.61	.68	.80	.88	1.01	1.07
JUL 7	.25	.50	.65	.81	1.11	1.32	1.37	1.39	1.40	1.40	1.40	1.40
JUL 9	.52	.91	1.05	1.26	1.33	1.35	1.35	1.35	1.35	1.35	1.35	1.35
JUL 16	.17	.33	.46	.55	.74	.86	.90	.95	1.03	1.11	1.23	1.23
JUL 18	.41	.75	.81	.86	1.02	1.04	1.62	1.78	2.09	2.31	3.05	*3.47
JUL 21	.17	.25	.36	.45	.54	.67	.73	.73	.73	.73	.73	.73
JUL 29	.33	.50	.51	.52	.52	.52	.52	.52	.52	.52	.52	.52
JUL 30	.33	.47	.68	.80	.82	.82	.82	.82	.82	.82	.82	.82
AUG 3	.30	.55	.55	.56	.56	.56	.56	.56	.56	.56	.56	.56
AUG 10	.35	.50	.70	.80	.95	.95	1.05	1.07	1.07	1.07	1.07	1.07
AUG 17	.28	.48	.58	.62	.75	.98	1.13	1.18	1.25	1.28	1.31	1.50
AUG 21	.35	.60	.80	.90	1.21	1.45	1.58	1.64	1.70	1.73	1.73	1.75
SEP 2	.25	.40	.42	.50	.75	1.13	1.15	1.15	1.15	1.15	1.15	1.15
MONTGOMERY												
MAR 8	.25	.33	.37	.38	.41	.42	.43	.43	.43	.43	.44	.44
MAY 23	.31	.37	.40	.42	.48	.50	.52	.58	.65	.66	.71	.78
MAY 8	.33	.45	.50	.55	.63	.72	.76	.96	.97	1.01	1.04	1.10
JUN 10	.22	.35	.52	.52	.52	.52	.56	.72	.78	.87	.88	.88
JUL 9	.19	.30	.38	.51	.73	.90	.92	.92	.92	.92	.92	.92
JUL 12	.20	.33	.37	.38	.42	.45	.47	.48	.49	.50	.51	.51
JUL 20	.32	.37	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
AUG 2	.18	.31	.44	.50	.54	.57	.57	.57	.57	.57	.57	.58
AUG 3	.25	.44	.56	.66	.81	.93	.96	.97	.98	1.01	1.01	1.01
AUG 10	.19	.28	.39	.43	.45	.46	.52	.54	.54	.54	.54	.54
AUG 13	.30	.51	.61	.62	.66	.66	.66	.66	.66	.66	.66	.68
AUG 20	.21	.31	.32	.39	.40	.41	.41	.41	.41	.43	.44	.44
SEP 19	.12	.22	.30	.40	.51	.52	.65	.73	.88	.91	.94	1.01
SEP 21	.14	.27	.35	.39	.46	.55	.71	.82	.98	1.12	1.43	1.63
ALASKA												
ANCHORAGE						NONE						
ANNETTE						NONE						
COLD BAY						NONE						
FAIRBANKS						NONE						
JUNEAU						NONE						
KING SALMON						NONE						
MCGRATH												
JUL 3	*.21	*.41	*.48	.53	*.70	.81	*.85	.87	.89	*.91	.94	*.95
ST. PAUL ISLAND						NONE						
YAKUTAT						NONE						
ARIZONA												
FLAGSTAFF												
JUL 23	.19	.30	.32	.48	.58	.69	.91	.96	1.02	1.05	1.05	1.05
JUL 25	*.50	*.97	*1.21	1.32	*1.55	1.59	1.60	1.60	1.60	1.60	1.60	1.61
PHOENIX												
SEP 15	*.68	*1.00	*1.14	1.23	*1.27	1.33	1.33	1.33	1.33	1.33	1.33	1.33
TUCSON												
JUL 16	.28	.38	.42	.46	.47	.48	.55	.57	.57	.58	.58	.59
AUG 1	.25	.45	.55	.55	.55	.59	.66	.66	.66	.66	.66	.66
AUG 10	.21	.30	.32	.32	.53	.62	.63	.63	.63	.63	.63	.63
AUG 28	.35	.53	.69	.75	.78	.79	.79	.80	.81	.81	.81	.81
SEP 5	.17	.32	.37	.42	.49	.50	.50	.50	.50	.50	.50	.50
SEP 15	.26	.48	.54	.56	.61	.61	.62	.62	.62	.62	.62	.62

T CLOCK MALFUNCTION
M NO RECORD

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
ARIZONA												
TUCSON						NONE						
YUMA						NONE						
ARKANSAS												
FORT SMITH												
JUN 1	.46	.62	.70	1.00	1.18	1.22	1.25	1.30	1.32	1.34	1.39	1.43
JUN 14	.27	.35	.36	.37	.39	.42	.45	.50	.50	.50	.52	.52
AUG 16	.26	.44	.50	.56	1.00	1.11	1.11	1.20	1.20	1.22	1.31	1.36
OCT 11	.55	.83	1.02	1.24	1.37	1.75	2.20	2.75	3.56	3.59	3.60	3.60
OCT 12	.20	.32	.41	.52	.78	.97	1.01	1.07	1.13	1.22	1.30	1.38
LITTLE ROCK												
JAN 29	.17	.27	.31	.34	.58	.65	.81	.83	.89	.97	.98	.98
JAN 30	.19	.30	.36	.49	.58	.75	.95	1.30	1.50	1.64	1.93	2.08
APR 9	.55	.75	.88	1.16	1.60	2.19	2.21	2.21	2.21	2.21	2.23	2.24
MAY 17	.22	.32	.43	.55	.73	.87	1.01	1.05	1.13	1.16	1.19	1.21
JUN 23	.25	.27	.28	.30	.31	.35	.39	.41	.42	.44	.44	.44
JUL 13	.31	.45	.62	.71	.83	.90	.91	1.08	1.11	1.11	1.11	1.12
JUL 27	.21	.36	.47	.52	.64	.67	.69	.69	.70	.70	.70	.70
AUG 15	.30	.47	.49	.66	.68	.68	.68	.81	.89	.90	.90	1.09
SEP 1	.35	.58	.78	.89	.94	1.11	1.18	1.21	1.22	1.22	1.22	1.22
SEP 23	.15	.30	.38	.45	.46	.47	.48	.48	.49	.59	.64	.64
CALIFORNIA												
BAKERSFIELD						NONE						
BISHOP						NONE						
BLUE CANYON						NONE						
EUREKA U						NONE						
FRESNO												
JAN 25	.16	.27	.38	.48	.67	.84	.95	1.09	1.24	1.33	1.48	1.65
LOS ANGELES												
JAN 20	.22	.34	.38	.49	.63	.85	.96	1.07	1.14	1.28	1.49	1.63
MT SHASTA R						NONE						
OAKLAND						NONE						
RED BLUFF						NONE						
SACRAMENTO						NONE						
SANDBERG R						NONE						
SAN DIEGO						NONE						
SAN FRANCISCO J												
JAN 19	*.38	.48	.51	.54	.60	.66	.68	.69	.71	.72	.73	.74
DEC 20	.18	.31	.37	.42	.49	.64	.74	.86	1.14	*1.29	1.72	*1.90
SANTA MARIA						NONE						
COLORADO												
ALAMOSA						NONE						
DENVER												
JUN 8	.17	.32	.44	.55	.70	.85	.96	1.03	1.06	1.19	1.27	1.30
JUL 19	.24	.35	.46	.52	.55	.61	.88	1.15	1.19	1.21	1.25	1.25
SEP 9	.22	.35	.42	.55	.72	.94	.96	1.00	1.01	1.09	1.23	1.30
GRAND JUNCTION												
SEP 20	.20	.35	.37	.37	.39	.43	.65	.67	.68	.68	.69	.68
PUEBLO												
JUL 20	.25	.42	.50	.58	.63	.62	.63	.64	.66	.67	.69	.68
AUG 23	.25	.41	.44	.47	.55	.65	.71	.74	.75	.75	.76	.76
SEP 7	.29	.34	.36	.38	.43	.46	.50	.54	.62	.63	.67	.69
CONNECTICUT												
BRIDGEPORT												
APR 18	.17	.32	.35	.42	.57	.61	.67	.80	.84	.90	.91	.95
APR 19	.30	.48	.52	.56	.60	.61	.93	.95	1.01	1.01	1.02	1.02
JUL 29	.18	.35	.44	.52	.58	.64	.66	.72	.77	.77	.77	.81
SEP 6	.31	.35	.36	.37	.52	.54	.55	.70	.73	.73	.75	.75
HARTFORD												
JUN 20	.24	.33	.40	.52	.54	.54	.54	.62	.62	.62	.62	.62
AUG 4	.22	.42	.45	.54	.69	.77	.79	.83	.83	.84	.85	.88
SEP 7	.17	.29	.37	.47	.54	.56	.60	.62	.62	.62	.62	.62
NEW HAVEN												
APR 19 C	.32	.35	.36	.36	.40	.41	.66	.77	.78	.78	.79	.79
DELAWARE												
WILMINGTON												
MAY 20	.15	.23	.28	.36	.54	.56	.76	.82	.95	1.00	1.05	1.08
JUN 3	.22	.38	.39	.45	.50	.64	.67	.74	.77	.80	.80	.80
JUN 18	.16	.26	.36	.39	.50	.55	.80	1.05	1.06	1.36	1.59	1.62
JUN 25	.20	.38	.58	.63	.64	.64	.64	.64	.64	.64	.64	.64
JUL 12	.28	.43	.46	.50	.57	.59	.62	.63	.63	.63	.63	.63
JUL 27	.22	.36	.38	.39	.43	.48	.52	.59	.95	.99	.99	1.31
JUL 28	.30	.33	.36	.38	.42	.52	.54	.58	.58	.58	.76	.92
AUG 4	.16	.24	.40	.48	.55	.58	.59	.60	.61	.62	.62	.62
SEP 2	.36	.65	.86	1.12	1.29	1.40	1.40	1.40	1.41	1.41	1.41	1.41

C RECORD ENDED JUNE 15.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
DIST. OF COLUMBIA												
WASH NAT'L AP												
JUN 2	.46	.62	.62	.62	.63	.70	.76	.77	.77	.77	.97	1.22
JUN 8	.18	.34	.40	.44	.45	.45	.45	.45	.45	.45	.45	.45
JUN 15	.37	.41	.42	.51	.54	.57	.58	.59	.60	.61	.62	.62
JUL 20	.38	.75	.83	.92	1.04	1.08	1.17	1.25	1.32	1.32	1.33	1.33
JUL 22	.73	1.03	*1.53	1.83	*2.53	3.08	*3.27	3.45	3.51	*4.18	4.32	*4.35
JUL 28	.42	.62	.62	.73	1.07	1.15	1.18	1.18	1.18	1.30	1.41	1.42
AUG 2	.56	.96	1.39	1.78	2.22	2.37	2.49	2.51	2.51	2.51	2.51	2.51
AUG 3	.27	.36	.37	.39	.43	.46	.52	.56	.60	.61	.63	.63
AUG 9	.22	.34	.37	.39	.42	.43	.43	.45	.71	.74	.75	.78
AUG 20	.28	.37	.40	.45	.53	.60	.63	.79	.80	.90	1.04	1.18
SEP 4	.33	.44	.53	.59	.72	.73	.84	.84	.85	.87	.89	.89
SEP 8	.60	.96	1.09	1.11	1.14	1.21	1.38	1.98	2.19	2.53	2.53	2.53
SEP 8	.23	.34	.38	.43	.47	.47	.47	.47	.47	.47	.47	.47
FLORIDA												
APALACHICOLA												
FEB 8	.30	.47	.67	.63	.74	1.08	1.30	1.53	1.66	1.78	1.98	2.14
MAR 18	.19	.31	.40	.42	.57	.78	.97	1.18	1.39	1.49	1.75	2.10
JUL 22	.26	.45	.54	.56	.60	.78	.84	.85	.85	.86	.87	.87
JUL 25	.24	.36	.46	.51	.55	.55	.55	.55	.59	.59	.59	.59
JUL 30	.18	.34	.43	.51	.53	.67	.81	.81	.81	.82	.82	.82
AUG 3	.25	.39	.49	.55	.69	.78	.82	.90	.97	1.26	1.34	1.55
AUG 3	.36	.59	.71	.78	.84	.87	.93	1.06	1.13	1.73	1.80	1.97
AUG 9	.23	.31	.46	.56	.76	.88	.89	.91	.92	.92	.92	.92
AUG 22	.32	.61	.86	1.15	1.64	2.10	2.22	2.27	2.30	2.34	2.41	2.45
AUG 23	.27	.47	.58	.64	.65	.66	.66	.66	.66	.66	.66	.66
AUG 23	.28	.50	.62	.73	.78	.81	.85	.88	.88	.88	.88	.88
AUG 31	.22	.43	.65	.75	.92	.92	1.03	1.05	1.07	1.12	1.36	1.37
SEP 16	.28	.48	.65	.79	1.01	1.52	1.92	2.01	2.10	2.22	2.61	2.68
SEP 20	.40	.63	.84	.99	1.33	1.56	1.83	2.01	2.11	2.15	2.19	2.70
OCT 1	.28	.42	.54	.70	.91	1.25	1.26	1.32	1.34	1.34	1.34	1.35
DAYTONA BEACH												
FEB 15	.40	.48	.50	.53	.60	.63	.70	.74	.80	.85	.86	.86
MAY 2	.18	.28	.35	.42	.54	.71	.79	.85	.89	.91	.93	.95
MAY 14	.39	.58	.69	.74	.80	.81	.82	1.14	1.14	1.21	1.40	1.95
MAY 19	.45	.75	1.05	1.25	1.43	1.57	1.67	1.78	1.80	1.80	1.80	1.80
MAY 26	.23	.45	.60	.73	.94	1.08	1.15	1.17	1.17	1.17	1.17	1.17
JUN 5	.14	.21	.33	.42	.51	.52	.52	.53	.63	.63	.65	.68
AUG 6	.16	.32	.33	.34	.35	.35	.39	.73	.74	.74	.74	.74
AUG 12	.25	.45	.58	.60	.60	.60	.60	.60	.64	.74	.74	.74
AUG 22	.27	.45	.50	.66	.85	.87	.90	.91	.93	.97	1.01	1.02
AUG 23	.52	.74	.82	.93	1.32	1.40	1.40	1.51	1.64	2.30	2.54	2.67
SEP 21	.26	.46	.63	.79	1.17	1.47	1.91	2.30	2.58	2.69	2.95	3.20
SEP 30	.25	.38	.42	.45	.48	.51	.58	.70	.99	1.15	1.23	1.28
OCT 1	.24	.44	.64	.70	.71	.74	.92	.96	.98	1.00	1.00	1.00
OCT 18	.16	.30	.31	.32	.38	.40	.40	.40	.40	.40	.40	.40
OCT 26	.25	.45	.52	.65	.85	.87	.90	.95	1.12	1.17	1.19	1.19
DEC 10	.34	.53	.55	.65	.72	.75	.80	.85	.90	.92	.96	1.00
FORT MYERS												
FEB 15	.42	.81	1.11	1.50	1.87	2.00	2.10	2.22	2.30	2.34	2.40	2.48
MAR 6	.40	.42	.43	.44	.45	.45	.45	.45	.45	.45	.45	.45
MAR 8	.16	.26	.30	.41	.56	.75	1.00	1.01	1.07	1.10	1.30	1.30
MAR 9	.53	.80	.91	.98	1.01	1.05	1.06	1.11	1.17	1.19	1.22	1.24
MAY 3	.39	.41	.45	.45	.45	.45	.45	.45	.45	.67	.70	.70
MAY 14	.45	.78	.95	1.01	1.05	1.06	1.06	1.06	1.07	1.11	1.11	1.11
MAY 18	.29	.55	.62	.74	.79	.82	.84	.84	.84	.85	.96	1.04
JUN 8	.37	.70	.77	.91	1.22	1.35	1.36	1.37	1.37	1.37	1.37	1.37
JUN 13	.25	.35	.42	.47	.52	.54	.54	.54	.54	.54	.54	.54
JUN 14	.25	.45	.52	.63	.82	.93	1.04	1.10	1.40	1.76	2.06	2.27
JUN 27	.25	.27	.27	.27	.27	.27	.27	.27	.27	.27	.30	.30
JUL 4	.27	.47	.52	.55	.58	.73	.83	.83	.83	.83	.83	.83
JUL 7	.30	.48	.52	.54	.57	.57	.57	.57	.57	.57	.57	.57
JUL 17	.37	.57	.59	.67	.98	1.29	1.31	1.47	1.50	1.50	1.53	1.54
JUL 18	.90	1.50	1.58	1.63	1.66	1.68	1.70	1.75	1.98	2.00	2.02	2.03
JUL 29	.33	.48	.52	.56	.57	.57	.57	.57	.57	.57	.57	.57
AUG 4	.18	.30	.32	.40	.51	.69	.75	.80	.86	.94	.97	1.00
AUG 4	.67	.79	.80	.81	.84	.87	.87	.88	.89	.89	.89	.91
AUG 8	.30	.36	.37	.40	.41	.43	.45	.45	.45	.45	.45	.45
AUG 29	.33	.48	.60	.75	.87	.89	.90	.90	.90	.90	.90	.90
SEP 1	.45	.61	.63	.66	.79	.84	.86	.95	.95	.95	.97	.97
SEP 2	.57	1.13	1.30	1.45	1.80	2.20	2.77	3.10	3.47	3.50	4.70	*5.18
SEP 13	.33	.40	.41	.45	.48	.49	.50	.50	.51	.52	.52	.52
SEP 15	.42	.71	.72	.74	.75	.75	.75	.75	.76	.76	.76	.76
SEP 17	.60	1.10	1.13	1.48	1.72	1.78	1.80	1.80	1.80	1.80	1.80	1.80
SEP 21	.16	.31	.34	.36	.50	.57	.58	.58	.58	.58	.58	.58
SEP 22	.47	.82	.97	1.30	1.70	1.88	2.56	2.63	2.63	2.63	2.63	2.63
SEP 28	.15	.30	.35	.40	.43	.43	.43	.45	.46	.46	.47	.62
OCT 1	.36	.51	.58	.68	.90	.96	.96	.96	.96	.96	.96	.96
OCT 23	.17	.30	.38	.48	.75	.84	.84	.84	.84	.84	.84	.84
OCT 23	.52	.86	.95	.98	1.02	1.05	1.05	1.06	1.06	1.07	1.07	1.07
OCT 26	.25	.37	.40	.43	.62	.73	.95	1.07	1.20	1.22	1.22	1.23
DEC 10	.61	.94	1.03	1.18	1.66	1.89	2.19	2.54	2.68	2.81	2.82	2.82
DEC 22	.25	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29
JACKSONVILLE												
MAR 24	.29	.46	.56	.62	.68	.71	.74	.79	.80	.82	.83	.83
MAY 15	.38	.67	1.03	1.32	1.69	2.01	2.11	2.18	2.18	2.18	2.18	2.18
JUN 5	.79	*1.44	*2.15	2.82	*2.85	2.85	2.87	2.95	3.10	3.16	3.18	3.18
JUN 30	.48	.63	.85	.94	.97	1.01	1.01	1.01	1.01	1.01	1.01	1.01
JUL 22	.31	.54	.63	.64	.66	.67	.68	.68	.68	.69	.69	.69
JUL 30	.33	.53	.72	.95	1.24	1.28	1.37	1.39	1.43	1.43	1.45	1.47
AUG 3	.56	.92	1.17	1.46	1.79	2.25	2.40	2.47	2.56	2.62	2.69	2.71
AUG 6	.25	.46	.69	.84	.94	.96	.96	.96	.96	.96	.96	1.03
AUG 12	.34	.64	.76	.92	1.10	1.14	1.16	1.16	1.16	1.16	1.16	1.16
AUG 15	.34	.60	.90	1.03	1.04	1.04	1.04	1.04	1.04	1.04	1.05	1.10
AUG 22	.36	.64	.91	1.05	1.24	1.55	1.64	1.70	1.72	1.76	1.85	1.88
AUG 23	.29	.41	.47	.58	.67	.74	.80	.83	.90	.99	1.07	1.35
AUG 30	.26	.48	.52	.62	.74	.84	.91	1.00	1.01	1.08	1.10	1.12
SEP 2	.25	.46	.56	.65	.76	.80	.80	.82	.82	.84	.85	.85
SEP 13	.18	.34	.45	.47	.49	.52	.53	.54	.54	.54	.54	.54
SEP 20	.32	.48	.52	.53	.65	.96	1.12	1.43	1.72	1.77	1.84	1.91
SEP 21	.24	.35	.42	.43	.64	.68	.69	.78	.85	.85	.85	.85
SEP 23	.18	.29	.40	.50	.65	.72	.76	.77	.86	.87	.87	.88
SEP 29	.24	.35	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
SEP 30	.29	.36	.45	.50	.55	.68	.84	1.04	1.15	1.34	1.46	1.53
OCT 1	.43	.67	.75	.81	.85	.93	.96	.99	1.06	1.11	1.15	1.16
DEC 10	.17	.30	.37	.41	.48	.57	.62	.73	.78	.83	.91	.94

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
FLORIDA												
KEY WEST												
[illegible]	[illegible]	.34	.47	.65	.82	.86	.94	[illegible]	1.09	1.38	[illegible]	[illegible]
[illegible]	.15	.44	.57	[illegible]	.81	.84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB [illegible]	.25	.31	.45	.61	.72	.81	.93	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	.15	.25	.35	.41	.49	.59	.77	.79	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	.27	.38	.60	.75	.93	.95	.98	.99	[illegible]	1.28	[illegible]	1.71
[illegible]	.16	.25	.37	.44	.59	.83	.98	[illegible]	1.06	1.12	[illegible]	[illegible]
[illegible]	.42	.83	1.22	[illegible]	1.93	2.12	2.21	2.36	2.51	[illegible]	[illegible]	[illegible]
[illegible]	.20	.35	[illegible]	[illegible]	.54	[illegible]	.57	[illegible]	[illegible]	.62	[illegible]	.62
[illegible]	.25	.35	.35	[illegible]	[illegible]	[illegible]	[illegible]	.42	[illegible]	.42	[illegible]	[illegible]
[illegible]	.34	.47	.67	[illegible]	.74	.79	.87	[illegible]	[illegible]	[illegible]	.93	[illegible]
[illegible]	.33	.70	[illegible]	[illegible]	1.64	1.65	1.65	[illegible]	[illegible]	1.68	[illegible]	[illegible]
JUL [illegible]	.17	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
[illegible]	M	M	M	M	M	M	M	M	M	M	M	M
[illegible] 25	.25	.37	.47	.49	.50	.50	[illegible]	.52	[illegible]	.56	[illegible]	[illegible]
SEP 19	.33	.53	.60	.64	.68	.70	.75	.81	[illegible]	1.03	[illegible]	[illegible]
SEP [illegible]	.27	.33	.34	.35	.42	.49	.52	.52	[illegible]	.62	[illegible]	[illegible]
[illegible] 15	.43	.71	.80	.87	1.01	1.23	1.25	[illegible]	[illegible]	1.73	[illegible]	[illegible]
SEP [illegible]	.25	.36	.45	.54	.82	1.01	1.03	[illegible]	[illegible]	1.09	[illegible]	[illegible]
SEP [illegible]	.38	.75	[illegible]	[illegible]	[illegible]	1.83	[illegible]	[illegible]	[illegible]	2.03	[illegible]	[illegible]
[illegible]	M	M	M	M	M	M	1.17	[illegible]	[illegible]	1.59	[illegible]	[illegible]
[illegible]	.40	.74	.97	[illegible]	1.06	1.09	[illegible]	1.19	[illegible]	1.23	[illegible]	[illegible]
[illegible]	.35	.47	.60	.64	.76	1.01	1.19	1.43	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	.20	.33	.43	[illegible]	.63	[illegible]	.69	.76	[illegible]	.78	[illegible]	[illegible]
[illegible]	.44	.67	.74	.85	.92	1.22	1.35	[illegible]	[illegible]	1.61	[illegible]	[illegible]
[illegible]	.31	.50	.62	[illegible]	1.13	1.63	2.22	[illegible]	[illegible]	3.35	[illegible]	[illegible]
[illegible] 29	.42	.82	.93	1.19	[illegible]	[illegible]	1.70	1.77	[illegible]	1.92	[illegible]	[illegible]
[illegible] 14	.45	.57	.59	.61	.68	[illegible]	.88	.99	[illegible]	1.01	[illegible]	[illegible]
MIAMI BEACH												
[illegible] 4	.42	.59	.61	[illegible]	.65	[illegible]	[illegible]	.78	.79	[illegible]	.81	[illegible]
JAN [illegible]	.34	.40	.41	[illegible]	.42	.42	.44	.44	.45	.45	.46	[illegible]
FEB 15	.55	.70	.75	.95	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 12	.29	.44	.52	[illegible]	[illegible]	[illegible]	.98	[illegible]	[illegible]	[illegible]	[illegible]	1.42
[illegible] 14	.34	.56	.65	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 20	.29	.44	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
[illegible] 27	.35	.57	.67	[illegible]	.79	.94	.94	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	.35	.60	.78	.81	.81	[illegible]	.81	[illegible]	.81	[illegible]	[illegible]	[illegible]
[illegible] 6	.38	.76	.84	[illegible]	1.11	1.20	[illegible]	[illegible]	[illegible]	1.30	[illegible]	[illegible]
[illegible] 13	.47	.80	.86	.95	.98	1.06	1.19	[illegible]	[illegible]	1.61	[illegible]	[illegible]
JUN 13	.26	.42	.47	.56	.67	.69	.69	.72	.72	[illegible]	[illegible]	[illegible]
[illegible] 19	.25	.47	.50	.52	.53	[illegible]	.65	.75	.75	[illegible]	[illegible]	[illegible]
[illegible]	.30	.55	.65	.65	[illegible]	1.55	2.20	2.40	2.41	2.41	[illegible]	2.42
JUL 1	.31	.56	.84	.97	[illegible]	1.18	1.42	1.93	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 19	.43	.75	.90	1.16	1.29	1.34	1.35	1.38	[illegible]	1.49	[illegible]	1.55
[illegible] 30	.44	.97	1.08	[illegible]	1.26	1.57	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP 13	*.80	*1.55	*1.75	[illegible]	[illegible]	2.25	2.47	2.60	2.69	[illegible]	2.67	[illegible]
OCT 23	.32	.52	.57	[illegible]	[illegible]	[illegible]	.93	[illegible]	[illegible]	1.03	[illegible]	[illegible]
OCT 30	.35	.45	.50	.56	.65	[illegible]	[illegible]	[illegible]	[illegible]	1.08	[illegible]	[illegible]
OCT 31	.15	.25	.37	.40	.50	[illegible]	.65	.67	.67	.69	.69	.69
DEC 1[illegible]	.25	.43	.46	.52	.58	.63	.63	.63	.63	.63	.63	.63
MIAMI												
JAN 4	.45	.55	.55	.55	.61	[illegible]	.61	.62	.64	.65	.65	.65
JAN 20	.21	.31	.35	.39	.42	.67	.77	.88	.88	.88	.89	.88
JAN 25	.50	.80	.90	[illegible]	[illegible]	[illegible]	1.17	1.17	1.17	1.17	[illegible]	1.17
JAN 27	.25	.40	.44	.48	.58	.60	.65	1.12	1.16	[illegible]	[illegible]	[illegible]
FEB 15	.30	.55	.60	.90	[illegible]	1.25	1.39	[illegible]	1.58	1.68	1.74	[illegible]
APR 23	.40	.78	.85	[illegible]	1.41	1.54	[illegible]	1.58	1.63	1.63	1.63	[illegible]
MAY 3	.32	.56	.58	.61	.63	.66	.73	.79	.79	.79	.79	.79
MAY 12	.50	.70	.75	.96	[illegible]	1.14	1.22	[illegible]	[illegible]	1.67	[illegible]	[illegible]
MAY 20	.35	.61	.63	.63	.63	.63	.63	.63	.63	.63	.63	.63
MAY 27	.35	.59	.62	.72	.82	[illegible]	1.45	1.54	1.55	1.57	1.59	[illegible]
MAY 28	.40	.75	.85	.92	.98	[illegible]	1.05	[illegible]	1.05	[illegible]	[illegible]	[illegible]
[illegible] 4	.29	.46	.52	.54	.58	.60	.66	.69	.74	.75	.75	.75
JUN 6	.26	.49	.54	.64	.76	.85	.94	[illegible]	1.31	1.39	1.44	1.47
[illegible] 13	.21	.41	.43	.51	.57	[illegible]	.67	.72	.74	.77	.77	[illegible]
[illegible] 17	M	M	M	M	M	M	M	M	M	M	M	M
JUN 25	.23	.35	.45	.47	.47	.47	.47	.47	.47	.65	.65	.65
JUN 26	.20	.30	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
JUL 1	.37	.50	.58	.73	.79	.82	.85	.99	1.01	1.03	[illegible]	[illegible]
JUL 1	.32	.47	.63	.65	.67	.67	.70	.70	.70	.70	.70	.70
[illegible] 30	.45	.78	.95	1.13	1.31	1.67	[illegible]	2.14	2.37	2.58	2.63	2.66
AUG 5	.30	.50	.77	.90	1.02	1.35	[illegible]	[illegible]	1.35	1.35	1.35	[illegible]
[illegible] 11	.25	.35	.45	.55	.65	.75	.86	.94	.97	.99	.99	.99
SEP 5	.40	.67	.75	.81	.85	.90	.92	.92	.92	.92	.92	.92
SEP 13	.15	.30	.35	.45	.50	.50	.54	.60	.70	.77	.81	.81
SEP 17	.25	.30	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41
SEP 24	.40	.70	.92	[illegible]	1.23	1.24	1.29	1.30	1.41	1.44	1.49	[illegible]
SEP 28	.33	.58	[illegible]	[illegible]	1.02	1.09	[illegible]	1.29	1.31	1.32	1.33	1.37
OCT 2	.25	.34	.37	.38	.40	.40	.40	.41	.41	.41	.43	.43
OCT 17	.25	.39	.41	.42	.42	.42	.42	.43	.49	.54	.55	.55
OCT 23	.43	.77	[illegible]	1.22	1.57	1.83	2.03	2.12	2.12	2.12	2.12	2.12
OCT 24	.27	.40	.55	.55	.82	.97	1.00	1.00	1.01	1.02	[illegible]	1.46
OCT 24	.50	.82	.97	[illegible]	1.25	1.29	1.30	[illegible]	[illegible]	1.30	1.31	[illegible]
OCT 30	.37	.45	.55	.63	.95	[illegible]	[illegible]	[illegible]	1.20	1.47	1.59	[illegible]
OCT 30	.30	.50	.55	.60	[illegible]	.75	.80	.85	.85	.87	.89	[illegible]
OCT 31	.20	.25	.39	.38	.57	[illegible]	.78	[illegible]	.82	.88	.99	.98
DEC 10	.29	.40	.57	.60	.73	.85	1.09	[illegible]	1.09	1.09	[illegible]	[illegible]
MIAMI U												
JAN 4	.33	.35	.38	.38	.38	.39	[illegible]	.42	.46	.46	.47	.47
JAN 11	.16	.28	.39	.53	.70	.87	.93	.99	1.01	[illegible]	[illegible]	[illegible]
FEB 15	.67	1.03	1.28	1.31	[illegible]	1.46	[illegible]	[illegible]	2.05	[illegible]	[illegible]	[illegible]
APR 13	.42	.54	.56	[illegible]	1.14	1.43	[illegible]	[illegible]	2.06	2.07	[illegible]	[illegible]
APR 25	.21	.30	.34	.37	.43	.43	.43	.43	.43	.49	.57	[illegible]
APR 28	.37	[illegible]	.69	[illegible]	.91	.95	.99	.95	.95	.95	.97	[illegible]
APR 29	.24	.37	.43	.48	.51	.52	.53	.54	.54	.54	.54	.54
[illegible] 12	[illegible]	[illegible]	.43	.59	.73	[illegible]	.95	.99	.99	[illegible]	[illegible]	[illegible]
[illegible] 12	.19	.35	.39	.51	.70	.90	[illegible]	[illegible]	1.86	[illegible]	[illegible]	[illegible]
MAY 14	.25	.35	.43	.48	.62	.64	.69	[illegible]	.87	[illegible]	[illegible]	[illegible]
MAY [illegible]	.69	1.20	[illegible]	[illegible]	1.85	2.23	[illegible]	[illegible]	3.74	[illegible]	[illegible]	[illegible]
MAY 27	.34	.50	.59	[illegible]	.85	.85	.85	.92	1.09	[illegible]	1.14	1.14
JUN 5	.59	1.16	1.69	[illegible]	2.69	[illegible]	3.54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN 12	.25	.42	.49	.55	.63	.70	.72	.74	.74	[illegible]	[illegible]	.83
[illegible] 19	.57	.73	.77	[illegible]	.77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	.37	.42	.59	[illegible]	.69	[illegible]	[illegible]	[illegible]	1.34	[illegible]	[illegible]	[illegible]
[illegible]	.32	.39	.54	.57	.57	.57	.57	.57	.57	[illegible]	.57	[illegible]
JUN 22	.18	.33	.43	[illegible]	.63	[illegible]	[illegible]	[illegible]	1.15	[illegible]	1.19	[illegible]
JUL 2	.45	.83	[illegible]	1.26	1.37	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL 25	.25	.38	.49	[illegible]	.63	[illegible]	.69	[illegible]	.68	[illegible]	.59	.68
JUL [illegible]	.37	.43	.52	.60	.67	[illegible]	.99	[illegible]	1.57	[illegible]	1.59	[illegible]
[illegible]	.23	.37	.45	.50	.53	[illegible]	.57	[illegible]	.87	[illegible]	[illegible]	.95
AUG 13	.25	.45	.52	.82	[illegible]	[illegible]	[illegible]	[illegible]	1.21	[illegible]	[illegible]	[illegible]
AUG [illegible]	.24	.43	.57	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.38	[illegible]	1.39	1.38
SEP 12	.15	.27	.38	[illegible]	.60	[illegible]	.71	.74	[illegible]	[illegible]	[illegible]	[illegible]

T CLOCK MALFUNCTION
M NO RECORD

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
FLORIDA												
MIAMI												
SEP 13	.24	.42	.54	.72	.82	.84	.87	.94	.98	1.00	1.03	1.04
SEP 18	.26	.41	.53	.58	.60	.60	.67	.71	.71	.71	.75	.76
OCT 1	.32	.41	.43	.45	.47	.47	.47	.47	.47	.47	.47	.47
OCT 10	.31	.45	.55	.60	.75	.93	1.03	1.35	1.44	1.47	2.18	2.23
OCT 31	.18	.31	.39	.45	.46	.47	.48	.62	.65	.71	.75	.75
NOV 26	.21	.33	.46	.57	.67	.71	.77	.89	1.15	1.31	1.32	1.34
DEC 10	.46	.78	.94	1.01	1.05	1.06	1.06	1.07	1.07	1.07	1.07	1.07
ORLANDO												
FEB 6	.21	.29	.31	.37	.55	.72	.91	1.06	1.24	1.37	1.48	1.67
FEB 15	.61	.64	.72	.74	.77	.81	.84	.91	.99	1.04	1.10	1.15
APR 16	.49	.90	.97	1.15	1.22	1.25	1.25	1.25	1.25	1.25	1.25	1.25
APR 19	.33	.45	.47	.50	.50	.50	.50	.50	.50	.50	.50	.50
MAY 19	.19	.36	.41	.49	.63	.85	.91	.92	.92	.92	.92	.92
JUN 3	.25	.47	.51	.56	.61	.61	.61	.61	.61	.61	.61	.61
JUN 6	.69	1.21	1.55	1.75	2.06	2.20	2.22	2.24	2.26	2.28	2.28	2.28
JUN 7	.19	.36	.38	.41	.47	.63	.66	.67	.68	.68	.68	.68
JUN 10	.36	.50	.62	.65	.66	.66	.66	.66	.66	.66	.66	.66
JUL 2	.18	.31	.35	.39	.43	.45	.45	.45	.45	.45	.45	.45
JUL 4	.43	.57	.62	.77	1.00	1.15	1.17	1.17	1.17	1.17	1.17	1.17
JUL 5	.30	.51	.58	.68	.98	1.03	1.05	1.06	1.06	1.06	1.06	1.06
JUL 14	.25	.36	.38	.47	.51	.51	.51	.51	.51	.51	.51	.51
JUL 18	.18	.33	.38	.41	.43	.43	.43	.43	.43	.43	.43	.43
JUL 2[illegible]	.36	.44	.44	.45	.51	.52	.54	.54	.54	.54	.54	.61
JUL 24	.25	.36	.37	.38	.39	.40	.40	.40	.40	.40	.40	.40
AUG 3	.59	.90	.95	.97	1.02	1.04	1.04	1.27	1.29	1.29	1.30	1.31
AUG 4	.23	.34	.39	.45	.49	.52	.54	.64	.73	.78	.86	.91
AUG 14	.26	.40	.47	.52	.56	.58	.60	.63	.65	.66	.69	.69
AUG 17	.23	.34	.42	.52	.53	.53	.53	.53	.53	.53	.53	.53
AUG 26	.20	.35	.41	.54	.67	.72	.73	.73	.73	.73	.73	.74
AUG 30	.27	.30	.31	.32	.32	.44	.46	.46	.46	.46	.46	.46
SEP 16	.17	.27	.32	.37	.56	.57	.57	.57	.57	.57	.57	.57
SEP 21	.30	.59	.69	.90	1.17	1.47	1.75	1.88	1.95	1.98	2.01	2.06
SEP 23	.33	.48	.65	.66	.68	.70	.71	.72	.73	.73	.74	.75
SEP 26	.23	.36	.39	.42	.46	.47	.47	.47	.47	.47	.47	.47
SEP 30	.23	.32	.35	.37	.40	.46	.52	.60	.64	.64	.64	.64
OCT 2	.25	.46	.49	.51	.60	.66	.70	.77	.81	.85	.97	1.06
OCT 2	.33	.42	.54	.55	.56	.57	.68	.75	.78	.82	.96	1.09
OCT 19	.19	.33	.35	.41	.65	.90	1.00	1.05	1.19	1.40	1.53	1.69
OCT 22	.21	.36	.45	.56	.63	.95	.95	.95	.95	.95	.95	.95
OCT 27	.23	.33	.35	.44	.52	.55	.56	.56	.56	.60	.60	.60
DEC 9	.22	.40	.49	.54	.65	.79	.96	1.03	1.23	1.26	1.34	1.39
PENSACOLA												
JAN 22	.15	.25	.32	.43	.57	.66	.70	.70	.70	.70	.70	.72
FEB 8	.23	.43	.59	.70	.85	.91	.95	.96	.96	.98	1.04	1.41
MAR 6	.28	.38	.44	.48	.54	.62	.67	.70	.76	.81	.90	.99
MAR 17	.12	.23	.29	.35	.50	.65	.80	.98	1.21	1.39	1.67	2.05
APR 10	.12	.21	.31	.37	.47	.62	.82	.96	.99	1.01	1.04	1.06
APR 23 C	.26	.31	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33
TALLAHASSEE												
MAR 6	.28	.39	.45	.50	.54	.59	.72	.87	1.16	1.25	1.42	1.76
MAR 24	.32	.47	.55	.61	.79	.88	.98	1.08	1.17	1.27	1.36	1.46
APR 23	.38	.74	.75	.80	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01
JUN 5	.40	.79	.90	.93	.95	.98	.99	.99	.99	.99	1.01	1.24
JUN 10	.38	.61	.68	.73	1.24	1.46	1.57	1.68	1.83	1.88	1.97	1.97
JUN 30	.52	.74	.89	1.04	1.15	1.24	1.25	1.25	1.25	1.25	1.25	1.25
JUL 5	.14	.25	.29	.42	.56	.58	.58	.58	.58	.58	.58	.58
JUL 6	.18	.35	.37	.39	.44	.44	.44	.44	.44	.44	.44	.44
JUL 9	.26	.37	.39	.40	.75	.77	.78	.78	.78	.78	.78	.78
JUL 16	.33	.65	.68	.79	1.18	1.42	1.65	1.94	2.13	2.38	2.61	2.71
JUL 18	.31	.60	.63	.68	.77	.80	.80	.80	.80	.80	.80	.80
JUL 19	.29	.52	.57	.67	.84	.93	.97	1.00	1.00	1.00	1.00	1.00
JUL 21	.50	.71	.86	1.05	1.71	2.11	2.34	2.91	3.56	3.80	4.13	4.24
JUL 22	.38	.70	.72	.73	.75	.76	.77	.77	.77	.77	.77	.77
JUL 29	.27	.41	.44	.46	.47	.48	.52	.53	.53	.53	.53	.53
JUL 29	.28	.45	.52	.64	.76	.84	.87	.91	.92	.92	.92	.92
AUG 10	.42	.84	.99	1.08	1.18	1.19	1.19	1.19	1.19	1.19	1.19	1.19
AUG 22	.25	.48	.67	.90	1.30	1.48	1.52	1.55	1.57	1.61	1.67	1.70
SEP 18	.17	.33	.33	.34	.35	.41	.42	.42	.48	.73	.80	.83
SEP 20	.34	.43	.48	.55	.67	1.02	1.22	1.33	1.46	1.77	1.90	2.05
SEP 21	.11	.20	.30	.35	.55	.77	.90	1.08	1.23	1.34	1.46	1.77
SEP 21	.65	1.05	1.25	1.40	1.60	2.06	2.48	2.86	3.27	3.48	3.83	4.30
OCT 19	.25	.31	.31	.32	.32	.32	.33	.33	.34	.35	.35	.35
NOV 19	.18	.31	.34	.43	.49	.52	.55	.56	.57	.57	.57	.57
DEC 25	.25	.45	.48	.51	.55	.65	.70	.73	.76	.80	.83	.86
TAMPA												
FEB 15	.55	.85	.95	1.08	1.23	1.28	1.31	1.37	1.42	1.50	1.58	1.58
MAR 8	.23	.38	.43	.46	.53	.56	.65	.79	.85	.92	1.07	1.28
MAY 16	.60	1.10	1.20	1.30	1.86	2.21	2.30	2.37	2.40	*2.40	2.40	*2.40
MAY 27	.42	.62	.85	.98	1.45	1.72	1.77	1.80	1.80	1.80	1.80	1.85
JUN 6	.50	.75	.80	1.10	1.60	1.75	1.80	1.82	1.82	1.82	1.82	1.82
JUN 7	.17	.24	.32	.37	.61	.67	.69	.70	.70	.70	.70	.70
JUN 21	.15	.28	.36	.40	.43	.43	.43	.43	.44	.44	.44	.44
JUL 17	.27	.31	.33	.35	.61	.63	.67	.76	.76	.76	.76	.76
JUL 18	.30	.58	.72	.94	1.27	1.44	1.79	1.80	1.80	1.82	1.85	1.88
JUL 19	.33	.62	.71	.92	1.16	1.18	1.20	1.24	1.29	1.33	1.37	1.40
JUL 27	.15	.30	.35	.40	.45	.45	.45	.45	.45	.45	.45	.45
JUL 31	.47	.75	.78	.80	.83	.84	.85	.85	.85	.85	.85	.89
AUG 1	.39	.63	.63	.63	.64	.65	.65	.65	.65	.65	.65	.65
AUG 5	.21	.30	.41	.49	.67	.87	1.18	1.46	1.65	1.73	1.94	2.20
AUG 11	.20	.38	.42	.43	.64	.70	.71	.72	.73	.75	.78	.80
AUG 12	.18	.32	.37	.49	.67	.87	.92	.92	1.15	1.17	1.27	1.33
AUG 16	.25	.38	.40	.43	.43	.52	.53	.55	.55	.55	.55	.55
AUG 17	.20	.35	.45	.60	.61	.71	.71	.71	.71	.71	.71	.71
AUG 24	.27	.38	.52	.57	.67	.72	.74	.74	.74	.74	.75	.75
AUG 29	.30	.45	.55	.58	.59	.60	.80	1.15	1.15	1.15	1.17	1.17
SEP 7	.20	.34	.37	.41	.51	.59	.59	.59	.60	.60	.60	.60
SEP 15	.25	.41	.49	.50	.52	.55	.94	1.00	1.23	1.40	1.68	1.95
OCT 14	.40	.64	.73	.77	.95	.95	.95	.95	.95	.95	.95	.95
WEST PALM BEACH												
FEB 13	.40	.65	.76	.80	.87	.98	1.02	1.05	1.08	1.12	1.19	1.25
MAR 9	.30	.50	.55	.73	.80	.86	1.00	1.05	1.10	1.13	1.19	1.23
MAY 3	.30	.56	.66	.80	1.05	1.19	1.40	1.60	1.77	1.81	1.85	1.93
MAY 4	.20	.31	.35	.39	.59	.68	.70	.84	.94	.98	1.03	1.04
MAY 13	.35	.53	.58	.80	.83	.86	.92	.93	.93	.93	.93	.93
MAY 20	.23	.34	.35	.35	.45	.51	.54	.55	.55	.55	.55	.55
JUN 5	.40	.42	.43	.47	.50	.65	.76	.79	.82	.82	.82	.82
JUN 8	.27	.50	.50	.56	.65	.75	.79	.82	.82	.82	.82	.82
JUN 15	.25	.40	.50	.58	.68	.76	.78	.78	.78	.78	.78	.78
JUN 19	.35	.43	.44	.47	.57	.63	.73	.80	.82	.82	.82	.82
JUN 20	.60	*1.15	*1.50	1.95	*2.60	3.45	3.90	3.91	4.25	4.31	4.33	4.52
FLORIDA												
WEST PALM BEACH												
JUL 1	.22	.43	.53	.64	.79	.86	.88	.90	.91	.93	.98	1.00
JUL 2	.25	.43	.47	.50	.52	.55	.56	.58	.58	.58	.58	.58
JUL 17	.35	.55	.65	.74	.82	.83	.83	.83	.83	.83	.83	.83
JUL 18	.27	.29	.30	.30	.30	.30	.30	.34	.34	.34	.35	.35
JUL 20	.31	.43	.50	.51	.52	.53	.53	.53	.53	.53	.53	.53
JUL 26	.35	.61	.63	.64	.65	.68	.72	.83	.83	.84	.84	.84
JUL 28	.25	.35	.42	.52	.75	.88	.98	1.01	1.01	1.01	1.01	1.01
AUG 2	.15	.26	.35	.42	.65	.75	.77	.79	.83	.87	.88	.88
AUG 6	.20	.25	.28	.44	.52	.58	.62	.72	.73	.73	.74	.74
AUG 11	.50	.75	1.05	1.26	1.61	2.03	2.22	2.33	2.34	2.34	2.34	2.34
AUG 23	.38	.67	.72	.74	.75	.85	.88	.88	.89	.89	.90	.90
SEP 5	.30	.40	.45	.46	.55	.56	.56	.57	.57	.57	.57	.57
SEP 9	.40	.52	.53	.54	.56	.56	.64	.66	.87	1.05	1.11	1.25
SEP 14	.27	.41	.53	.63	.70	.73	.73	.73	.73	.73	.80	.83
SEP 15	.20	.28	.35	.44	.65	.75	1.02	1.12	1.15	1.20	1.25	1.25
SEP 17	.55	.85	.98	1.06	1.08	1.08	1.09	1.09	1.09	1.09	1.09	1.09
SEP 17	.35	.57	.61	.62	.62	.62	.62	.62	.62	.62	.62	.62
SEP 24	.55	1.00	1.30	1.55	1.74	1.87	2.01	2.04	2.07	2.10	2.20	2.26
SEP 28	.27	.50	.62	.73	.86	1.01	1.13	1.22	1.27	1.32	1.43	1.45
SEP 30	.45	.54	.54	.57	.59	.59	.59	.59	.59	.59	.59	.59
OCT 17	.45	.84	.90	1.11	1.18	1.30	1.34	1.39	1.40	1.40	1.40	1.40
OCT 23	.15	.30	.35	.40	.70	1.05	1.40	1.65	1.66	1.67	1.72	1.72
OCT 29	.25	.36	.38	.40	.53	.61	.79	.84	.95	1.06	1.27	1.37
NOV 27	.22	.40	.45	.55	.68	.70	.70	.73	.74	.80	.90	.98
DEC 10	.30	.35	.35	.36	.55	.65	.74	.79	.80	.80	.80	.80
GEORGIA												
ATHENS												
MAY 8	.34	.67	.73	.82	1.12	1.35	1.65	1.73	1.79	1.81	2.28	2.43
JUL 7	.19	.27	.32	.46	.55	.58	.58	.65	.66	.66	.66	.66
AUG 13	.22	.32	.40	.42	.46	.46	.46	.46	.46	.46	.46	.46
AUG 16	.18	.32	.42	.47	.49	.49	.49	.49	.49	.49	.49	.49
AUG 19	.19	.38	.40	.41	.41	.41	.45	.64	.65	.65	.65	.65
SEP 1	.45	.66	.74	.86	.89	.93	.98	1.10	1.20	1.22	1.22	1.23
SEP 1	.22	.32	.42	.47	.60	.78	.97	1.00	1.07	1.08	1.09	1.09
SEP 19	.15	.30	.40	.55	.80	.95	.99	1.04	1.08	1.12	1.14	1.16
ATLANTA												
APR 18	.26	.38	.49	.62	.67	.90	.98	1.21	1.46	1.67	1.92	2.04
MAY 8	.37	.68	.81	.90	1.19	1.72	2.32	2.62	2.67	2.71	3.17	3.34
JUL 16	.25	.48	.52	.53	.55	.60	.62	.62	.62	.62	.62	.62
JUL 17	.25	.35	.47	.55	.75	.89	.89	.89	.89	.89	.89	.89
AUG 2	.38	.72	.86	1.02	1.17	1.31	1.45	1.45	1.45	1.45	1.45	1.45
AUG 15	.25	.45	.63	.75	1.06	1.50	1.69	1.69	1.69	1.70	1.70	1.70
AUG 22	.37	.71	.92	.96	.97	1.04	1.10	1.12	1.12	1.12	1.12	1.12
SEP 19	.15	.25	.36	.47	.56	.62	.64	.65	.65	.65	.67	.68
SEP 23	.15	.25	.32	.36	.42	.65	.83	.98	1.09	1.20	1.25	1.31
AUGUSTA												
APR 15	.22	.39	.43	.48	.75	.90	1.00	1.14	1.20	1.28	1.40	1.40
MAY 23	.26	.43	.46	.52	.82	.90	.93	.96	.96	.97	.97	.98
JUN 10	.16	.28	.35	.42	.47	.49	.51	.51	.53	.53	.53	.61
JUN 14	.26	.54	.60	.70	.76	.78	.83	.84	.84	.84	.84	.84
JUN 29	.32	.54	.56	.58	.62	.65	.66	.73	.81	.85	.92	.94
JUL 8	.42	.58	.72	.95	.98	1.03	1.04	1.04	1.04	1.04	1.04	1.04
JUL 22	.19	.33	.42	.61	.68	.77	.86	.90	.92	1.04	1.10	1.12
JUL 26	.45	.85	.92	1.01	1.22	1.40	1.45	1.46	1.47	1.47	1.47	1.47
JUL 31	.47	.94	1.09	1.25	1.59	1.73	1.73	1.73	1.74	1.74	1.74	1.74
AUG 2	.26	.37	.40	.41	.42	.44	.45	.46	.53	.59	.62	.64
SEP 3	.26	.47	.67	.88	1.12	1.56	2.07	2.74	3.13	3.49	3.67	3.82
OCT 1	.18	.28	.30	.46	.55	.56	.61	.62	.64	.66	.70	.73
COLUMBUS												
MAR 23	.40	.58	.61	.75	.84	.91	.96	.99	1.10	1.18	1.22	1.32
APR 15	.34	.57	.60	.62	.66	.73	.85	1.00	1.01	1.01	1.08	1.08
APR 18	.39	.75	1.04	1.34	*1.75	2.04	2.22	2.28	2.96	*3.31	3.63	*3.72
MAY 18	.40	.60	.73	.75	.78	.83	.88	.93	.99	1.06	1.18	1.30
MAY 19	.42	.64	.76	.96	1.28	1.45	1.57	1.58	1.58	1.58	1.58	1.58
JUN 5	.28	.54	.65	.70	.84	.97	1.00	1.03	1.03	1.04	1.15	1.25
JUN 19	.25	.38	.41	.42	.42	.42	.42	.42	.42	.42	.42	.71
JUL 12	.17	.30	.37	.38	.41	.43	.44	.46	.46	.51	.53	.54
JUL 13	.32	.54	.64	.65	.67	.70	.70	.71	.71	.71	.72	.72
JUL 17	.34	.53	.64	.84	1.12	1.33	1.38	1.40	1.47	1.51	1.53	1.54
JUL 19	.25	.28	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29
JUL 25	.48	.80	.95	1.22	1.44	1.61	1.62	1.62	1.62	1.62	1.70	1.83
AUG 22	.23	.32	.42	.49	.52	.54	.58	.63	.66	.69	.69	.69
SEP 1	.35	.60	.80	1.01	1.05	1.13	1.23	1.28	1.28	1.28	1.28	1.28
SEP 2	.40	.54	.61	.64	.69	.71	.71	.71	.71	.71	.71	.71
MACON												
JAN 20	.15	.27	.37	.49	.69	.88	.95	1.01	1.10	1.11	1.12	1.16
APR 17	.17	.31	.34	.36	.38	.39	.56	.61	.72	.72	.72	.72
APR 28	.34	.58	.69	.75	.76	.76	.78	.86	.87	.87	.87	.87
JUN 5	.16	.30	.41	.43	.46	.49	.52	.57	.59	.63	.73	.78
JUN 20	.28	.40	.44	.45	.45	.45	.45	.49	.82	.89	.93	.94
JUN 28	.40	.66	.83	.97	1.05	1.12	1.13	1.13	1.13	1.13	1.13	1.13
JUL 13	.27	.29	.30	.31	.31	.31	.31	.31	.31	.31	.31	.31
JUL 31	.14	.25	.39	.46	.59	.83	.96	1.10	1.13	1.14	1.15	1.16
AUG 2	.17	.28	.40	.44	.58	.61	.61	.61	.61	.61	.61	.61
ROME												
AUG 15 S	.39	.42	.43	.61	.73	.97	.97	.97	.97	.97	.97	.97
AUG 19	.30	.45	.75	.76	.90	.91	.91	.91	.92	.92	.92	.92
SEP 22 T	M	M	M	M	M	M	M	M	M	M	M	M
DEC 30	.35	.45	.60	.72	.86	1.02	1.24	1.41	1.49	1.56	1.66	1.71
SAVANNAH												
MAY 15	.22	.42	.61	.70	.78	.87	1.11	1.30	1.55	1.63	1.78	2.03
MAY 19	.31	.62	.86	1.07	1.41	1.91	2.27	2.80	2.96	3.35	3.65	3.70
MAY 23	.23	.33	.42	.47	.51	.53	.53	.55	.59	.61	.62	.62
JUN 5	.20	.35	.43	.48	.67	.79	.86	.89	.89	.89	.89	.89
JUN 5	.15	.22	.29	.31	.46	.73	.82	.86	.87	.91	.96	1.08
JUN 12	.17	.30	.47	.51	.53	.71	.77	.83	.92	.99	1.03	1.26
JUN 13	.32	.49	.52	.54	.58	.59	.59	.59	.59	.62	.63	.63
JUN 14	.33	.58	.83	1.11	1.45	1.82	2.21	2.26	2.46	2.50	2.59	2.63
JUL 2	.26	.41	.51	.55	.60	.62	.62	.62	.62	.62	.62	.62
JUL 15	.27	.50	.51	.52	.52	.53	.58	.62	.64	.69	1.15	1.23
JUL 16	.29	.43	.49	.52	.53	.53	.53	.53	.53	.53	.53	.53
JUL 19	.25	.43	.54	.57	.66	.67	.67	.67	.67	.67	.67	.67
JUL 22	.35	.36	.41	.53	.74	.85	.87	.87	.87	.87	.87	.87
JUL 29	.33	.64	.76	.79	.80	.80	.81	.81	.81	.81	.81	.81
AUG 2	.20	.30	.36	.36	.36	.36	.44	.52	.60	.61	.63	.69
AUG 3	.43	.60	.72	.72	.72	.72	.72	.86	.87	.88	.88	.88

C RECORD ENDED APRIL 30.

S RECORD BEGAN AUGUST 1.
T CLOCK MALFUNCTION
M NO RECORD

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
GEORGIA												
SAVANNAH												
AUG 11	.33	.53	.64	.72	.80	1.00	1.19	1.26	1.27	1.27	1.27	1.27
AUG 14	.15	.30	.39	.50	.58	.59	.59	.59	.59	.59	.59	.60
AUG 17	.19	.27	.32	.36	.53	.54	.54	.54	.54	.56	.56	.86
AUG 18	.14	.25	.31	.40	.40	.40	.40	.40	.40	.40	.40	.40
SEP 2	.21	.32	.42	.54	.59	.64	.75	.77	.77	.86	.88	.88
SEP 5	.22	.36	.46	.46	.47	.49	.50	.51	.51	.51	.51	.54
OCT 1	.42	.71	.82	.98	1.05	1.16	1.30	1.34	1.77	1.84	1.94	1.96
HAWAII												
HILO												
JAN 30	.22	.36	.50	.59	.68	.74	.89	1.05	1.06	1.09	1.17	1.33
JAN 31	.38	.64	.83	1.04	1.37	1.57	1.76	1.87	2.08	2.23	2.38	2.48
FEB 1	.39	.67	.83	.90	.96	1.07	1.36	1.72	2.02	2.33	2.54	2.96
FEB 1	.32	.56	.76	1.02	1.41	2.10	*2.73	3.41	3.73	3.96	4.37	*5.02
FEB 2	.13	.24	.31	.37	.45	.65	.87	1.03	1.26	1.41	1.51	1.83
FEB 2	.23	.33	.42	.49	.66	.96	1.06	1.17	1.22	1.27	1.33	1.41
FEB 2	.18	.26	.35	.40	.47	.56	.60	.73	.88	.96	1.08	1.23
FEB 2	.17	.29	.35	.40	.59	.70	.78	.81	.86	1.10	1.20	1.28
FEB 14	.16	.23	.28	.37	.50	.67	.84	.99	1.06	1.11	1.21	1.31
FEB 15	.14	.23	.30	.40	.52	.61	.74	.91	1.08	1.31	1.62	1.75
MAR 3	.18	.27	.32	.43	.57	.80	.94	1.08	1.18	1.25	1.30	1.36
MAR 3	.26	.44	.54	.62	.82	1.19	1.44	1.62	1.81	1.92	2.10	2.56
MAR 3	.24	.37	.55	.62	.71	.74	.82	1.01	1.19	1.24	1.54	1.61
MAR 5	.24	.36	.44	.52	.56	.90	1.01	1.10	1.18	1.35	1.85	2.14
MAR 6	.26	.34	.35	.36	.38	.39	.39	.39	.39	.46	.52	.58
MAR 9	.27	.39	.64	.77	.95	1.09	1.31	1.33	1.49	1.50	1.60	1.67
MAR 30	.25	.33	.51	.60	.78	1.09	1.36	1.52	1.84	2.24	2.49	2.91
MAR 31	.23	.33	.45	.55	.70	.79	.88	1.09	1.19	1.37	1.69	1.95
APR 11	.24	.39	.49	.52	.78	.89	1.00	1.27	1.33	1.39	1.45	1.55
JUL 1	.37	.54	.63	.64	.70	.75	.75	.75	.77	.93	1.04	1.17
JUL 22	.20	.30	.38	.42	.42	.42	.42	.49	.53	.53	.53	.56
AUG 14	.14	.26	.37	.45	.60	.72	.82	.92	.95	1.09	1.31	1.43
AUG 15	.21	.40	.56	.68	.85	1.11	1.18	1.34	1.49	1.67	1.70	1.79
AUG 15	.19	.29	.35	.53	.64	.66	.70	.70	.94	1.09	1.14	1.22
SEP 21	.29	.49	.53	.54	.64	.64	.73	.78	.87	1.04	1.08	1.20
HONOLULU												
JAN 2	.32	.51	.60	.69	.77	.90	.94	1.09	1.11	1.18	1.26	1.28
JAN 3	.37	.60	.81	1.00	1.24	1.41	1.71	1.88	1.97	2.03	2.12	2.22
MAR 16	.12	.20	.28	.36	.51	.69	.87	1.01	1.14	1.23	1.57	1.65
OCT 21	.23	.35	.43	.47	.51	.52	.53	.57	.59	.66	.68	.68
NOV 12	.35	.60	.83	1.01	1.14	1.26	1.58	1.61	1.61	1.61	1.61	1.61
NOV 14	.25	.41	.52	.61	.80	.98	1.18	1.30	1.46	1.77	1.97	2.21
NOV 15	.18	.27	.36	.42	.53	.66	.79	.93	1.00	1.06	1.16	1.21
KAHULUI												
JAN 7	.28	.44	.58	.68	.76	.77	.77	.80	.80	.80	.82	.82
MAR 30	.40	.55	.61	.63	.64	.65	.65	.65	.65	.66	.66	.66
DEC 28	.18	.31	.37	.40	.53	.66	.76	.90	1.18	1.18	1.29	1.36
DEC 28	.20	.32	.34	.35	.35	.37	.37	.37	.39	.62	.78	.78
LIHUE												
JAN 5	.39	.41	.73	.80	.85	.89	.90	.90	.90	.90	.90	.94
OCT 10	.17	.25	.34	.41	.54	.62	.70	.87	.94	.99	1.00	1.00
OCT 27	.23	.35	.37	.37	.38	.39	.40	.40	.46	.48	.48	.48
NOV 10	.24	.38	.45	.46	.48	.48	.48	.50	.54	.54	.54	.55
NOV 12	.29	.36	.49	.60	.83	1.19	1.42	1.90	2.28	2.54	2.86	3.36
NOV 15	.17	.25	.33	.40	.47	.52	.52	.53	.53	.53	.53	.54
DEC 27	.26	.45	.58	.64	.72	.81	1.00	1.36	1.68	1.89	2.01	2.25
IDAHO												
BOISE						NONE						
LEWISTON												
JUN 9	.24	.40	.58	.73	*1.06	1.18	*1.25	1.26	1.26	*1.26	1.26	*1.26
POCATELLO						NONE						
ILLINOIS												
CAIRO J												
JAN 29	.25	.37	.50	.63	.69	.79	.97	1.08	1.17	1.23	1.37	1.57
MAY 18	.16	.30	.34	.37	.42	.43	.44	.44	.47	.47	.47	.47
JUN 13	.35	.51	.60	.62	.66	.83	.87	.98	1.04	1.04	1.04	1.04
JUN 14	.24	.41	.54	.62	.77	.88	.88	.88	.88	.88	.88	.88
JUN 24	.38*	.65*	.78	.85	.89	.92	.93	.94	.94	.94	.94	.94
JUL 24	.19	.33	.42	.48	.67	.68	.69	.69	.69	.69	.69	.69
SEP 4	.22	.24	.38	.45	.53	.64	.68	.85	1.22	1.32	1.40	1.40
OCT 11	.22	.29	.38	.46	.58	.64	.69	.80	.99	1.07	1.12	1.18
CHICAGO O HARE												
JUN 4	.30	.40	.46	.46	.47	.49	.49	.49	.49	.49	.49	.49
JUN 25	.30	.40	.48	.52	.58	.60	.60	.60	.60	.60	.60	.60
JUN 29	.20	.26	.44	.46	.51	.56	.68	.75	.76	.76	.76	.76
JUN 29	.29	.46	.54	.60	.62	.62	.62	.62	.62	.97	1.03	1.04
SEP 5	*.49*	.72	.94	1.18	1.28	1.31	1.32	1.32	1.32	1.32	1.32	1.32
OCT 10 T	M	M	M	M	M	M	M	M	M	M	M	M
CHICAGO MIDWAY												
APR 17	.16	.28	.32	.37	.55	.58	.58	.58	.65	.66	.66	.66
MAY 17	.16	.30	.41	.49	.60	.74	.88	.99	1.20	1.32	1.38	1.38
JUN 30	.24	.45	.58	.64	.74	.79	.85	.87	.87	.87	.87	.87
JUL 17	.59	.92	.99	1.42	1.64	1.90	2.08	2.46	2.52	2.57	2.65	2.83
JUL 30	.17	.32	.44	.47	.52	.60	.62	.62	.62	.62	.62	.62
AUG 11	.29	.39	.50	.55	.65	.85	.92	.92	.92	.92	.92	.92
MOLINE												
APR 4	.17	.32	.35	.39	.56	.65	.79	.83	.87	.90	.98	1.01
JUN 25	.25	.39	.49	.65	.79	.85	1.07	1.11	1.13	1.14	1.14	1.14
JUN 26	.19	.37	.42	.44	.46	.47	.47	.48	.52	.56	.59	.60
JUN 29	.17	.31	.36	.52	.62	.68	.84	.85	.86	.86	.86	.86
JUL 8	.17	.32	.40	.54	.78	.92	1.09	1.17	1.19	1.43	1.49	1.56
JUL 8	.37	.61	.71	.81	.91	.92	.97	.99	1.02	1.03	1.04	1.04
JUL 17	.35	.67	.90	1.20	1.80	2.45	2.90	3.50	3.54	3.54	3.54	3.54
JUL 18	.14	.24	.27	.37	.50	.56	.60	.65	.70	.77	.86	.91
JUL 26	.48	.71	.78	.88	.99	1.02	1.09	1.09	1.09	1.09	1.09	1.09
JUL 26	.34	.52	.63	.76	.89	.96	.98	.98	.98	.98	.98	.98
SEP 6	.30	.37	.39	.46	.50	.52	.52	.52	.52	.52	.57	.55
SEP 22	.32	.50	.56	.68	.72	.73	.73	.73	.73	.73	.73	.74

T CLOCK MALFUNCTION
M NO RECORD

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
ILLINOIS												
PEORIA												
APR 17	.25	.36	.37	.37	.37	.37	.48	.51	.53	.53	.54	.54
JUN 27	.17	.30	.35	.36	.39	.41	.41	.42	.42	.42	.42	.42
JUN 30	.30	.50	.54	.54	.54	.54	.74	1.15	1.21	1.26	1.32	1.33
JUL 5	.30	.46	.54	.69	.70	.74	1.04	1.06	1.08	1.29	1.24	1.26
JUL 18	.46	.85	.84	.86	.86	.86	.86	.90	.90	.90	.90	.90
JUL 19	.28	.50	.55	.55	.58	.67	.72	.72	.72	.72	.72	.72
AUG 7	.37	.67	.91	1.13	1.22	1.26	1.36	1.45	1.52	1.60	1.73	1.90
SEP 4	.22	.34	.38	.38	.40	.41	.43	.44	.45	.46	.47	.48
SEP 5	.30	.35	.35	.36	.43	.44	.44	.44	.44	.44	.44	.44
OCT 1[illegible]	.18	.30	.38	.44	.56	.77	.85	.89	.91	.96	1.17	1.34
OCT 1[illegible]	.24	.32	.54	.60	.70	1.04	1.18	1.25	1.26	1.27	1.27	1.27
ROCKFORD												
APR 17	.23	.37	.42	.43	.43	.43	.44	.45	.45	.45	.46	.46
MAY 31	.30	.51	.65	.72	.95	1.04	1.13	1.17	1.17	1.31	1.43	1.43
JUN 7	.18	.33	.39	.41	.46	.58	.65	.73	.82	.89	1.14	1.27
JUN 22	.31	.52	.52	.57	.62	.63	.64	.64	.64	.64	.64	.64
JUL 26	.25	.34	.38	.43	.46	.56	.56	.56	.60	.65	.65	.65
JUL 26	.44	.80	.91	1.19	1.80	2.01	2.06	2.06	2.06	2.06	2.08	2.74
AUG 1[illegible]	.28	.37	.43	.46	.48	.52	.54	.63	.65	.67	.67	.67
SEP 5	.39	.52	.60	.61	.61	.61	.61	.61	.61	.61	.61	.61
OCT 13	.23	.37	.40	.46	.57	.68	.88	.98	1.24	1.28	1.38	1.42
SPRINGFIELD												
JUL 5	.19	.32	.42	.56	.73	.76	.76	.78	.78	.78	.79	.78
JUL 6	.20	.36	.51	.56	.77	.79	.79	.79	.81	.84	.88	.91
JUL 7	.24	.44	.68	.72	.74	.76	.77	.79	.80	.83	.86	.87
AUG 9	.18	.36	.43	.47	.63	.65	.70	.71	.76	.76	.79	.86
SEP 3	.19	.30	.37	.42	.43	.45	.48	.50	.50	.50	.50	.50
OCT 10	.27	.47	.66	.85	1.14	1.33	1.38	1.40	1.40	1.40	1.40	1.54
INDIANA												
EVANSVILLE												
APR 17	.26	.37	.42	.46	.49	.52	.52	.52	.52	.52	.52	.52
MAY 7	.28	.50	.60	.65	.69	.76	.82	.84	.84	.84	.84	.84
MAY 18	.31	.55	.77	.98	1.08	1.29	1.34	1.36	1.36	1.54	1.54	1.54
MAY 18	.30	.35	.38	.40	.42	.43	.45	.47	.47	.47	.47	.48
JUN 12	.17	.28	.30	.32	.56	.65	.70	.82	.92	.95	1.01	1.02
JUN 22	.24	.40	.57	.64	.66	.67	.72	.81	.86	.95	.96	.96
JUN 22	.34	.67	.97	1.07	1.18	1.18	1.18	1.18	1.18	1.18	1.19	1.18
JUN 29	.20	.32	.37	.38	.38	.40	.41	.41	.42	.43	.45	.46
JUL 11	.34	.52	.65	.76	.98	1.06	1.33	1.41	1.44	1.46	1.60	1.76
JUL 21	.34	.66	.80	.85	1.08	1.21	1.55	2.07	2.21	2.21	2.51	2.65
SEP 2	.32	.56	.67	.72	.78	.83	1.32	1.65	1.71	1.84	1.90	1.97
OCT 10	.20	.34	.40	.41	.41	.41	.42	.43	.43	.43	.43	.43
FORT WAYNE												
MAY 31	.26	.50	.63	.65	.65	.65	.65	.65	.66	.66	.66	.66
JUN 1	.14	.25	.35	.36	.38	.39	.40	.40	.40	.40	.40	.40
JUN 8	.28	.34	.35	.36	.36	.51	.53	.65	.67	.67	.72	.83
JUN 12	.24	.36	.52	.60	.66	.77	.77	.77	.77	.77	.81	.81
OCT 10	.21	.37	.49	.62	.81	.97	1.02	1.12	1.15	1.15	1.15	1.15
OCT 12	.26	.39	.47	.66	.91	1.19	1.34	1.48	1.54	1.63	1.79	1.87
INDIANAPOLIS												
JUL 11	.26	.46	.57	.57	.57	.59	.59	.59	.59	.59	.87	.87
JUL 20	.24	.35	.40	.45	.55	.63	.65	.90	1.02	1.09	1.23	1.31
JUL 20	.30	.54	.65	.67	.70	.77	.89	.98	.99	1.00	1.00	1.34
JUL 24	.23	.44	.51	.63	.68	.69	.89	.91	.92	.92	.92	.92
AUG 9	.38	.63	1.00	1.05	1.11	1.12	1.12	1.12	1.13	1.14	1.14	1.14
AUG 9	.37	.57	.60	.62	.68	.74	.90	1.00	1.08	1.12	1.17	1.17
SEP 17	.38	.48	.51	.54	.56	.62	.64	.74	.77	.81	.90	.92
OCT 11	.20	.35	.36	.37	.44	.46	.49	.52	.54	.58	.67	.84
SOUTH BEND												
MAY 9	.25	.40	.40	.41	.42	.48	.59	.70	.75	.76	.79	.83
MAY 17	.18	.27	.28	.38	.56	.60	.67	.68	.68	.68	.68	.68
MAY 31	.41	.61	.62	.62	.64	.65	.65	.65	.65	.65	.65	.65
JUN 1	.26	.28	.30	.31	.31	.31	.31	.31	.31	.32	.43	.52
JUN 4	.26	.47	.49	.55	.62	.65	.74	.81	.86	.86	.86	.86
JUL 17	.37	.54	.55	.57	.82	.86	1.05	1.10	1.33	1.35	1.35	1.35
JUL 26	.29	.40	.41	.43	.44	.44	.46	.46	.46	.57	.87	.88
JUL 26	.45	.70	.75	.83	1.01	1.04	1.07	1.12	1.16	1.20	1.25	1.27
IOWA												
DES MOINES												
JUN 11	.68	.95	.98	1.03	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.58
JUN 11	.40	.58	.60	.62	.64	.64	.71	.80	.80	.83	.90	1.02
JUN 22	.30	.40	.44	.47	.66	.76	.94	.94	.98	.98	.98	1.30
JUN 26	.26	.50	.58	.63	.73	.79	.87	.91	.94	.96	.96	.97
JUN 29	.20	.30	.36	.45	.48	.58	.60	.60	.60	.60	.60	.60
JUL 26	.23	.33	.40	.46	.78	.83	.88	.88	.88	.88	.88	.88
AUG 20	.25	.27	.29	.30	.30	.30	.31	.32	.32	.34	.46	.57
SEP 26	.29	.36	.38	.40	.74	.74	.76	.78	.82	.82	.82	.82
DUBUQUE												
JUN 11	.29	.50	.52	.55	.57	.61	.66	.67	.67	.67	.67	.67
JUN 25	.24	.47	.60	.63	.66	.71	.80	.88	.91	.91	.94	1.00
JUN 26	.18	.36	.40	.47	.50	.62	.95	.97	.98	1.13	1.15	1.34
JUL 18	.15	.30	.35	.41	.56	.75	.88	1.05	1.16	1.18	1.18	1.18
SIOUX CITY												
MAY 26	.22	.28	.34	.44	.45	.46	.47	.47	.47	.47	.47	.47
JUN 22	.18	.31	.33	.36	.38	.40	.43	.46	.54	.64	.71	.74
JUN 25	.28	.54	.58	.60	.86	1.15	1.50	1.70	1.74	1.75	1.81	1.81
JUN 28	.29	.45	.54	.70	.79	.81	.89	.98	1.11	1.11	1.11	1.11
JUL 10	.35	.62	.68	.85	.98	1.06	1.10	1.15	1.18	1.18	1.19	1.19
JUL 16	.32	.56	.64	.85	.95	.99	.99	1.00	1.00	1.02	1.05	1.05
AUG 6	.35	.58	.68	.82	.93	.94	.95	.98	.98	.98	.98	.98
AUG 8	.50	.66	.78	1.03	1.42	1.64	2.01	2.03	2.03	2.03	2.03	2.03
AUG 30	.18	.29	.29	.42	.50	.56	.73	.92	1.04	1.14	1.24	1.42
SEP 30	.28	.51	.57	.65	.70	.74	.75	.75	.75	.75	.76	.76
WATERLOO												
MAY 31	.30	.43	.44	.56	.76	.78	.85	1.05	1.16	1.34	1.34	1.60
JUN 1[illegible]	.25	.40	.42	.44	.45	.49	.51	.51	.52	.52	.52	.52
JUN 17	.39	.44	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
JUL 7	.28	.54	.63	.70	.89	1.07	1.11	1.19	1.27	1.32	1.32	1.33
JUL 9	.32	.35	.39	.40	.42	.44	.47	.49	.50	.50	.50	.50
JUL 16	.24	.43	.48	.61	.78	.87	.89	.89	.89	.89	.89	.89
JUL 18	.60	.84	1.04	1.16	1.36	1.56	1.82	1.91	1.92	1.92	1.92	1.92

EXCESSIVE SHORT DURATION RAINFALL

Maximum precipitation in inches (5 to 180 minutes)

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
[illegible]												
[illegible]												
OCT 2	.27	.26	.28	.28	.28	.28	.28	.26	.28	.26	.28	.28
KANSAS												
CONCORDIA												
MAY 4	.26	.32	.41	.43	.44	.50	.64	.76	.81	.83	.88	.89
[illegible] 21	.22	.33	.44	.45	.58	.83	.89	.98	1.04	1.10	1.13	1.15
[illegible] 19	.18	.32	.41	.47	.54	.73	.74	.74	.75	.75	.75	.76
[illegible] 16	.26	.40	.42	.43	.43	.56	.56	.56	.56	.56	.56	.58
JUL 4	.13	.26	.33	.42	.45	.50	.52	.54	.55	.57	.59	.65
[illegible] 23	.35	.60	.76	.79	.83	.95	.86	1.22	1.27	1.32	1.36	1.36
JUL 24	.36	.70	.98	1.07	1.15	1.17	1.19	1.24	1.25	1.26	1.26	1.26
[illegible] 20	.20	.32	.42	.47	.54	.62	.67	.69	.70	.70	.70	.72
SEP 4	.14	.28	.40	.54	.80	1.00	1.13	1.15	1.16	1.16	1.16	1.16
DODGE CITY												
[illegible] 29	.37	.46	.64	.70	.76	.88	.94	.98	1.10	1.13	1.17	1.21
[illegible] 24	.15	.30	.39	.45	.60	.72	.88	1.06	1.18	1.24	1.29	1.52
GOODLAND												
MAY 15	.25	.40	.42	.50	.53	.49	.69	.69	1.09	1.26	1.30	1.32
[illegible] 7	.22	.39	.45	.47	.55	.63	.70	.72	.77	.86	.94	1.00
[illegible] 5	.24	.45	.50	.70	.95	1.04	1.04	1.05	1.05	1.06	1.06	1.06
TOPEKA												
APR 4	.13	.26	.34	.46	.58	.58	.58	.58	.58	.58	.58	.58
APR 4	.20	.28	.32	.45	.58	.76	.88	1.02	1.24	1.26	1.32	1.36
[illegible] 16	.46	.70	.86	.91	.91	.91	.91	.91	.91	.91	1.21	1.25
APR 26	.26	.42	.52	.58	.66	.82	.88	.94	.98	1.12	1.36	1.51
MAY 7	.49	.78	.99	1.02	1.18	1.35	1.38	1.44	1.45	1.45	1.45	1.47
[illegible] 21	.15	.32	.35	.38	.39	.42	.43	.44	.44	.44	.44	.44
[illegible] 11	.22	.39	.58	.67	.98	1.43	1.66	1.96	2.35	2.62	2.69	2.70
[illegible] 21	.30	.46	.51	.59	.65	.67	.80	.92	.94	.94	.94	.94
[illegible] 22	.30	.40	.50	.56	.60	.64	.64	.64	.64	.64	.64	.64
[illegible] 26	.18	.28	.42	.47	.48	.48	.52	.60	.60	.60	.62	.73
JUL 19	.24	.29	.30	.31	.32	.48	.54	.56	.57	.57	.60	.70
SEP 5	.18	.26	.33	.42	.65	.81	1.08	1.17	1.17	1.18	1.18	1.18
WICHITA												
APR 16	.34	.46	.49	.50	.54	.63	.68	.73	.76	.79	.81	.84
APR 26	.16	.32	.39	.40	.41	.47	.52	.54	.60	.77	.97	1.02
MAY 7	.21	.31	.42	.52	.59	.67	.71	.76	.80	.86	.95	.97
[illegible] 21	.30	.50	.75	.93	1.21	1.35	1.35	1.35	1.35	1.35	1.35	1.35
[illegible] 23	.37	.63	.78	.84	.84	.84	.92	1.00	1.05	1.05	1.07	1.07
[illegible] 25	.19	.30	.41	.44	.47	.57	.60	.60	.60	.60	.60	.60
JUL 19	.30	.52	.56	.61	.70	.88	.99	1.34	1.41	1.50	1.70	1.90
[illegible] 24	.36	.54	.66	.72	.87	1.01	1.08	1.11	1.22	1.28	1.42	1.42
SEP 13	.20	.32	.42	.50	.53	.54	.56	.61	.61	.61	.61	.61
SEP 14	.21	.31	.36	.39	.43	.49	.72	.75	.75	.76	.82	.93
SEP 15	.24	.47	.58	.62	.68	.76	.86	.91	.91	.91	1.29	1.29
KENTUCKY												
COVINGTON												
[illegible] 12	*.71	*1.05	*1.10	1.13	1.15	1.15	1.15	1.15	1.15	1.15	1.52	1.72
JUN 23	.21	.35	.38	.40	.41	.41	.41	.41	.41	.41	.41	.41
JUN 25	.18	.32	.36	.43	.53	.56	.58	.58	.58	.58	.58	.58
[illegible] 9	.45	.60	.69	.78	1.05	1.05	1.13	1.14	1.17	1.17	1.17	1.17
SEP 2	.17	.32	.37	.44	.50	.53	.56	.56	.56	.56	.56	.56
LEXINGTON												
[illegible] 19	.38	.50	.56	.64	.83	.86	.86	.86	.66	.86	.86	.86
[illegible] 13	.19	.30	.38	.40	.42	.43	.44	.46	.48	.53	.57	.61
[illegible] 14	.23	.35	.40	.49	.65	.69	.81	.89	1.13	1.21	1.27	1.28
JUL 6	.40	.52	.56	.57	.61	.61	.61	.61	.61	.61	.61	1.12
[illegible] 6	.15	.28	.40	.50	.65	.73	.79	.79	.79	.79	.79	.79
JUL 11	.30	.40	.42	.46	.50	.53	.55	.56	.56	.56	.57	.58
AUG 9	.15	.25	.38	.48	.62	.69	.70	.70	.70	.70	.70	.76
AUG 15	.24	.42	.48	.52	.56	.57	.58	.59	.62	.62	.62	.62
AUG 16	.25	.36	.41	.42	.43	.44	.44	.44	.44	.44	.44	.44
OCT 20	.14	.24	.34	.44	.50	.52	.54	.55	.55	.55	.55	.55
LOUISVILLE												
[illegible] 22	.25	.30	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
JUL 1	.27	.29	.30	.30	.34	.42	.56	.60	.61	.61	.61	.61
JUL 6	.39	.73	.80	.90	.92	.92	.93	.93	.93	.93	.93	.93
AUG 19	.18	.24	.28	.31	.52	.68	.72	.74	.76	.78	.80	.83
SEP 3	.18	.36	.38	.39	.53	.54	.54	.54	.54	.54	.54	.54
OCT 20	.25	.42	.43	.44	.45	.47	.53	.55	.55	.55	.55	.55
LOUISIANA												
ALEXANDRIA												
FEB 27 E	.22	.25	.33	.40	.47	.48	.49	.49	.49	.52	.56	.60
[illegible] 18	.52	.94	1.01	1.11	1.28	1.46	1.52	1.63	1.65	1.73	1.79	1.87
DEC 5 B	.39	.57	.59	.69	.84	.91	.97	1.06	1.13	1.14	1.16	1.19
DEC 29	.28	.33	.56	.66	.67	.68	.69	.70	.75	.78	.81	.85
BATON ROUGE												
MAR 6	.17	.33	.38	.45	.55	.70	.73	.77	.83	.92	1.00	1.12
MAR 17	.39	.68	.79	.87	1.10	1.20	1.27	1.28	1.28	1.29	1.29	1.29
APR 10	.27	.40	.52	.64	.89	.91	.92	.92	.92	.92	.92	.95
APR 12	.20	.40	.48	.54	.76	1.05	1.27	1.34	1.42	1.50	1.54	.61
APR 13	.53	.98	1.09	1.25	1.66	2.04	*2.63	3.11	3.45	3.55	3.67	3.70
APR 27	.35	.54	.72	.80	.87	.93	1.01	1.08	1.15	1.20	1.23	1.23
MAY 5	.09	.18	.27	.35	.54	.63	.75	.82	.88	.94	.98	.98
JUL 10	.37	.66	1.00	1.27	1.83	2.47	*2.65	2.75	2.82	2.85	2.95	3.01
JUL 17 T	M	M	M	M	M	M	M	M	M	1.02	1.02	1.02
JUL 23	.29	.49	.54	.64	.78	.85	.90	.95	.99	1.04	1.06	1.13
AUG 11	.26	.30	.31	.31	.32	.43	.44	.45	.45	.45	.45	.45
AUG 22	.49	.60	.75	.82	.84	.85	.85	.85	.85	.85	.85	.85
SEP 5	.43	.49	.50	.50	.51	.53	.53	.53	.53	.53	.53	.53
SEP 7	.44	.71	.80	1.00	1.11	1.12	1.13	1.14	1.14	1.14	1.14	1.14
SEP 18	.21	.34	.38	.41	.45	.45	.45	.45	.45	.45	.45	.45
OCT 5	.13	.20	.28	.33	.53	.65	.75	.80	.90	.93	.98	1.06
OCT 7	.28	.50	.78	.98	1.15	1.50	1.75	2.37	2.90	3.15	3.33	3.34
DEC 21	.34	.42	.43	.45	.46	.46	.48	.50	.51	.51	.52	.52

E RECORD ENDED MARCH 30
B RECORD BEGAN DECEMBER
T CLOCK MALFUNCTION
M NO RECORD

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
LOUISIANA												
BOOTHVILLE												
FEB 14	.23	.33	.39	.43	.58	.63	.71	.81	.87	.94	1.02	1.08
FEB 22	.37	.40	.41	.43	.48	.50	.54	.63	.66	.69	.76	.78
MAR 6	.20	.35	.52	.59	.60	.61	.66	.67	.67	.69	.69	.74
APR 13	.30	.50	.68	.95	*1.30	1.72	*2.28	2.54	3.02	*3.19	3.25	*3.63
MAY 5	.22	.43	.54	.71	.91	1.08	1.15	1.20	1.27	1.38	1.40	1.41
MAY 8	.24	.38	.45	.54	.75	.98	1.31	1.40	1.54	1.54	1.54	1.54
MAY 13	.19	.34	.36	.37	.39	.52	.62	.69	.75	.78	.90	.97
JUN 11	.26	.52	.66	.70	.77	.78	.78	.78	.78	.78	.78	.78
JUL 11	.25	.33	.35	.39	.53	.55	.55	.55	.55	.55	.56	.57
JUL 17	.18	.35	.50	.57	.65	.77	.83	.86	.93	1.01	1.11	1.16
JUL 18	.30	.47	.65	.76	.85	.86	1.01	1.12	1.35	1.41	1.65	1.87
JUL 24	.23	.37	.40	.44	.61	.76	.85	.86	.86	.86	.86	.86
LAKE CHARLES												
MAR 6	.22	.28	.46	.52	.69	.82	.93	1.07	1.30	1.34	1.45	1.47
APR 5	.50	.63	.65	1.00	1.27	1.49	1.70	2.17	2.50	2.53	2.54	3.05
APR 12	.45	.64	.85	1.08	1.33	1.65	2.00	2.45	2.48	2.52	2.53	2.54
APR 27	.20	.32	.40	.50	.56	.70	.88	1.07	1.21	1.34	1.45	1.56
MAY 3	.26	.42	.50	.69	.79	.82	.83	.84	.86	.86	.86	.86
MAY 5	.24	.39	.54	.68	1.00	1.46	1.55	1.65	1.67	1.87	1.91	1.95
MAY 16	.30	.40	.45	.55	.65	.73	.82	.86	.90	.90	.90	.90
JUL 2	.17	.29	.35	.41	.45	.45	.45	.45	.45	.45	.45	.45
JUL 5	.28	.43	.46	.56	.82	.86	.87	.89	.90	.90	.90	.90
JUL 6	.30	.39	.40	.40	.52	.56	.65	.67	.87	.97	.98	.99
JUL 19	.48	.85	1.09	1.40	1.90	2.40	3.00	3.30	3.40	3.40	3.43	3.44
JUL 20	.26	.40	.45	.50	.62	.72	.78	.83	.68	1.08	1.40	1.58
AUG 8	.45	.76	.81	.96	1.36	1.46	1.47	1.47	1.47	1.47	1.47	1.47
SEP 1	.35	.70	.76	1.00	1.27	1.30	1.31	1.32	1.32	1.32	1.32	1.32
SEP 4	.45	.65	.75	1.00	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
OCT 6	.30	.45	.50	.53	.55	.56	.58	.60	.64	.87	.97	.97
OCT 13	.30	.40	.41	.41	.70	.90	1.13	1.16	1.16	1.17	1.17	1.18
OCT 20	.34	.50	.54	.57	.63	.68	.72	.77	.81	.87	.87	.87
NOV 18	.27	.35	.42	.44	.49	.54	.58	.61	.63	.63	.63	.63
NEW ORLEANS												
FEB 3	.23	.38	.39	.52	.55	.56	.56	.57	.59	.63	.64	.66
FEB 8	.19	.35	.46	.60	.78	.80	.82	.84	.84	.84	.84	.85
FEB 22	.22	.37	.37	.41	.46	.50	.50	.50	.50	.50	.50	.50
APR 10	.28	.52	.57	.58	.58	.58	.58	.58	.58	.58	.60	.71
MAY 8	.23	.42	.61	.78	.88	1.18	1.31	1.42	1.44	1.44	1.44	1.44
JUN 12	.25	.35	.50	.65	1.00	1.25	1.38	1.39	1.39	1.39	1.43	1.44
JUL 4	.20	.35	.36	.43	.55	.58	.58	.58	.58	.63	.73	.73
JUL 10	.60	.90	1.11	1.37	1.69	1.70	1.70	1.70	1.71	1.71	1.71	1.71
JUL 18 T	M	M	M	M	M	M	M	M	M	M	M	M
JUL 20	.20	.35	.42	.50	.60	.60	.60	.60	.60	.60	.60	.60
JUL 21	.22	.30	.45	.49	.49	.49	.49	.49	.49	.49	.49	.49
JUL 22	.30	.45	.46	.48	.49	.49	.49	.49	.49	.49	.49	.49
JUL 23	.25	.36	.36	.36	.36	.37	.37	.37	.37	.37	.37	.37
JUL 29	.16	.31	.31	.33	.34	.35	.35	.35	.35	.35	.35	.35
AUG 2	.35	.55	.63	.64	.74	.86	.93	.98	1.00	1.00	1.00	1.00
AUG 6	.24	.36	.37	.45	.52	.57	.58	.59	.59	.59	.59	.59
AUG 20	.58	.83	.95	1.05	1.25	1.58	1.84	2.13	2.24	2.24	2.24	2.24
AUG 21	.25	.41	.43	.51	.54	.59	.62	.62	.62	.62	.62	.62
SEP 3	.30	.55	.80	.87	.88	.88	.88	.88	.88	.88	.88	.88
SEP 4	.23	.45	.58	.64	.65	.65	.66	.68	.68	.70	.70	.70
SEP 24	.20	.33	.45	.54	.71	.78	.93	.94	.94	.94	.94	.94
DEC 21	.75	1.10	1.18	1.23	1.28	1.30	1.33	1.33	1.33	1.33	1.38	1.41
SHREVEPORT												
APR 9	.25	.27	.28	.29	.29	.30	.32	.33	.34	.35	.39	.46
APR 13	.27	.40	.41	.43	.56	.60	.66	1.00	1.08	1.15	1.22	1.23
APR 16	.20	.30	.33	.35	.47	.65	.78	.90	1.00	1.05	1.12	1.20
MAY 7	.20	.32	.38	.47	.57	.70	.78	.83	.96	.99	1.07	1.17
MAY 26	.20	.38	.54	.59	.62	.64	.65	.65	.65	.65	.74	.80
JUN 1	.70	.97	1.02	1.05	1.06	1.06	1.06	1.06	1.06	1.10	1.13	1.14
JUL 28	.20	.29	.39	.42	.47	.51	.55	.60	.61	.61	.61	.61
NOV 17	.23	.30	.41	.46	.64	.75	.86	1.23	1.46	1.68	1.82	1.98
NOV 18	.16	.30	.40	.44	.61	.76	.82	.87	.98	1.11	1.16	1.21
MAINE												
CARIBOU												
AUG 6	.30	.48	.74	.87	*1.15	1.18	1.19	1.24	1.24	1.24	1.24	1.24
PORTLAND												
JUN 20	.22	.36	.44	.47	.48	.50	.51	.51	.51	.51	.51	.51
JUL 3	.46*	.84	*1.17	1.25	*1.50	1.70	1.72	1.73	1.73	1.73	1.73	1.73
NOV 5	.18	.31	.34	.38	.42	.47	.55	.66	.69	.71	.78	.87
MARYLAND												
BALTIMORE												
JUN 2	.20	.28	.32	.46	.64	.78	1.08	1.12	1.35	1.36	1.42	1.62
JUN 15	.35	.35	.35	.35	.39	.43	.45	.45	.51	.55	.60	.62
JUL 12	.62	.86	.89	.94	1.03	1.16	1.16	1.16	1.16	1.16	1.16	1.16
JUL 20	.30	.60	.70	.87	1.10	1.35	1.38	1.43	1.43	1.43	1.43	1.43
AUG 9	.23	.30	.38	.55	.60	.72	1.05	1.32	1.46	1.49	1.95	1.95
SEP 2	.72	1.06	1.09	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
BALTIMORE U												
JUN 18	.25	.45	.53	.60	.85	.90	1.00	1.25	1.37	1.37	1.37	1.37
JUL 12	.60	.75	.78	.83	.85	.85	.85	.85	.86	.86	.86	.86
JUL 18	.25	.33	.34	.34	.35	.35	.35	.35	.35	.35	.35	.35
JUL 19	.20	.30	.32	.33	.35	.35	.40	.40	.40	.40	.40	.60
JUL 20	.40	.80	.90	1.05	1.15	1.20	1.34	1.34	1.34	1.34	1.34	1.34
AUG 9	.30	.53	.55	.57	.60	.62	.65	.78	1.02	1.18	1.34	1.39
MASSACHUSETTS												
BLUE HILL R												
JUN 16	*.28	.38	.48	.51	.51	.51	.51	.51	.51	.51	.51	.52
JUN 28	.20	.34	.44	.52	.54	.54	.54	.54	.54	.56	.56	.56
AUG 9	*.28	.32	.35	.42	.42	.42	.42	.42	.48	.48	.48	.48
BOSTON												
JUL 30	.27	.34	.36	.43	.50	.51	.51	.51	.51	.51	.51	.51
NANTUCKET												
JUL 21	.26	.36	.39	.41	.42	.43	.44	.45	.48	.49	.49	.53
SEP 8	.39	.60	.65	.68	.80	.86	.91	.95	.96	.98	1.00	1.00
SEP 9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP 26												

T CLOCK MALFUNCTION
M NO RECORD

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MICHIGAN												
ALPENA												
JUN 1	.18	.34	.36	.39	.46	.48	.50	.51	.53	.55	.58	.62
JUN 12	.50	.88	.95	1.02	1.18	1.22	1.24	1.35	1.35	1.35	1.35	1.35
JUN 12	*.73	.86	.88	.91	.91	.91	.91	.91	.91	.91	.91	.91
JUN 26	.26	.32	.41	.56	.74	.79	.92	.93	.93	.97	1.00	1.03
JUN 26	.22	.32	.36	.49	.61	.66	.67	.68	.70	.76	.82	.82
AUG 6	.25	.50	.53	.53	.55	.61	.63	.75	.79	.79	.79	.79
AUG 16	.26	.48	.60	.68	.69	.69	.69	.69	.69	.69	.69	.69
SEP 6	.26	.28	.30	.31	.32	.32	.32	.32	.32	.32	.32	.32
DETROIT												
JUN 1	.25	.30	.32	.32	.34	.37	.40	.40	.40	.40	.51	.57
JUL 4	.30	.55	.75	1.00	1.17	1.44	1.48	1.65	1.67	1.68	1.70	1.90
JUL 17	.20	.32	.32	.32	.32	.32	.32	.32	.33	.33	.35	.35
AUG 9	.15	.30	.35	.40	.53	.69	.69	.70	.70	.73	.75	.75
AUG 16	.25	.40	.47	.55	.70	.75	.78	.79	.79	.82	.87	1.03
DETROIT M WAYNE CO												
JUN 1	.26	.31	.32	.33	.40	.41	.44	.44	.44	.44	.50	.73
JUL 4	.38	.54	.71	.86	1.04	1.42	1.62	1.65	1.73	1.76	1.82	1.85
JUL 12	.20	.31	.33	.34	.35	.38	.38	.38	.38	.38	.38	.38
JUL 17	.18	.33	.38	.44	.62	.78	.82	.82	.82	.82	.82	.82
FLINT												
JUN 12	.26	.30	.30	.31	.32	.34	.35	.36	.48	.48	.48	.48
JUL 4	.34	.53	.56	.61	.67	.78	.87	.90	.92	.92	.92	.96
JUL 4	.32	.44	.45	.50	.74	.87	1.06	1.10	1.10	1.10	1.10	1.10
JUL 17	.44	.68	.76	.87	.88	.92	.94	.99	1.00	1.00	1.00	1.00
GRAND RAPIDS												
APR 17	.20	.32	.37	.40	.46	.53	.63	.72	.79	.81	.82	.82
JUN 12	.40	.50	.50	.58	.62	.62	.62	.62	.62	.62	.62	.62
JUN 25	.26	.33	.39	.41	.41	.41	.41	.41	.41	.41	.41	.41
JUN 29	.28	.40	.46	.56	.62	.84	1.10	1.16	1.26	1.33	1.40	1.42
JUL 17	.17	.32	.36	.38	.40	.41	.52	.56	.58	.58	.58	.58
JUL 25	.26	.26	.26	.26	.33	.33	.33	.33	.36	.36	.40	.40
HOUGHTON LAKE												
JUN 18	.30	.38	.42	.43	.45	.45	.45	.45	.45	.60	.75	.79
JUN 25	.16	.25	.40	.43	.45	.49	.53	.53	.53	.53	.53	.53
JUL 27	.37	.63	*.77	.87	*1.06	1.17	*1.20	1.29	1.31	*1.32	1.39	*1.42
SEP 5	*.42	.45	.46	.46	.46	.46	.46	.46	.46	.46	.46	.59
LANSING												
JUN 12	.38	.65	.80	.90	.92	.93	.95	.97	.97	.97	.99	1.00
JUN 30	.20	.31	.35	.41	.45	.46	.49	.54	.56	.57	.58	.59
JUL 4	.46	.65	.67	.80	.97	1.06	1.08	1.08	1.16	1.16	1.16	1.16
JUL 23	.52	.75	.79	.81	.83	.83	.83	.83	.83	.83	.83	.83
SEP 6	*.75	*1.10	1.20	1.35	1.43	1.45	1.45	1.50	1.53	1.53	1.53	1.53
MARQUETTE U												
SEP 15	.46	.88	1.09	1.30	1.47	1.55	1.60	1.66	1.69	1.72	1.74	1.74
OCT 1	.17	.25	.36	.45	.59	.78	.82	.82	.82	.82	.82	.82
MUSKEGON												
JUN 12	.40	.54	.60	.63	.66	.68	.68	.68	.68	.68	.68	.68
JUN 17	.29	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
JUL 2	.27	.48	.51	.52	.54	.55	.55	.55	.55	.55	.55	.55
JUL 4	.25	.43	.50	.52	.57	.58	.59	.61	.62	.65	.68	.71
OCT 12	.18	.32	.38	.40	.42	.45	.47	.48	.50	.54	.75	.78
SAULT STE MARIE												
JUN 26	.32	.41	.47	.51	.77	.90	1.23	1.26	1.65	*1.81	1.86	1.93
SEP 16	.23	.33	.36	.39	.44	.49	.51	.52	.58	.59	.59	.61
MINNESOTA												
DULUTH												
AUG 6	.30	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
AUG 28	.40	.62	.81	.90	.94	.94	.95	.96	.97	.99	.99	1.00
INTERNATIONAL FALLS												
JUL 4	.27	.34	.35	.38	.42	.45	.50	.52	.55	.57	.59	.61
JUL 13	.25	.47	.55	.62	.62	.67	.69	.69	.69	.69	.69	.69
JUL 30	.35	.70	.72	.75	.77	.78	.78	.79	.85	.92	1.00	1.00
SEP 15	.17	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
MINNEAPOLIS												
JUN 25	.33	.38	.41	.43	.47	.53	.55	.59	.64	.66	.66	.66
JUL 15	.21	.27	.37	.45	.54	.58	.71	.73	.73	.73	.73	.73
AUG 6	.25	.38	.60	.66	.69	.69	.69	.69	.69	.69	.69	.69
ROCHESTER												
MAY 31	.25	.41	.44	.45	.48	.50	.50	.50	.50	.50	.50	.50
JUN 26	.30	.49	.67	.80	.90	.92	.95	1.02	1.02	1.02	1.04	1.04
JUL 17	.51	.78	1.00	1.27	1.44	1.50	1.60	1.77	1.77	1.77	1.77	1.92
JUL 26	.34	.47	.55	.74	.88	.93	.99	1.00	1.00	1.00	1.00	1.00
AUG 6	.64	1.06	1.34	1.43	1.80	2.20	2.35	2.37	2.37	2.37	2.37	2.37
SEP 29	.20	.30	.36	.39	.39	.40	.42	.47	.49	.53	.53	.55
ST CLOUD												
MAY 23	.30	.42	.42	.43	.43	.44	.44	.50	.51	.62	.64	.85
JUL 15	.20	.34	.36	.41	.45	.48	.48	.48	.48	.48	.58	.64
AUG 6	.31	.54	.55	.56	.57	.57	.57	.57	.57	.57	.57	.57
MISSISSIPPI												
JACKSON												
APR 17	.31	.60	.72	.85	1.35	1.59	1.70	1.74	2.00	2.06	2.27	2.34
JUN 2	.30	.40	.50	.55	.57	.60	.60	.62	.67	.73	.85	.90
JUL 5	.17	.30	.46	.60	.83	.85	.86	.87	.87	.87	.87	.87
JUL 10	.25	.30	.44	.45	.58	.59	.59	.64	.65	.65	.65	.65
JUL 18	.25	.40	.43	.51	.61	.67	.70	.73	.75	.76	.82	.84
JUL 22	.28	.45	.54	.58	.61	.73	.74	.75	.75	.75	.75	.75
AUG 18	.22	.33	.34	.37	.39	.61	.63	.64	.65	.65	.65	.65
OCT 20	.17	.31	.40	.53	.65	.65	.65	.66	.67	.68	.70	.70
NOV 18	.30	.40	.47	.51	.66	.77	.91	1.02	1.05	1.14	1.19	1.24
DEC 20	.25	.45	.48	.52	.53	.55	.59	.64	.70	.72	.73	.82
MERIDIAN												
MAR 23	.38	.67	.72	.75	1.15	1.27	1.32	1.45	1.52	1.55	1.62	1.70
APR 9	.38	.65	.75	.91	.96	.96	.96	.96	.96	.96	.96	.96
APR 13	.25	.36	.38	.40	.56	.69	.82	1.02	1.15	1.17	1.24	1.24
JUL 5	.25	.35	.40	.47	.49	.50	.50	.50	.50	.50	.50	.50

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MISSISSIPPI												
MERIDIAN												
JUL 11	.18	.32	.36	.39	.39	.40	.40	.40	.40	.40	.40	.40
JUL 13	.56	.83	.89	.92	.95	.96	1.00	1.00	1.00	1.00	1.15	1.15
[illegible] 31	.40	.50	.57	.77	.97	1.04	1.04	1.04	1.04	1.04	1.04	1.04
SEP 1	.26	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29
[illegible] 19	.40	.75	.85	1.00	1.17	1.30	1.48	1.60	1.75	1.79	1.99	*2.05
[illegible] 6	.21	.35	.39	.45	.52	.63	.75	.85	1.06	1.18	1.23	[illegible]
MISSOURI												
COLUMBIA												
MAY 30	.29	.56	.57	.61	.63	.65	.65	.65	.65	.65	.65	.65
MAY 31	.15	.24	.28	.36	.55	.74	.80	.86	.98	1.04	1.12	1.16
JUN 8	.27	.45	.47	.60	.74	.90	.99	1.01	1.03	1.03	1.03	1.03
JUN 12	.26	.38	.44	.48	.49	.56	.60	.64	.66	.67	.73	.74
JUN 23	.20	.38	.41	.57	.65	.67	.73	.76	.80	.83	.86	.92
JUL 2	.24	.33	.40	.44	.65	.73	.85	.87	.87	.87	.90	.92
JUL 5	.18	.34	.38	.55	.65	.68	.70	.72	.74	.75	.77	.77
JUL 6	.21	.41	.62	.82	1.01	1.05	1.05	1.06	1.08	1.12	1.13	1.15
JUL 15	.16	.32	.42	.48	.55	.56	.58	.61	.62	.62	.63	.74
JUL 22	.18	.36	.45	.54	.58	.56	.58	.68	.79	.88	.88	.88
SEP 15	.27	.34	.38	.40	.48	.57	.61	.67	.69	.86	.91	.94
OCT 1	.19	.38	.41	.49	.69	.69	.80	.81	.84	.84	.84	.86
KANSAS CITY												
APR 4	.30	.46	.49	.50	.60	.66	.72	.77	.80	.80	.80	.80
MAY 21	.25	.34	.41	.57	.64	.65	.66	.80	.90	.92	.92	.93
MAY 21	.26	.34	.38	.44	.50	.54	.59	.66	.74	.79	.83	.94
JUN 12	.15	.25	.40	.43	.56	.65	.69	.73	.80	.85	.89	.91
JUN 21	.18	.35	.42	.45	.66	.83	.94	.95	.96	.97	.98	.98
JUN 25	.20	.40	.60	.64	.80	.98	1.27	1.54	1.64	1.72	2.07	2.18
JUN 28	.20	.34	.50	.58	.59	.60	.64	.96	1.12	1.15	1.16	1.16
JUL 2	.26	.42	.54	.68	.94	1.06	1.37	1.47	1.47	1.47	1.47	1.47
JUL 7	.28	.44	.62	.87	1.00	1.17	1.22	1.22	1.23	1.24	1.24	1.24
JUL 7	.45	.85	.95	1.17	1.45	1.63	1.64	1.65	1.65	1.65	1.65	1.69
JUL 9	.50	.95	1.40	1.80	2.00	2.10	2.16	2.16	2.16	2.16	2.20	2.20
JUL 19	.30	.44	.56	.78	.83	.91	1.03	1.03	1.04	1.23	1.32	1.32
JUL 24	.15	.21	.34	.42	.62	.74	.76	.82	.84	.86	.86	.86
JUL 26	.33	.60	.73	.80	.84	.86	.86	.86	.86	.86	.86	.86
AUG 15	.25	.50	.75	.91	1.37	1.91	2.30	2.91	3.76	4.18	4.76	5.16
SEP 7	.41	.54	.61	.62	.63	.73	.76	.76	.76	.76	.76	.76
ST LOUIS												
APR 18	.25	.43	.45	.48	.53	.56	.56	.56	.56	.56	.56	.61
MAY 21	.36	.45	.53	.79	.91	.95	1.00	1.10	1.20	1.27	1.29	1.29
JUN 1	.27	.50	.63	.69	.79	.89	1.14	1.17	1.17	1.20	1.21	1.21
JUN 28	.30	.56	.76	1.06	1.50	1.76	1.94	2.06	2.08	2.10	2.10	2.10
JUL 9	.28	.56	.84	1.12	1.28	1.29	1.29	1.29	1.29	1.29	1.29	1.29
OCT 10	.25	.48	.60	.72	.84	1.03	1.13	1.22	1.28	1.33	1.38	1.38
OCT 12	.24	.34	.40	.42	.52	.60	.64	.73	.82	.87	.90	.92
SPRINGFIELD												
APR 16	.48	.86	1.00	1.08	1.31	1.35	1.35	1.35	1.35	1.35	1.35	1.35
MAY 17	.25	.39	.40	.41	.42	.42	.42	.42	.42	.43	.47	.50
JUN 21	.30	.53	.64	.80	.83	.90	.95	.97	.98	.98	.98	.98
JUN 23	.25	.45	.60	.74	.76	.78	.80	.86	.92	.93	.96	.98
JUL 2	.28	.34	.39	.40	.41	.42	.42	.42	.42	.42	.42	.42
AUG 21	.38	.60	.84	1.04	1.30	1.53	1.61	1.64	1.69	1.73	1.83	1.88
SEP 3	.24	.48	.50	.53	.54	.54	.54	.54	.54	.54	.54	.54
SEP 15	.25	.44	.52	.58	.66	.78	.81	.82	.86	.88	.93	.94
MONTANA												
BILLINGS												
JUN 6	.21	.35	.47	.55	.61	.61	.61	.61	.61	.61	.61	.61
JUL 18	.28	.55	.82	.90	.96	.96	.96	.96	.96	.96	.96	.96
GLASGOW						NONE						
GREAT FALLS						NONE						
HAVRE												
JUL 2	.22	.40	.52	.60	.65	.65	.65	.65	.65	.65	.65	.65
HELENA						NONE						
KALISPELL						NONE						
MISSOULA						NONE						
NEBRASKA												
GRAND ISLAND												
APR 4	M	M	M	M	M	M	M	M	M	M	M	1.64
JUN 10	.10	.20	.29	.37	.56	.82	.97	1.04	1.06	1.07	1.11	1.39
MAY 21	.29	.39	.48	.50	.55	.63	.80	.90	1.16	1.25	1.35	1.45
JUL 19	.25	.37	.38	.46	.47	.47	.47	.47	.47	.47	.47	.47
AUG 30	.23	.40	.46	.56	.64	.95	1.09	1.21	1.31	1.36	1.46	1.55
LINCOLN U												
JUN 22	.38	.69	.76	.77	.77	.77	.78	.78	.78	.78	.78	.78
JUL 6	.26	.32	.37	.42	.55	.77	.99	1.11	1.23	1.25	1.31	1.31
JUL 9	.31	.43	.58	.61	.66	.80	.95	1.00	1.04	1.04	1.04	1.04
NORFOLK												
JUN 22	.60	*1.05	*1.14	1.19	1.36	1.40	1.44	1.49	1.50	1.61	1.78	1.96
JUN 23	.29	.31	.32	.35	.50	.51	.51	.55	.55	.55	.55	.55
JUN 25	.40	.68	.72	.83	1.05	1.40	1.81	2.75	2.94	*3.06	3.09	*3.09
JUL 16	.27	.37	.40	.47	.68	.72	.74	.75	.79	.82	.84	.85
JUL 19	.43	.78	.84	.96	.99	1.01	1.02	1.04	1.05	1.06	1.06	1.06
AUG 20	.33	.48	.53	.62	.68	.73	.80	.88	.95	.99	1.01	1.01
SEP 10	.35	.55	.65	.75	.83	.85	.85	.85	1.00	1.00	1.13	1.13
NORTH PLATTE												
JUN 10	.26	.36	.40	.42	.43	.45	.48	.48	.51	.51	.51	.51
JUN 24	.52	.82	.94	1.00	1.16	1.32	1.32	1.32	1.32	1.36	1.37	1.42
JUL 16	.26	.50	.57	.61	.64	.66	.66	.66	.66	.66	.66	.66
AUG 30	.16	.30	.37	.47	.59	.64	.67	.72	.74	.77	.77	.78

M NO RECORD

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
NEBRASKA												
OMAHA												
MAY 5	.14	.26	.32	.41	.52	.70	.86	.90	.91	.93	.94	.94
MAY 16	.25	.42	.45	.48	.50	.51	.53	.53	.55	.56	.59	.61
JUL 9	.27	.43	.47	.49	.50	.75	.81	.85	.87	.90	.93	.93
JUL 17	.29	.49	.59	.67	.85	1.05	1.20	1.84	2.01	2.17	2.18	2.21
AUG 2[illegible]	.50	.87	1.06	1.09	1.13	1.34	1.34	1.39	1.52	1.59	1.64	1.74
AUG 31	.36	.58	.63	.76	1.08	1.27	1.49	1.81	2.01	2.15	2.26	2.31
SEP 1[illegible]	.22	.29	.38	.45	.46	.46	.46	.46	.49	.49	.53	.55
SCOTTSBLUFF						NONE						
VALENTINE												
JUN 24	.18	.34	.38	.41	.45	.46	.46	.46	.46	.46	.46	.46
NEVADA												
ELKO C,S						NONE						
ELY						NONE						
LAS VEGAS						NONE						
RENO						NONE						
WINNEMUCCA						NONE						
NEW HAMPSHIRE												
CONCORD												
JUN 6	.22	.32	.36	.38	.42	.49	.55	.55	.56	.58	.64	.68
JUL 29	.16	.30	.37	.42	.49	.56	.60	.67	.87	.93	.96	.96
SEP 2	.37	.73	.95	1.13	1.25	1.28	1.30	1.32	1.33	1.33	1.33	1.33
NEW JERSEY												
ATLANTIC CITY												
JUN 25	.34	.39	.41	.44	.47	.47	.47	.47	.47	.47	.47	.47
JUL 3	.40	.70	.86	.90	1.00	1.01	1.02	1.02	1.02	1.02	1.02	1.02
JUL 12	.50	.97	1.09	1.26	1.27	1.28	1.28	1.32	1.32	1.32	1.32	1.32
JUL 21 T	M	M	M	M	M	M	M	M	M	M	M	M
JUL 23	.40	.57	.60	.84	1.18	1.54	2.03	2.24	2.28	2.52	2.70	2.80
JUL 29	.46	.76	.84	.84	.84	.86	.89	1.00	1.06	1.08	1.08	1.08
NEWARK												
APR 19	.21	.26	.37	.43	.47	.49	.51	.52	.52	.54	.57	.57
JUN 15	.30	.40	.42	.48	.51	.54	.58	.63	.70	.72	.76	.79
TRENTON, NJ												
MAY 9	.19	.31	.36	.38	.39	.43	.47	.54	.60	.69	.77	.82
MAY 20	.24	.38	.38	.38	.38	.43	.54	.55	.55	.55	.55	.55
JUN 14	.56	.88	1.11	1.30	1.34	1.34	1.34	1.34	1.49	1.69	1.90	1.98
JUL 25	.28	.38	.43	.48	.61	.66	.68	.68	.68	.68	.68	.68
JUL 27	.21	.35	.51	.61	.82	.88	.89	.95	1.15	1.20	1.22	1.22
SEP 3	.25	.35	.44	.50	.59	.69	.74	.78	.83	.87	.92	.98
SEP 7	.42	.58	.64	.71	.73	.78	.86	.88	.89	.89	1.04	1.04
SEP 17	.27	.47	.73	.79	.91	.96	1.01	1.10	1.11	1.11	1.11	1.11
NEW MEXICO												
ALBUQUERQUE												
JUN 15	.25	.49	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
AUG 6	.40	.51	.51	.52	.53	.53	.53	.53	.53	.53	.53	.53
SEP 7	.25	.48	.52	.58	.59	.62	.64	.67	.76	.76	.76	.76
CLAYTON												
MAY 6	.16	.32	.35	.40	.60	.77	.92	1.00	1.08	1.14	1.25	1.30
JUN 7	.22	.42	.47	.47	.47	.47	.47	.47	.47	.53	.53	.53
JUN 17	.29	.54	.57	.58	.59	.60	.60	.60	.60	.60	.60	.61
JUL 5	.15	.30	.35	.40	.50	.60	.75	.77	.80	.84	.85	.85
AUG 22	.32	.60	.90	1.05	1.65	1.95	*2.00	2.00	2.00	*2.00	2.00	2.00
AUG 23	.30	.52	.55	.60	.61	.61	.61	.63	.65	.65	.65	.65
SEP 16	.27	.32	.40	.44	.45	.46	.46	.46	.48	.48	.48	.48
OCT 4	.28	.55	.60	.61	.62	.63	.63	.63	.63	.63	.63	.63
ROSWELL												
SEP 21	.33	.38	.39	.39	.40	.40	.40	.40	.40	.40	.40	.40
OCT 20	.28	.40	.45	.52	.68	.88	.98	1.07	1.10	1.20	1.31	1.41
NEW YORK												
ALBANY												
MAY 20	.19	.30	.32	.32	.34	.36	.38	.38	.38	.40	.42	.42
JUN 3	.23	.34	.38	.58	.73	.82	.89	.93	.94	.94	.98	1.02
JUN 13	.48	.77	1.00	1.15	1.15	1.16	1.16	1.16	1.22	1.24	1.24	1.24
JUL 12	.26	.40	.49	.63	.70	.71	1.07	1.11	1.12	1.13	1.14	1.14
JUL 20	.14	.27	.35	.42	.50	.65	.73	.78	.80	.83	.83	.85
JUL 22	.24	.43	.54	.62	.76	.82	.84	.85	.85	.85	.85	.85
SEP 7	.32	.57	.76	.77	.78	.78	.78	.78	.78	.80	.80	.80
BINGHAMTON												
JUN 13	.13	.26	.35	.36	.40	.42	.42	.42	.42	.42	.42	.42
JUN 15	.17	.28	.38	.54	.68	.69	.69	.71	.71	.71	.71	.71
JUN 30	.17	.28	.38	.52	.59	.62	.68	.68	.68	.68	.68	.68
JUL 12	.20	.31	.41	.47	.49	.50	.50	.50	.50	.50	.50	.50
JUL 17	.32	.50	.61	.62	.68	.75	.75	.75	.75	.75	.75	.75
AUG 2	.30	.47	.49	.49	.50	.50	.50	.50	.50	.50	.50	.50
SEP 6	.35	.60	.82	.92	1.12	1.20	1.22	1.23	1.23	1.23	1.23	1.23
BUFFALO												
JUN 2	.13	.26	.38	.40	.44	.45	.45	.45	.45	.49	.54	.54
JUN 27	.19	.36	.37	.42	.51	.51	.54	.55	.56	.56	.56	.56
JUL 10	.14	.27	.30	.41	.50	.59	.69	.80	.83	.83	.83	.83
JUL 12	.28	.41	.42	.42	.42	.42	.42	.46	.50	.50	.50	.51
AUG 16	.22	.41	.54	.62	.65	.67	.68	.68	.68	.69	.69	.79
NEW YORK CENT PK												
APR 19	.16	.25	.30	.35	.55	.67	.71	.72	.72	.77	.77	.77
JUL 3	.34	.51	.62	.67	.70	.70	.70	.70	.70	.70	.70	.70
JUL 12	.26	.37	.40	.42	.51	.54	.56	.57	.57	.57	.57	.57
JUL 18	.43	.62	.81	.87	.88	.88	.88	.88	.88	.88	.88	.88
SEP 3	.36	.45	.48	.54	.65	.80	.85	.92	1.06	1.15	1.47	1.70
NEW YORK												
NEW YORK CENT PK												
SEP 4	.16	.27	.43	.54	.71	.85	1.08	1.20	1.41	1.61	1.81	2.13
NEW YORK (JFK) S												
MAY 20 T	*.17	*.28	*.42	.56	M	M	M	M	M	M	M	M
JUN 2	*.18	*.34	*.44	.52	*.60	.64	*.93	1.08	1.10	*1.12	1.12	*1.12
JUL 10	.14	.26	.35	.46	.52	.66	.70	.78	.80	.80	.84	.85
JUL 12	*.26	.27	.38	.51	.53	.53	.53	.53	.53	.54	.54	.57
JUL 28	*.50	*.54	*.72	.74	*.82	.92	*.99	1.03	1.26	*1.40	1.44	*1.45
AUG 26	*.50	*.72	*.90	1.10	*1.37	1.39	*1.39	1.39	1.39	1.39	1.39	1.39
NEW YORK LA GUARDIA												
APR 19	.28	.47	.65	.77	.96	1.06	1.07	1.13	1.15	1.15	1.16	1.18
JUN 2	.46	.59	.70	.74	.83	1.38	1.61	1.88	1.94	1.98	1.98	1.98
JUN 25	.23	.36	.49	.58	.65	.72	.75	.75	.75	.75	.75	.75
JUL 3	*.70	*.90	.93	.94	.97	.97	.97	.97	.97	.98	.98	.98
JUL 18	.53	*.92	.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
JUL 29	.19	.28	.36	.41	.56	.64	.76	.86	.91	.98	.99	.99
JUL 31	.25	.32	.41	.57	.64	1.01	1.15	1.22	1.22	1.22	1.22	1.23
AUG 26	.37	.62	.71	.79	.79	.79	.79	.79	.79	.79	.79	.79
SEP 3	.27	.33	.39	.41	.51	.59	.90	1.05	1.13	1.16	1.25	1.32
ROCHESTER												
JUN 1	.16	.32	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
JUN 2	.14	.28	.33	.39	.51	.57	.78	.84	.86	.90	.95	1.04
AUG 2	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
SYRACUSE												
MAY 19	.46	.64	.81	1.00	1.09	1.10	1.10	1.12	1.24	1.29	1.29	1.44
AUG 2	.20	.31	.46	.47	.47	.51	.52	.52	.52	.52	.78	.81
NORTH CAROLINA												
ASHEVILLE												
MAY 19	.30	.40	.46	.62	.62	.70	.78	.78	.78	.78	.78	.78
MAY 24	.25	.48	.56	.57	.59	.60	.60	.60	.60	.60	.60	.60
JUN 13	.18	.29	.31	.45	.46	.50	.57	.60	.61	.63	.64	.64
JUL 12	.45	.60	.68	.78	.85	.85	.85	.93	.94	.97	1.03	1.06
JUL 22	.21	.42	.47	.51	.58	.60	.62	.62	.63	.62	.63	.64
JUL 27	*.70	1.00	1.05	1.35	*2.10	2.60	*3.05	3.30	3.30	*3.30	3.50	*3.50
AUG 18	.26	.31	.33	.39	.41	.41	.41	.43	.43	.46	.52	.56
SEP 18	.29	.50	.50	.50	.51	.51	.51	.51	.51	.51	.51	.51
OCT 1	.18	.25	.32	.45	.52	.56	.65	.75	.79	.84	.89	.91
CAPE HATTERAS R												
FEB 9	.25	.47	.50	.62	.68	.73	.80	.83	.88	.95	1.04	1.05
MAR 1	.17	.33	.35	.48	.59	.67	.74	.79	.83	.83	.83	.83
APR 29	.50	.79	.92	.94	.99	.99	.99	.99	.99	.99	.99	.99
JUN 19	.42	.68	.75	.82	.83	.84	.84	.84	.84	.84	.84	.84
JUL 3	.33	.47	.50	.55	.80	.87	.88	.89	.89	.89	.89	.89
JUL 7	.38	.50	.73	.95	1.25	1.62	1.73	1.77	1.80	1.82	1.85	1.92
JUL 12	.22	.44	.66	.88	.93	.95	.95	.95	.95	.95	.95	.95
AUG 5	.24	.45	.55	.63	.85	.97	1.02	1.18	1.23	1.33	1.36	1.55
AUG 6	.23	.45	.47	.48	.50	.50	.50	.50	.50	.50	.50	.50
AUG 9	.25	.36	.45	.48	.53	.55	.57	.58	.59	.59	.59	.59
AUG 12	.27	.30	.40	.43	.50	.58	.59	.59	.59	.59	.59	.59
SEP 18	.30	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
SEP 25	.30	.41	.51	.63	.73	.82	.86	.88	.89	1.02	1.10	1.18
OCT 3	.25	.34	.35	.43	.50	.53	.58	.58	.58	.58	.58	.58
DEC 10	.21	.34	.37	.38	.39	.40	.42	.50	.55	.56	.60	.61
DEC 22	.29	.55	.60	.65	.73	.78	.84	.90	.96	1.04	1.16	1.32
CHARLOTTE												
JUN 9	.23	.37	.41	.44	.47	.48	.49	.51	.55	.55	.55	.55
JUL 3	.20	.40	.43	.43	.46	.47	.49	.49	.49	.49	.49	.49
JUL 7	.57	.74	.89	.89	.89	.89	.89	.90	.90	.90	.90	.90
JUL 24	.30	.39	.40	.40	.40	.40	.40	.40	.40	.40	.43	.48
JUL 29	.26	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
AUG 2	.22	.30	.44	.48	.74	1.00	1.44	1.79	1.83	1.87	1.94	1.99
AUG 3	.32	.60	.78	.83	1.04	1.13	1.18	1.18	1.19	1.20	1.20	1.20
OCT 1	.34	.38	.39	.41	.44	.46	.48	.48	.50	.52	.52	.53
GREENSBORO												
MAY 25	.23	.30	.38	.41	.41	.41	.41	.41	.41	.41	.41	.41
JUN 9	.40	.74	1.05	1.25	1.45	1.65	1.66	1.66	1.66	1.66	1.66	1.75
JUN 11	.19	.32	.44	.56	.81	.86	.87	.87	.87	.87	.87	.87
JUN 15	.38	.55	.67	.89	1.22	1.56	1.83	2.10	2.29	2.40	2.41	2.69
JUL 7	.21	.40	.46	.54	.66	.71	.71	.71	.71	.71	.71	.71
JUL 22	.21	.40	.46	.54	.66	.71	.71	.71	.71	.71	.71	.71
JUL 28	.22	.43	.49	.51	.53	.53	.53	.53	.53	.53	.53	.53
JUL 28	.28	.56	.67	.71	.76	.79	.81	.82	.83	.85	.87	.88
AUG 16	.15	.29	.38	.45	.70	.81	.86	.94	.98	1.02	1.26	1.43
OCT 2	.34	.47	.49	.49	.52	.53	.53	.53	.53	.53	.53	.53
RALEIGH												
MAY 25	.28	.39	.43	.46	.59	.85	.92	.92	.92	.92	.92	.92
JUN 2	.36	.40	.42	.42	.45	.46	.49	.53	.56	.59	.60	.61
JUN 9	.15	.29	.43	.55	.80	1.10	1.19	1.36	1.42	1.49	1.54	1.57
JUN 24	.23	.45	.66	.86	.91	.93	.95	.95	.96	.99	.99	1.00
JUL 10	.33	.61	.83	.84	1.03	1.05	1.07	1.12	1.15	1.17	1.17	1.17
JUL 28	.20	.35	.48	.53	.57	.63	.68	.70	.72	.73	.73	.73
JUL 31	.30	.45	.63	.70	.77	.82	.85	.87	.89	.91	.93	.95
AUG 1	.18	.30	.43	.54	.75	.98	1.13	1.32	1.35	1.39	1.43	1.50
AUG 10	.27	.50	.66	.67	.67	.67	.67	.67	.67	.67	.67	.67
AUG 15	.16	.25	.30	.40	.42	.44	.47	.47	.47	.47	.47	.47
SEP 2	.35	.50	.75	1.00	1.17	1.50	1.70	2.17	2.18	2.19	2.20	2.21
OCT 2	.24	.45	.55	.60	.62	.80	.92	1.10	1.11	1.13	1.19	1.21
WILMINGTON												
APR 29	.20	.36	.38	.39	.42	.43	.43	.43	.43	.60	.61	.61
MAY 19	.27	.52	.55	.64	.77	.95	1.03	1.06	1.08	1.15	1.16	1.20
MAY 19	.20	.37	.41	.48	.68	.83	.98	1.08	1.19	1.23	1.48	1.56
MAY 20	.25	.32	.35	.40	.60	.85	1.12	1.35	1.61	1.75	2.20	2.40
JUN 3	.31	.44	.46	.50	.70	.75	.81	.95	.99	1.03	1.04	1.04
JUN 15	.30	.43	.50	.56	.62	.64	.64	.64	.64	.64	.64	.64
JUN 16	.43	.65	1.00	1.20	1.80	2.25	2.48	2.65	2.78	2.83	2.88	2.89
JUN 20	.27	.43	.52	.59	.65	.76	.90	1.08	1.16	1.19	1.28	1.30
JUN 29	.25	.40	.42	.49	.50	.50	.50	.50	.50	.50	.50	.50
JUL 2	.35	.57	.65	.87	1.25	1.44	1.45	1.46	1.49	1.55	1.60	1.62
JUL 3	.45	.90	1.20	1.45	1.82	1.94	2.15	2.16	2.18	2.20	2.20	2.20
JUL 11	.33	.60	.68	.75	.77	.77	.77	.77	.77	.79	.80	.80
JUL 23	.15	.28	.33	.39	.52	.74	.97	.98	1.02	1.06	1.13	1.14
JUL 24	.22	.35	.38	.43	.45	.54	.58	.61	.61	.62	.64	.70
JUL 25	.17	.32	.33	.39	.42	.42	.43	.44	.45	.45	.46	.46
JUL 29	.30	.41	.58	.62	.63	.64	.64	.64	.64	.64	.64	.64

C RECORD ENDED JUNE 15.
S RECORD BEGAN NOVEMBER.
T CLOCK MALFUNCTION
M NO RECORD

S RECORD BEGAN APRIL.
T CLOCK MALFUNCTION.
M NO RECORD.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
NORTH CAROLINA												
WILMINGTON												
JUL 31	.49	.67	.70	.7[illegible]	.77	.86	1.16	1.33	1.34	1.34	1.36	1.36
JUL 31	.30	.48	.53	.68	.75	.77	.94	.95	.95	.95	.95	1.05
AUG 1	.26	.40	.42	.52	.61	.70	.75	.79	.83	.83	.83	.92
AUG 13	.25	.38	.41	.43	.45	.45	.45	.46	.46	.46	.46	.46
SEP 17	.25	.32	.35	.37	.41	.42	.46	.47	.47	.47	.48	.50
NOV 2	.19	.28	.38	.43	.71	.93	1.10	1.13	1.23	1.34	1.46	1.60
DEC 22	.31	.33	.34	.34	.40	.45	.46	.50	.63	.69	.90	1.05
NORTH DAKOTA												
BISMARCK												
MAY 15	.26	.41	.50	.58	.68	.73	.73	.73	.73	.73	.74	.74
JUL 7	.23	.42	.54	.62	.65	.67	.70	.77	.82	.83	.83	.83
JUL 18	.30	.50	.73	.86	.94	.96	.96	.96	.96	.96	1.02	1.02
JUL 18	.28	.54	.65	.72	.74	.75	.77	.77	.82	.84	1.11	1.19
AUG 6	.22	.40	.50	.51	.52	.52	.52	.52	.52	.52	.52	.52
FARGO												
JUL 14	.28	.54	.62	.70	1.05	1.28	1.68	1.92	2.48	2.63	2.63	2.63
JUL 22	.20	.36	.46	.54	.82	.98	1.14	1.26	1.36	1.44	1.64	1.70
WILLISTON												
JUL 6	.18	.32	.32	.34	.37	.40	.42	.46	.48	.50	.51	.51
JUL 7	.20	.30	.38	.42	.52	.54	.56	.56	.59	.59	.61	.61
SEP 21	.20	.30	.36	.42	.50	.56	.64	.71	.78	.79	.80	.80
OHIO												
AKRON												
JUL 4	.20	.37	.51	.60	.68	.72	.73	.74	.77	.80	.91	.95
JUL 27	.35	.68	.90	1.14	1.36	1.40	1.45	1.50	1.51	1.51	1.51	1.51
AUG 19	.20	.35	.36	.45	.63	.67	.67	.67	.67	.67	.67	.67
CINCINNATI OBS												
JUN 23	.20	.39	.44	.47	.47	.47	.47	.47	.47	.47	.47	.47
JUN 25	.26	.38	.38	.39	.39	.39	.39	.39	.39	.39	.39	.39
JUL 6	.28	.38	.40	.43	.45	.45	.45	.46	.46	.46	.46	.46
JUL 11	.30	.36	.42	.53	.54	.54	.54	.54	.54	.54	.54	.54
AUG 9	.26	.40	.49	.56	.62	.65	.70	.70	.70	.71	.72	.72
AUG 18	.25	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
SEP 17	.24	.39	.45	.48	.53	.58	.60	.60	.60	.60	.61	.67
OCT 20	.36	.43	.45	.47	.50	.55	.59	.59	.59	.60	.61	.61
CINCINNATI U												
AUG 9	.24	.36	.54	.65	.82	.97	1.00	1.01	1.04	1.06	1.06	1.06
SEP 1	.20	.32	.33	.34	.40	.46	.50	.51	.53	.54	.56	.59
SEP 3	.25	.50	.54	.54	.54	.54	.54	.57	.77	.88	.89	.89
CLEVELAND												
MAY 18	.18	.30	.40	.48	.60	.80	.94	1.28	1.66	1.72	1.79	1.89
JUN 19	.23	.35	.43	.47	.50	.52	.52	.53	.53	.59	.59	.60
JUN 30	.22	.33	.36	.37	.50	.56	.56	.86	.96	.96	.96	.96
JUN 30	.20	.40	.42	.44	.48	.48	.48	.48	.48	.48	.48	.48
JUL 4	.30	.54	.67	.74	.94	1.20	1.25	1.27	1.27	1.27	1.27	1.28
JUL 5	.18	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
JUL 17	.13	.26	.34	.40	.46	.51	.51	.51	.51	.51	.51	.51
SEP 7	.25	.42	.48	.60	.78	.84	.86	.86	.87	.87	.87	.87
COLUMBUS												
JUN 12	.26	.37	.47	.50	.51	.51	.51	.54	.59	.70	.75	.85
JUN 13	.23	.32	.37	.51	.69	.68	.86	.87	.97	1.00	1.01	1.02
JUN 22	.39	.46	.59	.66	.68	.78	.79	1.07	1.28	1.43	1.50	1.51
JUN 23	.45	.66	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70
JUN 24	.28	.52	.73	.80	.90	1.13	1.18	1.20	1.20	1.20	1.21	1.21
JUL 19	.36	.58	.71	.89	1.07	1.76	2.12	2.12	2.12	2.12	2.12	2.23
JUL 20	.29	.41	.47	.50	.56	.58	.60	.63	.96	.97	1.12	1.32
JUL 22	.29	.54	.66	.81	.84	1.05	1.09	1.10	1.11	1.11	1.11	1.11
JUL 27	.42	.67	.86	.87	.89	.97	1.24	1.24	1.24	1.25	1.26	1.26
AUG 9	.23	.32	.36	.37	.43	.72	.86	1.02	1.10	1.16	1.25	1.28
AUG 17	.18	.33	.45	.56	.76	.76	.76	.76	.76	.76	.78	.87
AUG 19	.26	.30	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33
DAYTON												
JUN 22	.43	.58	.76	.78	.95	1.05	1.06	1.07	1.30	1.93	2.00	2.01
JUN 24	.35	.49	.52	.53	.54	.62	.64	.65	.65	.65	.66	.72
JUL 5	.30	.43	.46	.52	.59	.62	.64	.65	.65	.66	.67	.67
JUL 11	.22	.41	.59	.67	.70	.73	.73	.73	.73	.73	.73	.73
JUL 20	.30	.34	.46	.60	.63	.68	.79	.95	1.05	1.15	1.65	1.75
AUG 9	.55	.70	.83	.90	.97	.98	1.00	1.00	1.04	1.16	1.75	1.89
MANSFIELD												
APR 28	.26	.31	.35	.37	.38	.38	.38	.38	.38	.38	.40	.40
MAY 7	.30	.40	.43	.43	.43	.48	.52	.54	.54	.54	.54	.54
MAY 8	.20	.35	.41	.44	.45	.46	.47	.49	.51	.51	.51	.51
MAY 8	.25	.37	.47	.48	.49	.51	.56	.61	.61	.61	.61	.61
JUN 30	.28	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34
JUL 5	.34	.67	.88	1.09	*1.38	1.67	*2.10	2.39	2.40	*2.45	2.45	*3.18
JUL 20	.32	.54	.78	.88	.97	1.06	1.23	1.29	1.30	1.31	1.32	1.32
AUG 19	.15	.30	.43	.48	.62	.65	.66	.97	1.05	1.27	1.27	1.28
TOLEDO												
JUN 14	.20	.40	.44	.52	.64	.69	.74	.74	.77	.77	.78	.78
JUN 27	.28	.54	.63	.80	1.25	1.50	1.57	1.57	1.57	1.57	1.57	1.57
JUL 4	.17	.32	.40	.52	.68	.80	.93	1.05	1.07	1.09	1.10	1.11
JUL 4	.34	.60	.75	.85	1.33	1.75	2.32	2.69	2.86	3.17	3.22	3.23
AUG 16	.11	.22	.32	.40	.52	.63	.68	.70	.70	.70	.70	.70
YOUNGSTOWN												
MAY 17	.25	.30	.35	.35	.36	.36	.36	.36	.36	.36	.62	.72
MAY 19	.24	.44	.44	.44	.45	.47	.54	.55	.55	.55	.55	.55
JUN 19	.36	.53	.56	.57	.59	.60	.61	.64	.67	.69	.70	.70
JUL 4	.36	.42	.45	.70	.82	.83	.83	.84	.87	.89	1.00	1.04
JUL 24	.25	.35	.40	.50	.52	.54	.55	.55	.55	.67	.67	.67
JUL 28	.35	.45	.51	.62	.68	.68	-.68	.68	.68	.68	.68	.68
OKLAHOMA												
OKLAHOMA CITY												
APR 16	.21	.33	.36	.46	.66	.70	.73	.74	.74	.74	.74	.74
MAY 4	.57	.88	.93	1.04	1.05	1.05	1.06	1.07	1.26	1.26	1.26	1.26
MAY 6	.20	.35	.38	.40	.47	.58	.75	.78	.79	.79	.81	.92
JUN 14	.45	.85	.96	1.13	1.54	1.89	2.20	2.29	2.38	2.53	2.58	2.67
OKLAHOMA												
OKLAHOMA CITY												
[illegible]	.20	.35	.40	.45	.65	.84	1.02	1.09	[illegible]	1.11	1.11	1.11
[illegible] 25	.27	.39	.41	.41	.47	.47	.48	.48	.50	.52	.52	.52
[illegible] 15	.23	.45	.50	.50	.50	.50	.50	.50	.50	.50	.50	.51
SEP 2	.36	.41	[illegible]	.92	1.22	1.57	1.65	1.75	1.79	1.79	[illegible]	1.80
SEP 3	.43	.57	.71	.77	.91	.93	.93	.93	.93	.93	.93	.93
SEP 16	.28	.40	.50	.65	.73	.79	.80	.85	[illegible]	[illegible]	[illegible]	1.08
SEP 22	.30	.52	.57	[illegible]	.77	.90	1.00	1.08	1.13	1.19	[illegible]	1.35
TULSA												
[illegible] 1	.35	.55	.70	.95	1.10	1.20	1.31	1.37	1.41	1.42	1.44	1.49
JUN 13	.23	.39	.41	.50	.56	.61	.64	.64	.64	.64	.64	.64
JUN 14	.26	.46	.59	.66	.80	.85	.94	1.07	1.16	1.24	1.30	1.38
[illegible] 23	.18	.34	.34	.47	.69	.73	.74	.74	.81	.83	.83	.83
AUG 14	.21	.30	.38	.43	.44	.45	.45	.60	.60	.67	.68	1.00
AUG 15	.28	.36	.41	.43	.53	.76	.95	1.06	1.15	1.36	1.51	1.61
SEP 16	.26	.35	.37	.39	.48	.57	.63	.69	.69	[illegible]	1.00	1.10
OCT 12	.25	.35	.38	.44	.50	.66	.70	.75	.82	.98	.99	1.00
OREGON												
ASTORIA						NONE						
BURNS						NONE						
EUGENE						NONE						
MEACHAM												
JUN 6	.24	.32	.40	.40	.40	.40	.40	.40	.48	.48	.48	.49
MEDFORD						NONE						
PENDLETON						NONE						
PORTLAND [illegible]						NONE						
SALEM												
JUN 26	*.25	*.38	*.44	.47	*.51	.51	.52	.55	.59	.64	.66	.66
SEXTON SUMMIT R												
MAY 17	*.50	*.80	*.82	.84	*.85	.85	.85	.85	.85	.85	.85	.86
PACIFIC AREA												
GUAM												
JUL 26	.36	*.70	.83	1.02	*1.48	1.87	*2.02	2.03	2.04	2.04	2.04	2.06
JUL 26	.30	.57	.61	.71	.91	1.18	1.63	1.86	1.90	1.95	1.99	1.99
JUL 30	.20	.38	.44	.50	.80	.83	.83	.84	.84	.84	.84	.84
AUG 4	.28	.47	.60	.74	.93	1.10	1.12	1.16	1.16	1.16	1.16	1.17
AUG 27	.33	.53	.65	.68	.85	.93	.93	.95	.95	.97	.98	1.00
AUG 29	.22	.35	.39	.49	.63	1.02	1.10	1.10	1.11	1.12	1.12	1.12
SEP 15	.24	.30	.34	.34	.34	.34	.35	.35	.52	.53	.69	.69
OCT 4	.25	.46	.53	.55	.62	.67	.76	.81	.81	.81	.81	.81
OCT 14	.20	.30	.30	.30	.30	.30	.30	.32	.50	.50	.64	.64
OCT 14	.29	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
OCT 16 T	M	M	M	M	M	M	M	M	M	M	M	M
OCT 18	*.43	.66	.78	.85	.87	1.04	1.16	1.29	1.32	1.38	1.45	1.74
OCT 21	.25	.38	.45	.60	.85	1.13	1.20	1.25	1.25	1.25	1.25	1.25
OCT 26	.26	.50	.62	.70	1.06	1.12	1.18	1.27	1.34	1.35	1.36	1.38
OCT 29	.18	.28	.36	.47	.55	.69	.70	.74	.76	.80	.80	.80
OCT 29	.30	.53	.60	.72	.75	1.00	1.20	1.37	1.38	1.40	1.41	1.50
OCT 30	.15	.30	.34	.38	.43	.46	.70	.75	.75	.75	.75	.75
NOV 1	.15	.28	.35	.40	.50	.65	.72	.72	.72	.72	.72	.72
NOV 12	.20	.33	.35	.35	.36	.36	.36	.36	.36	.49	.49	.49
NOV 13	.20	.32	.39	.48	.58	.66	.73	.73	.73	.73	.87	.95
NOV 14	.27	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34
DEC 6	.30	.42	.48	.58	.59	.65	.73	.77	.77	.77	.77	.77
DEC 19	.32	.50	.50	.60	.76	.84	.90	1.15	1.36	1.50	1.62	1.72
JOHNSTON ISLAND												
FEB 28	.26	.37	.46	.58	.87	1.25	1.42	1.54	1.58	1.58	1.58	1.58
KOROR												
JAN 18	.26	.35	.35	.35	.35	.35	.36	.36	.38	.49	.59	.60
MAR 16	.20	.32	.46	.51	.54	.60	.61	.61	.64	.64	.65	.67
APR 19	.25	.46	.49	.49	.49	.50	.50	.58	.68	.68	.68	.69
APR 20	.28	.40	.41	.41	.43	.46	.47	.48	.52	.79	.84	.88
APR 23	.28	.53	.74	1.00	1.22	1.37	1.38	1.49	1.49	1.52	1.53	1.80
MAY 8	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.33
MAY 10	.30	.46	.49	.55	.62	.63	.64	.69	.83	1.07	1.11	1.13
MAY 10	.30	.50	.60	.60	.61	.61	.61	.61	.64	.64	.64	.64
JUN 1	.27	.38	.44	.45	.46	.51	.57	.60	.79	.98	1.01	1.01
JUN 1	.29	.39	.48	.56	.62	.67	.83	.97	1.14	1.21	1.22	1.30
JUN 7	.42	.69	.76	.85	.89	1.00	1.06	1.08	1.08	1.08	1.08	1.08
JUN 14	.30	.47	.63	.79	.98	1.11	1.13	1.13	1.13	1.13	1.13	1.13
JUN 26	.33	.43	.48	.56	.68	.91	1.07	1.13	1.14	1.15	1.15	1.16
JUN 29	.23	.42	.59	.79	1.02	1.17	1.24	1.25	1.25	1.25	1.25	1.47
JUL 6	.34	.60	.83	.88	.89	.91	.92	.94	.94	1.03	1.05	1.07
JUL 13	.20	.35	.50	.60	.72	1.01	1.28	1.72	1.94	2.09	2.27	2.31
JUL 14	.27	.29	.29	.30	.31	.33	.34	.36	.38	.41	.43	.47
JUL 15	.39	.64	.73	.77	.82	.84	.85	.86	.86	.86	.86	.86
JUL 17	.34	.67	.76	.76	.79	.79	.79	.79	.79	.79	.79	.79
JUL 18	.22	.34	.41	.46	.65	.70	.71	.74	.75	.75	.75	.76
JUL 21	.26	.44	.58	.70	.95	1.36	1.70	1.96	2.29	2.44	2.57	2.73
JUL 22	.37	.72	.93	1.07	1.28	1.43	1.46	1.46	1.48	1.49	1.54	1.56
JUL 22	.25	.32	.32	.32	.33	.38	.43	.46	.49	.51	.52	.53
JUL 30	.14	.21	.30	.40	.54	.76	.94	1.18	1.32	1.52	1.64	1.71
AUG 15	.47	.74	.90	1.11	1.66	1.95	2.01	2.05	2.10	2.14	2.17	2.22
AUG 19	.40	.65	.76	.80	.80	.80	.80	.80	.80	.81	.84	.92
AUG 19	.55	*.97	*1.28	1.50	*2.04	2.46	*2.65	2.75	2.75	2.75	2.76	2.77
AUG 24	.33	.52	.80	.96	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
SEP 7	.28	.37	.54	.70	.79	.82	.82	.82	.82	.82	.82	.82
SEP 9	.45	.86	1.01	1.09	1.20	1.26	1.34	1.42	1.48	1.57	1.64	1.68
SEP 9	.16	.32	.43	.50	.72	.84	.89	1.02	1.13	1.16	1.21	1.22
SEP 16	.29	.45	.51	.52	.56	.68	.68	.68	.68	.68	.68	.68
OCT 2	.40	.67	.91	1.06	1.18	1.34	1.42	1.59	1.68	1.71	1.74	1.76
OCT 25	.21	.32	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37
OCT 27	.41	.75	.97	1.03	1.03	1.08	1.13	1.15	1.16	1.17	1.18	1.19
OCT 27	.22	.35	.47	.56	.73	.94	1.12	1.26	1.39	1.46	1.57	1.69
NOV 4	.20	.30	.36	.45	.48	.49	.49	.50	.50	.50	.50	.50
NOV 14	.54	.94	1.06	1.11	1.16	1.32	1.42	1.42	1.42	1.42	1.42	1.42
NOV 17	.31	.43	.48	.48	.61	.73	.74	.74	.74	.74	.74	.74
NOV 21	.36	.67	.92	.96	1.04	1.11	1.31	1.37	1.39	1.42	1.57	1.58
NOV 24	.23	.44	.56	.58	.70	.73	.76	.81	.82	.82	.84	.84

T CLOCK MALFUNCTION
M NO RECORD

EXCESSIVE SHORT DURATION RAINFALL

Station and date		Maximum precipitation in inches (5 to 180 minutes)											
		5	10	15	20	30	45	60	80	100	120	150	180
PACIFIC AREA													
[illegible]													
[illegible]	1[illegible]	.28	.35	.39	.40	.42	.45	.48	.48	.48	.48	.48	.48
[illegible]													
[illegible]	2	.36	.51	.66	.71	.88	1.37	1.38	1.36	1.38	1.38	1.38	1.53
[illegible]	15	.21	.31	.39	.46	.51	.60	.65	.65	.66	.72	.78	.93
[illegible]	16	.16	.26	.35	.49	.66	.86	1.00	1.07	1.13	1.14	1.15	1.26
[illegible]	3	.19	.36	.46	.51	.74	1.05	1.17	1.28	1.40	1.50	1.60	1.67
[illegible]	3	.23	.30	.55	.56	.80	1.01	1.27	1.70	1.97	2.12	2.28	2.29
[illegible]	4	.36	.57	.79	.94	1.09	1.23	1.27	1.30	1.31	1.31	1.34	1.47
[illegible]	4	.30	.54	.78	.91	1.22	1.46	1.76	2.12	2.43	2.43	2.43	2.43
[illegible]	4	.22	.35	.43	.50	.54	.60	.63	.95	1.07	1.09	1.18	1.21
[illegible]	7	.27	.36	.54	.66	.86	.99	1.41	1.54	1.74	1.84	2.62	2.79
[illegible]	15	.30	.49	.67	.75	.83	.83	.84	.85	.85	.86	.92	.92
[illegible]	22	.16	.29	.39	.40	.45	.46	.47	.49	.74	.75	.76	.82
[illegible]	27	.20	.33	.41	.45	.47	.47	.47	.48	.55	.59	.62	.62
[illegible]	28	.20	.28	.36	.43	.45	.47	.48	.48	.48	.48	.48	.48
[illegible]	4	.15	.24	.26	.39	.52	.59	.60	.60	.60	.60	.60	.62
[illegible]	5	.20	.32	.43	.50	.55	.62	.65	.65	.65	.65	.65	.65
[illegible]	17	.16	.29	.33	.42	.44	.46	.47	.47	.47	.47	.47	.47
[illegible]	[illegible]	.23	.39	.53	.61	.79	1.07	1.26	1.36	1.36	1.36	1.36	1.36
[illegible]	[illegible]	.21	.33	.35	.49	.65	.86	1.07	1.23	1.40	1.44	1.53	1.59
[illegible]	[illegible]	.17	.23	.32	.40	.50	.52	.63	.64	.74	.75	1.04	1.13
[illegible]	2	.29	.49	.59	.66	.98	.98	.98	.99	.99	.99	1.02	1.51
[illegible]	6	.29	.52	.60	.65	.69	.84	.86	.96	.95	.95	.95	.95
[illegible]	11	.25	.40	.49	.50	.76	.92	.99	1.09	1.15	1.25	1.36	1.47
[illegible]	15	.24	.36	.47	.40	.41	.45	.48	.53	.59	.65	.69	.77
[illegible]	1[illegible]	.18	.34	.46	.50	.55	.57	.58	.58	.58	.56	.58	.58
[illegible]	19	.37	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.42
[illegible]	24	.17	.23	.35	.43	.54	.64	.74	.80	.67	.87	.92	1.01
[illegible]	10	.32	.57	.71	.80	.98	1.06	1.17	1.17	1.17	1.17	1.17	1.17
[illegible]	14	.25	.47	.66	.83	1.09	1.33	1.51	2.05	2.19	2.25	2.29	2.30
[illegible]	22	.26	.39	.58	.63	.66	.66	.76	.93	.93	.93	.93	.93
AUG	23	.23	.33	.34	.38	.38	.38	.38	.39	.39	.39	.39	.39
SEP	3	.38	.59	.63	.65	.70	.72	.73	.73	.84	.84	.84	.84
SEP	25	.27	.49	.67	.80	.85	.89	.97	1.05	1.07	1.07	1.07	1.23
SEP	26	.30	.54	.64	.67	.71	.87	.90	.91	.97	1.05	1.08	1.10
SEP	26	.24	.37	.39	.42	.46	.46	.46	.47	.47	.48	.52	.52
SEP	30	.22	.32	.44	.60	.84	1.11	1.31	1.44	1.58	1.83	2.20	2.50
OCT	4	.31	.54	.74	.99	1.21	1.36	1.49	1.56	1.60	1.66	1.80	1.89
[illegible]	12	.32	.47	.53	.60	.65	.69	.71	.72	.75	.77	.78	.79
[illegible]	2	.29	.44	.56	.64	.73	.81	.87	.87	.96	1.01	1.06	1.16
[illegible]	9	.15	.25	.35	.48	.52	.59	.62	.64	.65	.65	.66	.81
[illegible]	24	.29	.35	.38	.38	.38	.38	.38	.38	.43	.43	.46	.54
[illegible]	25	.20	.35	.49	.61	.67	.69	.70	.71	.71	.73	.74	.74
[illegible]	13	.19	.28	.35	.36	.45	.48	.50	.54	.56	.58	.54	.64
[illegible] PAGO, A.S.													
[illegible]	9	.32	.61	.79	.99	1.03	1.03	1.06	1.12	1.13	1.15	1.33	1.47
JAN	19	.34	.61	.91	1.09	1.42	1.68	1.60	1.66	1.98	2.59	3.18	3.45
[illegible]	22	.21	.35	.50	.61	.66	.70	.70	.70	.70	.70	.70	.75
FEB	10	.25	.44	.59	.75	.96	1.07	1.14	1.14	1.14	1.14	1.31	1.49
[illegible]	5	.22	.40	.53	.57	.84	1.10	1.12	1.14	1.15	1.15	1.15	1.15
[illegible]	12	.16	.29	.42	.53	.61	.78	1.20	1.47	1.56	1.56	1.56	1.56
[illegible]	31	.35	.60	.73	.75	.77	.89	1.12	1.24	1.28	1.28	1.28	1.28
APR	17	.18	.35	.50	.54	.56	.56	.56	.56	.56	.56	.56	.57
APR	22	.25	.39	.54	.63	.78	.86	.95	1.02	1.06	1.42	1.67	1.80
MAY	15	.13	.22	.33	.43	.59	.70	.75	.79	.84	.89	.89	.90
MAY	19	.26	.40	.55	.64	.76	.92	.88	.92	.92	.92	.92	.92
[illegible]	18	.39	.57	.71	.90	1.01	1.10	1.28	1.44	1.56	1.57	1.57	1.62
[illegible]	[illegible]	.18	.31	.35	.36	.38	.38	.38	.38	.38	.38	.38	.38
[illegible]	5	.26	.44	.62	.76	.96	1.07	1.07	1.09	1.09	1.10	1.10	1.10
[illegible]	16	.17	.28	.36	.44	.50	.70	.78	.88	1.00	1.10	1.29	1.36
[illegible]	17	.35	.63	.93	1.08	1.22	1.36	1.73	1.45	1.45	1.46	1.46	1.47
[illegible]	14	M	M	M	M	M	M	.54	.56	.56	.56	.56	.56
[illegible]	19	.28	.47	.55	.59	.73	.88	.93	1.01	1.09	1.10	1.12	1.17
[illegible]	20	.21	.30	.32	.38	.50	.51	.56	.57	.61	.62	.65	.65
[illegible]	24	.17	.30	.40	.49	.61	.72	.76	.76	.77	.78	.78	.78
DEC	22	.23	.46	.69	.81	1.21	1.40	1.45	1.52	1.54	1.71	1.82	1.88
DEC	25	.40	.68	.96	1.30	1.79	2.65	*3.26	3.63	3.71	3.77	3.83	*4.22
[illegible]													
JAN	4	.18	.32	.46	.50	.53	.55	.57	.60	.63	.66	.70	.72
[illegible]	21	.15	.28	.35	.40	.53	.56	.59	.59	.59	.59	.59	.59
[illegible]	24	.27	.50	.70	.74	.79	1.03	1.19	1.25	1.39	1.60	1.72	1.76
FEB	6	.31	.57	.81	1.02	1.27	1.51	1.83	2.56	2.87	3.05	3.12	3.23
FEB	16	.19	.35	.38	.38	.41	.57	.68	.77	.77	.77	.84	1.03
FEB	21	.14	.25	.33	.40	.45	.56	.57	.58	.67	.68	.71	.73
MAR	5	.28	.44	.65	.90	.96	1.10	1.20	1.31	1.32	1.34	1.36	1.36
MAR	11	.27	.37	.43	.53	.68	.78	.90	.99	1.23	1.32	1.53	1.64
[illegible]	5	.23	.39	.54	.58	.62	.64	.66	.70	.75	.76	.79	.98
APR	12	.38	.52	.60	.90	1.17	1.33	1.48	1.71	1.82	2.19	2.35	2.64
APR	12	.25	.36	.45	.53	.63	.68	.89	.94	1.37	1.60	1.77	1.92
APR	17	.38	.65	.80	.89	.95	1.17	1.20	1.21	1.37	1.53	1.54	1.55
APR	23	.25	.42	.57	.64	.71	.80	.83	.84	.92	.92	.93	.97
APR	23	.26	.43	.63	.77	.99	1.13	1.39	1.59	1.66	1.71	1.88	1.98
APR	26	.33	.49	.64	.75	.89	1.15	1.29	1.34	1.36	1.40	1.46	1.49
MAY	3	.26	.44	.50	.51	.68	.78	.96	1.05	1.13	1.38	1.49	1.55
MAY	16	.21	.35	.44	.58	.73	.91	.94	1.22	1.25	1.28	1.31	1.33
MAY	17	.17	.30	.38	.46	.60	.73	.76	.76	.77	.79	.80	.80
MAY	23	.16	.31	.42	.52	.61	.77	.86	1.03	1.09	1.14	1.26	1.36
MAY	24	.18	.30	.45	.48	.59	.72	.73	.73	.73	.73	.73	.73
MAY	30	.29	.42	.43	.44	.47	.47	.47	.47	.47	.47	.47	.47
[illegible]	[illegible]	.37	.35	.38	.38	.38	.38	.38	.39	.39	.40	.40	.40
[illegible]	8	.18	.35	.52	.60	.66	.71	.82	.94	1.03	1.08	1.32	1.43
JUN	12	.42	.67	1.01	1.22	1.59	1.75	2.12	2.20	2.54	2.68	2.73	2.79
[illegible]	15	.34	.51	.64	.66	.68	.92	.94	.94	.97	1.01	1.03	1.05
[illegible]	19	.21	.40	.50	.51	.53	.58	.66	.74	.77	.93	1.17	1.27
[illegible]	22	.27	.37	.38	.44	.65	.79	.83	.88	.91	.94	.95	.95
JUN	25	.28	.49	.75	.91	1.19	1.45	1.50	1.69	1.78	1.86	1.95	1.96
[illegible]	29	.25	.34	.54	.66	.78	1.06	1.14	1.18	1.24	1.28	1.28	1.28
JUL	[illegible]	.25	.40	.50	.54	.68	.80	.81	.86	.91	.92	1.00	1.03
JUL	[illegible]	.26	.43	.62	.68	.82	.90	.91	.92	.92	.92	.92	.92
JUL	8	.52	.85	1.13	1.35	1.49	1.54	1.57	1.61	1.68	1.74	1.75	1.76
JUL	[illegible]	.19	.34	.47	.59	.83	1.11	1.35	1.44	1.49	1.56	1.72	1.81
[illegible]	1[illegible]	.31	.53	.63	.74	.88	.91	1.09	1.18	1.33	1.44	1.47	1.52
JUL	15	.29	.49	.59	.63	.72	.80	.88	.94	1.24	1.36	1.42	1.49
JUL	20	.2[illegible]	.41	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
[illegible]	25	.39	.55	.77	1.03	1.38	1.79	2.36	3.21	3.69	*3.86	3.94	*3.95
JUL	3[illegible]	.33	.49	.52	.53	.54	.56	.59	.57	.58	.58	.58	.58
JUL	3[illegible]	.50	.85	*1.23	1.32	1.34	1.35	1.61	1.92	1.94	1.94	1.94	1.96
AUG	14	.31	.41	.51	.62	.86	1.14	1.32	1.37	1.39	1.39	1.41	1.41
AUG	23	.18	.27	.35	.42	.43	.44	.44	.44	.44	.44	.44	.44
AUG	25	.31	.43	.59	.80	.94	1.09	1.19	1.25	1.26	1.26	1.26	1.26
AUG	30	.31	.45	.51	.52	.52	.53	.53	.53	.53	.53	.53	.53
SEP	4	.24	.43	.60	.76	1.16	1.45	1.78	2.09	2.21	2.22	2.27	2.29

Station and date		Maximum precipitation in inches (5 to 180 minutes)											
		5	10	15	20	30	45	60	80	100	120	150	180
PACIFIC AREA													
P[illegible]APE													
SEP	6	.32	.49	.58	.71	.88	.89	.91	.91	1.01	1.03	1.03	1.05
SEP	7	.28	.39	.42	.47	.54	.74	.93	.96	.98	.98	1.00	1.00
SEP	7	.27	.41	.44	.47	.47	.48	.49	.56	.58	.60	.63	.63
SEP	8	.49	.78	.90	.93	1.06	1.09	1.21	1.41	1.53	1.56	1.58	1.59
SEP	25	.36	.50	.67	.88	1.22	1.81	2.17	2.45	2.77	2.82	2.96	2.96
SEP	30	.41	.54	.63	.69	.77	.84	.85	.85	.85	.85	.85	.85
OCT	3	.39	.62	.88	.94	.94	.95	.97	1.01	1.01	1.01	1.01	1.01
OCT	4	.36	.65	.90	1.15	1.51	1.53	1.66	2.36	2.86	3.08	3.29	3.75
OCT	23	.27	.47	.66	.88	1.14	1.37	1.85	2.48	2.63	2.65	2.65	2.72
OCT	29	.18	.33	.46	.54	.56	.66	.67	.67	.67	.67	.67	.67
NOV	10	.33	.48	.55	.55	.55	.56	.56	.61	1.02	1.11	1.23	1.36
NOV	10	.27	.44	.57	.62	.76	.92	1.04	1.09	1.11	1.11	1.11	1.12
NOV	10	.21	.31	.42	.50	.61	.67	.71	.71	.71	.71	.71	.71
NOV	11	.27	.36	.52	.68	.86	1.21	1.35	1.39	1.40	1.40	1.41	1.59
NOV	15	.33	.57	.76	.83	.95	1.04	1.04	1.11	1.15	1.16	1.16	1.16
NOV	17	.42	.76	.85	1.03	1.13	1.14	1.14	1.14	1.20	1.50	1.74	1.75
NOV	29	.33	.57	.79	.91	1.08	1.14	1.18	1.23	1.27	1.32	1.35	1.38
DEC	7	.19	.33	.41	.49	.53	.60	.65	.65	.68	.69	.74	.75
DEC	7	.30	.52	.62	.83	.98	1.26	1.56	1.72	1.82	1.93	2.07	2.18
DEC	8	.28	.36	.42	.48	.48	.49	.50	.53	.53	.53	.56	.56
DEC	11	.18	.28	.39	.44	.50	.58	.62	.67	.75	.79	.90	.92
DEC	13	.29	.41	.45	.47	.47	.47	.49	.49	.49	.49	.49	.49
DEC	19	.22	.34	.38	.43	.53	.68	.79	.92	.99	.99	.99	.99
TRU[illegible]													
MAR	4	.39	.48	.53	.72	.85	1.15	1.22	1.34	1.44	1.48	1.64	1.64
APR	1	.29	.35	.41	.42	.54	.70	.76	.84	.86	.90	.93	.93
APR	6	.24	.38	.45	.49	.61	.71	.78	.82	.86	.96	1.01	1.02
APR	6	.17	.27	.31	.40	.51	.56	.57	.58	.58	.58	.58	.58
APR	16	.29	.56	.78	.79	.82	.83	.84	.84	.85	.85	.88	.88
APR	23	.35	.44	.47	.47	.48	.48	.48	.48	.48	.48	.48	.48
MAY	10	.20	.30	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
MAY	13	.28	.50	.67	.85	1.18	1.80	2.17	2.26	2.30	2.30	2.31	2.32
MAY	15	.18	.26	.34	.44	.52	.75	.82	.82	.84	.84	.85	.85
MAY	18	.25	.33	.43	.45	.45	.46	.46	.46	.46	.46	.51	.54
MAY	22	.30	.52	.73	.99	1.23	1.71	1.88	1.90	1.90	1.90	1.90	1.90
MAY	25	.44	.56	.63	.65	.65	.65	.65	.65	.65	.67	.98	1.02
MAY	26	.41	.59	.80	.95	1.19	1.41	1.59	1.68	1.73	1.74	1.74	1.79
JUN	19	.65	.93	1.16	1.26	1.70	2.18	2.31	2.52	2.64	2.71	2.78	2.83
JUN	26	.28	.54	.78	1.00	1.08	1.12	1.29	1.34	1.38	1.46	1.50	1.51
JUL	5	.38	.67	.98	1.02	1.06	1.08	1.10	1.13	1.18	1.21	1.23	1.26
JUL	13	.38	.62	.76	.81	.81	.81	.82	.82	.82	.82	.82	.82
JUL	18	.30	.41	.53	.63	.70	.70	.70	.70	.71	.71	.71	.71
JUL	21	.36	.48	.65	.74	.89	1.23	1.33	1.37	1.37	1.40	1.40	1.41
AUG	3	.32	.38	.38	.38	.39	.39	.40	.41	.42	.43	.43	.48
AUG	4	.38	.53	.66	.87	1.13	1.26	1.27	1.30	1.34	1.36	1.38	1.38
AUG	13	.30	.48	.55	.61	.71	1.05	1.37	1.61	1.84	1.93	2.03	2.68
AUG	19	.25	.46	.57	.65	.82	1.14	1.49	1.63	1.63	1.63	1.63	1.64
AUG	22	.30	.45	.48	.55	.63	.63	.65	.65	.65	.65	.65	.65
AUG	26	.36	.50	.51	.51	.51	.51	.52	.52	.52	.52	.52	.52
SEP	6	.49	.87	1.05	1.17	1.29	1.39	1.43	1.47	1.52	1.54	1.57	1.58
SEP	[illegible]	.38	.61	.77	.86	.95	1.03	1.09	1.27	1.32	1.44	1.55	1.56
SEP	14	.22	.35	.45	.54	.64	.72	.72	.73	.74	.74	.94	.96
SEP	15	.40	.56	.61	.64	.66	.67	.67	.67	.67	.67	.67	.67
SEP	22	.34	.51	.60	.78	.83	.84	.85	.85	.85	.85	.86	.89
OCT	23	.20	.27	.31	.38	.62	.67	.67	.69	.75	.80	1.17	1.17
OCT	27	.47	.90	1.27	1.51	2.02	2.42	2.58	2.69	3.03	3.19	3.31	*3.38
NOV	3	.45	.81	1.12	1.46	1.96	2.32	2.77	3.09	3.24	3.35	3.55	*3.62
NOV	4	.23	.33	.36	.37	.38	.38	.39	.40	.40	.42	.43	.43
NOV	13	.20	.33	.44	.45	.45	.45	.45	.45	.45	.45	.45	.45
NOV	22	.31	.58	.76	.84	1.10	1.28	1.31	1.32	1.32	1.33	1.34	1.34
NOV	24	.19	.29	.39	.48	.57	.67	.69	.72	.75	.75	.75	.80
NOV	25	.54	.92	1.23	1.39	1.47	1.65	2.36	2.45	2.56	3.16	3.23	3.50
DEC	7	.27	.36	.37	.38	.40	.44	.48	.59	.68	.77	.96	1.08
DEC	17	.27	.42	.55	.63	.66	.70	.70	.74	.75	.76	.78	.79
DEC	18	.37	.60	.61	.75	.78	.78	.78	.80	.80	.80	.80	.80
DEC	19	.30	.53	.74	.94	1.09	1.09	1.10	1.21	1.25	1.30	1.32	1.33
WAKE													
AUG	14	.25	.42	.58	.58	.58	.58	.58	.58	.58	.58	.58	.58
SEP	19	.16	.26	.34	.41	.62	.73	.80	.90	.91	.94	1.02	1.09
OCT	5	.25	.29	.37	.39	.39	.39	.71	.76	.77	.78	.78	.78
OCT	6	.33	.37	.38	.38	.38	.38	.38	.38	.56	.58	.63	.65
NOV	17	.23	.41	.59	.70	.79	.89	.97	.98	.98	.98	.98	.98
DEC	15	.16	.24	.30	.44	.52	.58	.58	.58	.58	.58	.58	.60
YAP R													
JAN	3	.28	.37	.41	.44	.67	.80	.84	1.00	1.18	1.41	1.42	1.42
JAN	11	.23	.31	.36	.39	.41	.62	.67	.67	.67	.74	.76	.77
APR	19	.33	.44	.55	.58	.62	.66	.68	.72	.74	.78	.80	.80
MAY	3	.35	.67	.82	.92	.99	1.03	1.06	1.08	1.10	1.14	1.36	1.37
MAY	17	.27	.31	.36	.37	.37	.37	.38	.38	.38	.38	.38	.38
JUN	3	.35	.42	.44	.45	.49	.61	.68	.69	.72	.74	.74	.76
JUN	9	.17	.27	.36	.41	.46	.47	.47	.47	.47	.47	.47	.47
JUN	22	.15	.26	.36	.37	.40	.40	.41	.41	.41	.41	.42	.42
JUN	23	.33	.52	.72	.78	.85	.88	.88	.91	.91	.91	.91	.92
JUN	24	.20	.27	.29	.40	.42	.47	.66	.66	.67	.67	.74	.74
JUL	5	.27	.35	.38	.41	.45	.54	.60	.61	.74	.77	.78	.80
JUL	12	.29	.45	.65	.81	1.03	1.15	1.16	1.17	1.26	1.27	1.38	1.47
JUL	12	.31	.61	.92	1.22	1.71	2.05	2.34	2.75	3.05	3.25	3.47	4.32
JUL	23	.41	.75	.94	1.21	1.66	2.16	2.54	2.86	2.97	3.10	3.39	3.54
JUL	25	.16	.25	.33	.43	.54	.62	.66	.71	.75	.77	.83	.87
JUL	25	.38	.52	.59	.64	.73	.74	.74	.74	.74	.74	.74	.74
JUL	27	*.52*	.76	.88	.98	1.04	1.04	1.05	1.05	1.05	1.05	1.05	1.05
JUL	27	.15	.29	.39	.39	.40	.40	.40	.40	.40	.40	.40	.40
JUL	28	.20	.33	.45	.55	.75	.92	1.05	1.15	1.25	1.30	1.35	1.37
JUL	28	.31	.48	.62	.78	.90	.98	.99	1.01	1.04	1.05	1.08	1.12
JUL	28	*.53*	.90*	1.14	1.20	1.29	1.70	2.07	2.65	3.09	3.32	3.59	3.63
JUL	29	.34	.61	.82	1.09	1.31	1.73	1.79	1.85	2.04	2.11	2.21	2.25
JUL	29	.33	.47	.66	.89	1.23	1.38	1.72	1.75	1.76	1.76	1.82	2.14
AUG	2	.23	.46	.64	.74	.90	1.08	1.11	1.17	1.22	1.22	1.22	1.22
AUG	4	.22	.31	.37	.40	.43	.52	.68	.82	.84	.85	.89	.93
AUG	5	.29	.47	.71	.80	1.14	1.26	1.32	1.44	1.54	1.58	1.63	1.68
AUG	[illegible]	.23	.35	.43	.44	.48	.53	.70	.73	.74	.74	.74	.74
AUG	15	.32	.46	.56	.60	.67	.71	.75	.76	.76	.76	.76	.76
SEP	7	.23	.33	.41	.42	.44	.45	.47	.49	.50	.50	.50	.50
SEP	[illegible]	.26	.50	.66	.81	1.20	1.59	1.91	1.94	1.96	1.97	1.98	1.98
SEP	10	.27	.39	.48	.57	.72	.96	1.08	1.22	1.37	1.42	1.45	1.47
SEP	24	.21	.31	.45	.56	.61	.77	.83	.84	.88	.92	1.03	1.05
SEP	26	.33	.57	.71	.84	.93	.97	.99	1.01	1.20	1.51	1.52	1.52
SEP	27	.49	.66	.86	.92	.97	.99	1.00	1.01	1.01	1.01	1.01	1.01
SEP	27	.23	.32	.36	.38	.40	.41	.41	.47	.51	.56	.66	.69
SEP	29	.25	.45	.62	.70	.87	1.02	1.13	1.19	1.19	1.19	1.20	1.20
SEP	29	.29	.47	.50	.56	.57	.57	.59	.59	.59	.59	.59	.59
OCT	6	.21	.33	.42	.48	.57	.68	.76	.80	.83	.87	1.11	1.30

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
PACIFIC AREA												
YAP R												
OCT 8	.23	.33	.39	.44	.56	.66	.66	.66	.66	.66	.66	.66
OCT 13	•.64	.87	.97	1.07	1.12	1.16	1.24	1.36	1.42	1.42	1.42	1.42
OCT 17	.23	.38	.39	.39	.39	.40	.55	.55	.55	.57	.80	.82
OCT 18	.30	.41	.45	.47	.47	.49	.50	.54	.57	.59	.60	.66
OCT 25	.27	.29	.30	.33	.33	.33	.33	.33	.33	.33	.33	.33
OCT 27	.31	.52	.74	.79	1.03	1.37	1.44	1.47	1.47	1.48	1.58	1.59
OCT 31	.27	.34	.40	.44	.44	.45	.47	.57	.66	.66	.70	.70
NOV 4	.30	.37	.42	.42	.42	.42	.42	.42	.50	.64	.68	.69
NOV 21	.30	.34	.34	.34	.34	.34	.34	.34	.43	.49	.66	.66
NOV 27	.35	.49	.55	.57	.59	.59	.59	.61	.62	.62	.62	.62
DEC 27	.39	.50	.56	.57	.59	.60	.60	.60	.60	.60	.60	.75
DEC 27	.39	.56	.62	.64	.66	.76	.77	.77	.77	.78	1.10	1.41
PENNSYLVANIA												
ALLENTOWN												
JUL 12	.30	.45	.60	.62	.64	.66	.68	.68	.68	.68	.68	.68
JUL 26	•.62	•1.05	•1.35	1.53	•1.75	1.82	1.82	1.83	1.83	1.84	1.84	1.84
JUL 27	.27	.53	.67	.81	1.00	1.20	1.32	1.38	1.46	1.54	1.59	1.60
JUL 28	.38	.60	.75	.92	1.15	1.25	1.80	2.25	2.53	2.66	2.78	2.83
AUG 3	.30	.35	.38	.44	.44	.49	.51	.51	.51	.55	.55	.68
AUG 15	.27	.44	.46	.46	.46	.46	.48	.48	.48	.48	.48	.48
AUG 19	.22	.39	.43	.44	.44	.45	.46	.46	.46	.46	.46	.46
SEP 8	.18	.34	.35	.36	.37	.39	.44	.52	.56	.64	.64	.64
ERIE												
MAY 8	.26	.42	.62	.74	.82	1.08	1.14	1.45	1.46	1.47	1.54	1.79
JUN 1	.16	.31	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
JUN 19	.17	.25	.37	.41	.52	.53	.53	.53	.53	.53	.53	.53
JUL 4	.14	.27	.35	.35	.35	.36	.37	.37	.42	.43	.44	.68
AUG 2	.25	.28	.31	.43	.48	.49	.49	.49	.49	.49	.49	.49
HARRISBURG												
JUN 8	.30	.37	.38	.38	.38	.39	.50	.52	.52	.52	.52	.52
JUL 19	.43	.57	.58	.58	.58	.58	.58	.58	.58	.58	.58	.58
JUL 22	.20	.32	.49	.54	.62	.70	.76	.81	.82	.84	.87	.93
JUL 23	.31	.49	.59	.86	1.02	1.44	1.82	2.18	2.36	2.51	2.71	2.87
JUL 27	.60	1.08	1.31	1.58	1.78	2.37	•2.48	2.54	2.58	2.62	2.68	2.69
AUG 17	.34	.51	.58	.65	.68	.71	.72	.72	.72	.72	.72	.72
PHILADELPHIA												
MAY 20	.36	.46	.49	.50	.53	.54	.54	.54	.54	.54	.54	.54
JUN 23	.82	1.27	1.28	1.28	1.28	1.33	1.37	1.92	2.02	2.09	2.09	2.09
JUN 25	.31	.50	.52	.61	.76	.99	1.18	1.58	1.90	2.09	2.14	2.31
JUL 18	.23	.36	.39	.40	.43	.44	.45	.45	.45	.45	.45	.45
JUL 23	.22	.28	.36	.42	.44	.48	.48	.48	.48	.48	.48	.48
JUL 27	.38	.68	.74	.80	.86	.87	.87	1.06	1.28	1.32	1.32	1.60
JUL 28	.38	.53	.58	.61	.64	.64	.66	.67	.68	.68	.68	.68
JUL 28	.42	.59	.66	.69	.89	.90	.91	1.03	1.22	1.24	1.32	1.48
AUG 4	.20	.40	.45	.45	.45	.45	.45	.79	.84	.85	.85	1.09
SEP 3	.23	.46	.48	.53	.63	.69	.83	1.09	1.24	1.36	1.52	1.63
PITTSBURGH												
JUN 14	.24	.44	.48	.52	.55	.56	.64	.73	.80	.81	.81	.81
JUL 4	.25	.38	.52	.56	.58	.60	.62	.66	.71	.72	.79	.85
JUL 27	.32	.59	.60	.66	.70	.73	.80	.81	.81	.81	.81	.81
AUG 19	.21	.37	.48	.62	.74	.79	.79	.79	.79	.79	.79	.79
OCT 20	.15	.30	.32	.35	.38	.52	.69	.76	.78	.80	.83	.84
PITTSBURGH J												
APR 18	.25	.35	.48	.53	.60	.70	.78	.80	.88	.94	.98	.98
READING J C						NONE						
WILKES BARRE												
JUN 15	.19	.36	.54	.65	.72	.98	1.04	1.13	1.14	1.15	1.25	1.34
JUL 12	.58	.94	1.26	1.64	•1.87	2.01	2.03	2.06	2.08	2.08	2.15	2.15
JUL 28	.43	.49	.51	.57	.61	.62	.65	.99	1.01	1.04	1.05	1.11
AUG 15	.41	.68	.78	.80	.80	1.02	1.20	1.82	1.82	1.82	2.36	2.37
OCT 3	.20	.29	.37	.51	.62	.67	.68	.68	.68	.68	.68	.68
RHODE ISLAND												
BLOCK ISLAND												
AUG 9	.34	.52	.71	1.03	1.11	1.12	1.12	1.24	1.28	1.31	1.31	1.31
AUG 16	.29	.52	.56	.64	.72	.74	.80	.80	.80	.80	.80	.80
NOV 3	.30	.60	.80	1.05	1.35	2.00	•2.45	2.65	2.93	2.98	3.08	3.18
PROVIDENCE												
JUL 29	.20	.39	.50	.52	.55	.56	.56	.57	.58	.63	.73	.94
AUG 9	.31	.48	.54	.84	.94	1.06	1.07	1.12	1.13	1.13	1.13	1.13
SOUTH CAROLINA												
CHARLESTON												
APR 18	.38	.39	.39	.40	.43	.43	.50	.73	.75	.75	.75	.75
MAY 19	.20	.30	.32	.33	.35	.35	.37	.40	.43	.44	.48	.49
JUN 13	.27	.46	.48	.52	.73	.91	1.05	1.46	1.66	1.69	1.69	1.69
JUN 13	.18	.30	.35	.40	.45	.57	.57	.57	.57	.57	.57	.57
JUN 14	.35	.50	.62	.64	.67	.68	.72	.74	.76	.77	.83	.83
JUN 20	.26	.43	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
JUL 14	•.75	.80	1.15	1.22	1.25	1.27	1.28	1.29	1.29	1.30	1.30	1.30
JUL 21	.50	.76	.90	1.05	1.55	1.64	1.80	1.89	1.95	1.97	2.00	2.02
AUG 3	.25	.47	.63	.73	.86	.87	.92	.92	.92	.94	.94	.94
AUG 4	.15	.25	.40	.42	.54	.66	.73	.76	.97	1.17	1.19	1.21
AUG 11	.20	.27	.30	.35	.53	.55	.66	.67	.69	.69	.74	.77
AUG 13	.25	.45	.47	.55	.73	.75	.75	.75	.75	.75	.75	.75
AUG 15	.25	.34	.42	.52	.75	1.01	1.12	1.41	1.61	1.70	1.72	1.75
SEP 9	.35	.50	.55	.61	.62	.62	.62	.62	.62	.62	.62	.62
SEP 15	.40	.48	.67	.75	.77	.83	1.15	1.23	1.27	1.30	1.31	2.08
NOV 1	.20	.30	.35	.44	.54	.70	.86	1.18	1.35	1.65	1.95	2.35
DEC 10	.25	.42	.44	.53	.66	.75	1.02	1.10	1.17	1.26	1.30	1.32
CHARLESTON J												
MAR 1	.28	.34	.36	.38	.40	.67	.49	.50	.51	.53	.55	.57
APR 16	.24	.37	.58	.74	.79	1.20	1.27	1.34	1.37	1.38	1.40	1.40
JUN 6	•.73	.98	1.08	1.13	1.16	1.17	1.19	1.22	1.24	1.26	1.29	1.34
JUN 20	.47	.73	.82	.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
JUL 1	.59	.64	.79	.92	1.05	1.10	1.10	1.10	1.10	1.10	1.10	1.10
JUL 8	.26	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41
AUG 2	.42	.61	.78	.86	.86	.93	.96	.97	.98	.98	.98	.98
AUG 4	.46	.47	.48	.50	.53	.55	.58	.63	.68	.77	.93	1.01

C RECORD ENDED MAY 10.

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
[illegible]												
CHARLESTON J												
[illegible] 3	.20	.33	.40	[illegible]	[illegible]	[illegible]	[illegible]	.55	[illegible]	.61	[illegible]	.63
[illegible] 13	.24	.36	.38	[illegible]	.74	.75	.76	.76	.75	[illegible]	.76	.76
[illegible] 15	.27	.35	.43	[illegible]	[illegible]	[illegible]	[illegible]	.50	[illegible]	.52	[illegible]	.77
[illegible] 15	.22	.30	.32	[illegible]	[illegible]	.44	.44	[illegible]	[illegible]	[illegible]	.84	.84
[illegible] 3	•1.17	.27	.35	[illegible]	.54	[illegible]	.93	[illegible]	1.09	[illegible]	[illegible]	1.12
SEP 15	.24	.38	.42	.42	.42	.44	.56	.58	[illegible]	[illegible]	.58	.58
SEP 17	.42	.59	.70	.74	.72	.72	.72	[illegible]	.72	.72	.72	.75
SEP 24	.27	.35	.44	.54	.67	.69	.70	.81	[illegible]	[illegible]	1.03	1.04
[illegible] 1	.29	.33	.46	.50	.78	1.03	1.42	1.97	[illegible]	[illegible]	3.07	[illegible]
COLUMBIA												
[illegible] 15	.27	.40	.43	[illegible]	.57	.69	[illegible]	[illegible]	[illegible]	[illegible]	1.59	1.69
[illegible] 7	.32	.45	.64	[illegible]	1.25	1.46	1.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 15	.42	.53	.78	.88	1.35	[illegible]	[illegible]	[illegible]	1.45	[illegible]	[illegible]	[illegible]
JUL 1	.26	.41	.47	.58	.93	1.10	[illegible]	1.30	1.35	[illegible]	1.52	1.56
JUL 24	.39	.52	.60	.75	1.03	1.25	[illegible]	[illegible]	1.49	[illegible]	1.54	1.57
SEP 3	.21	.38	.43	.45	.45	.45	.45	.45	[illegible]	.45	[illegible]	.45
[illegible] 20	.24	.30	.35	.38	.40	.40	.40	[illegible]	.40	[illegible]	.40	.40
[illegible] SPARTANBURG												
APR 16	.40	.69	.81	.84	.85	.85	.85	.85	[illegible]	[illegible]	.85	.85
[illegible] 2	.25	.35	.40	.45	.48	[illegible]	.56	.56	.56	[illegible]	.56	.56
[illegible] 9	.27	.37	.51	.55	.77	.79	.80	.80	.80	[illegible]	.80	.80
JUN 14	.14	.26	.35	.38	.55	.66	.74	.79	.82	[illegible]	.82	.82
[illegible] 15	.40	.72	1.09	1.32	•1.79	2.95	•3.7[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	•4.21
[illegible] 23	.29	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
[illegible] 19	.22	.33	.48	.63	.67	.69	.71	.73	.77	.77	.77	.77
AUG 17	.27	.32	.38	.40	.70	.70	.73	.75	[illegible]	[illegible]	[illegible]	[illegible]
AUG 19	.17	.25	.37	.47	.50	.52	.52	.52	.52	.52	.54	.54
SOUTH DAKOTA												
ABERDEEN												
MAY 15	.40	.69	.78	.90	1.02	1.15	1.23	1.27	1.28	[illegible]	[illegible]	1.34
JUN 25	.15	.25	.33	.41	.65	.90	.96	1.00	1.09	1.13	[illegible]	1.25
JUN 25	.27	.35	.40	.43	.45	.45	.46	.47	.56	[illegible]	.59	.58
JUL 4	.31	.53	.57	.74	.93	1.00	1.02	1.02	1.02	1.02	1.02	1.02
JUL 8	.27	.36	.41	.50	.56	.60	.60	.62	.62	.63	.63	.63
JUL 22	.27	.33	.36	.40	.42	.42	.42	.42	.42	.42	.43	[illegible]
HURON												
MAY 3	.25	.36	.39	.42	.52	.60	.64	.72	1.03	1.09	1.15	1.15
JUN 25	.77	.85	.93	.95	.97	.99	.99	.99	.99	.99	.99	.99
JUL 1	.22	.28	.46	.52	.52	.52	.52	.52	.52	.52	.52	.52
JUL 3	.19	.38	.53	.66	.90	.93	.95	.98	.98	.98	.98	.98
JUL 9	.25	.27	.27	.27	.28	.28	.29	.32	.32	.32	.32	.32
JUL 14	.32	.57	.59	[illegible]	.96	1.12	1.19	[illegible]	[illegible]	[illegible]	[illegible]	1.50
AUG 8	.15	.31	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
RAPID CITY												
MAY 3	.37	.42	.47	.51	.53	.61	.65	.70	.75	.75	.76	.76
JUL 10	.32	.57	.72	.74	.78	.78	.78	.78	.78	.78	.78	.78
JUL 14	.27	.35	.42	.57	.63	.69	.71	.72	.75	.84	.84	.84
JUL 16	.22	.44	.53	.61	.80	1.04	1.17	1.28	1.33	1.36	1.47	1.58
JUL 23	.27	.46	.48	.49	.58	.59	.60	.66	.69	.73	.94	.94
SIOUX FALLS												
MAY 3	.16	.32	.42	.52	.54	.59	.62	.62	.62	.62	.62	.62
JUN 25	.23	.32	.36	.40	.43	.50	.52	.56	.59	.65	.76	.85
JUL 8	.31	.57	.77	.90	.97	.98	1.01	1.02	1.02	[illegible]	[illegible]	1.18
AUG 8	.47	.74	1.00	1.27	1.42	1.50	1.51	1.51	1.51	1.51	1.51	1.51
AUG 19	.24	.42	.58	.73	.90	.93	.95	.96	.96	.96	.97	.97
AUG 20	.23	.33	.50	.55	.68	.73	1.05	1.16	1.23	1.27	1.27	1.27
TENNESSEE												
BRISTOL												
JUN 14	.25	.31	.33	.38	.45	.53	.63	.72	.74	[illegible]	.84	.87
JUN 21	.33	.50	.53	.61	.62	.83	.83	[illegible]	.88	[illegible]	[illegible]	[illegible]
JUN 23	.25	.27	.28	.30	.32	.42	.51	.57	.57	[illegible]	.73	.76
JUN 26	.45	.61	.62	.63	.64	.65	.65	.65	.65	.65	.65	.65
JUL 1	.39	.67	.92	1.07	1.32	1.44	1.48	1.50	1.59	[illegible]	1.65	[illegible]
JUL 7	.45	.70	.73	.74	.78	.82	.84	.86	[illegible]	[illegible]	.91	.94
JUL 9	.55	.71	.91	.94	1.04	[illegible]	1.04	[illegible]	1.04	[illegible]	1.70	1.70
JUL 11	.25	.34	.37	.40	.51	.54	.58	.58	.77	.82	.89	.89
JUL 18	.25	.40	.45	.46	.47	.48	.49	.50	.50	.50	.50	.50
JUL 24	.29	.47	.51	.56	.63	.63	[illegible]	.64	.64	.64	.64	.64
JUL 24	.33	.60	.71	.80	.87	.93	.95	.95	.95	.95	.95	.95
SEP 1	.25	.40	.41	.43	.50	[illegible]	.62	.64	.65	[illegible]	[illegible]	.91
SEP 5	.37	.63	.88	1.56	1.67	1.75	1.76	1.80	1.81	1.81	1.82	1.87
CHATTANOOGA												
JUN 24	.31	.45	.49	.53	.62	.75	.78	.89	.89	.89	.89	.89
JUN 24	.31	.42	.47	.48	.48	.48	.48	.48	.48	.48	.48	.48
JUL 9	.23	.35	.51	.64	.69	.70	.70	.70	.70	.70	.70	.70
JUL 20	.21	.40	.55	.58	.59	.60	.60	.60	.60	.60	.60	[illegible]
AUG 4	.41	.73	.93	1.17	1.77	2.56	•2.90	3.00	3.01	[illegible]	3.01	[illegible]
AUG 15	.35	.65	.69	.95	1.01	1.12	1.14	1.15	1.15	1.15	1.15	1.15
AUG 21	.27	.44	.51	.74	.86	1.02	1.05	1.06	[illegible]	[illegible]	[illegible]	[illegible]
DEC 30	.29	.36	.41	.46	.51	.62	.74	.77	.77	.77	1.10	1.23
KNOXVILLE												
JUN 20	•.58	.87	1.05	1.20	1.70	1.82	1.82	1.82	1.82	1.82	1.82	1.82
JUN 23	.25	.40	.42	.45	.52	.73	.76	.90	.95	1.02	[illegible]	[illegible]
JUN 24	.37	.55	.76	.85	.89	.93	.97	1.05	1.05	1.05	[illegible]	1.05
JUL 22	.31	.51	.57	.65	.76	.80	.80	.80	.80	.80	[illegible]	[illegible]
AUG 1	.23	.33	.35	.37	.41	.41	.41	.41	.41	.41	[illegible]	[illegible]
AUG 15	.24	.44	.47	.53	.73	.74	.74	.76	.77	.78	[illegible]	.84
AUG 15	.40	.53	.59	.63	.65	.65	.65	.65	.65	.65	.65	.65
AUG 22	.23	.40	.47	.61	.94	1.23	[illegible]	1.73	2.00	[illegible]	[illegible]	2.68
SEP 19	.15	.23	.34	.40	.63	.77	.95	[illegible]	1.23	1.38	1.44	1.57
OCT 21	.17	.31	.35	.37	.42	.45	.47	.47	.47	[illegible]	[illegible]	[illegible]
MEMPHIS												
APR 4	.37	.56	.75	1.01	1.32	1.40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR 9	.34	[illegible]	.63	1.00	[illegible]	1.61	1.73	1.76	[illegible]	[illegible]	1.81	1.81
MAY 3	.24	.30	.37	.43	.53	.59	.64	.66	.67	[illegible]	[illegible]	[illegible]
JUN 24	.19	.30	.35	.35	.36	.36	.37	.39	.40	.40	.40	[illegible]
JUL 12	.26	.46	.54	.70	.79	.79	.79	.79	.79	.79	.79	.79
JUL 22	.19	.29	.37	.40	.42	.43	.44	.45	[illegible]	.46	[illegible]	.46
[illegible] 16	.25	.40	.51	.53	.53	.54	.54	.54	.54	.54	[illegible]	.55
[illegible] 17	.34	.54	.59	.74	.77	.79	.86	.89	.89	[illegible]	[illegible]	.94
AUG [illegible]	.29	.45	.59	.69	.74	.83	1.02	1.48	1.62	1.73	[illegible]	[illegible]

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
TENNESSEE												
MEMPHIS												
[illegible] 21	.17	.27	.38	.47	.63	.92	1.02	1.06	1.09	1.1[illegible]	1.13	1.15
NASHVILLE												
[illegible] 22	.27	.43	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
MAY 23	.35	.65	.75	.87	.95	.97	.99	.99	1.00	1.00	1.00	1.00
MAY 24	.40	.65	.88	1.10	1.33	1.35	1.36	1.36	1.36	1.36	1.36	1.36
JUN 23	.37	.56	.85	1.05	1.17	1.24	1.24	1.30	1.38	1.38	1.38	1.38
JUL 20	.21	.37	.49	.69	.88	1.01	1.05	1.07	1.39	1.42	1.45	1.49
JUL 27	.28	.51	.73	.78	.92	1.1[illegible]	1.5[illegible]	1.56	1.56	1.56	1.56	1.56
TEXAS												
ABILENE												
MAY 4	.45	.95	.95	1.05	1.24	1.36	1.48	1.48	1.53	1.60	1.60	1.61
MAY 6	.40	.80	.90	1.20	1.27	1.33	1.43	1.51	1.62	1.65	1.72	1.78
MAY 15	.30	.51	.56	.63	.84	.92	.98	1.05	1.10	1.12	1.18	1.20
JUL 22	.45	.90	1.09	1.26	1.53	1.95	2.13	2.13	2.13	2.13	2.13	2.13
AUG 4	.27	.42	.48	.50	.51	.59	.66	.73	.82	.85	.92	.93
AUG 15	.22	.39	.51	.60	.64	.66	.67	.67	.67	.67	.67	.67
AUG 22	.32	.51	.70	.90	1.10	1.40	1.67	1.77	1.86	2.24	2.38	2.43
AUG 23	.30	.50	.70	.80	1.11	1.22	1.28	1.30	1.30	1.31	1.33	1.36
AUG 26	.25	.41	.46	.47	.53	.86	1.00	1.16	1.21	1.24	1.29	1.34
SEP 10	.40	.67	.82	.92	1.00	1.01	1.01	1.15	1.20	1.20	1.20	1.23
AMARILLO												
JUN 7	.4[illegible]	.75	1.00	1.12	1.25	1.30	1.33	1.35	1.38	1.52	1.56	1.64
JUL 5	.16	.23	.34	.40	.57	.75	.87	.96	.98	1.12	1.13	1.25
JUL 21	.28	.50	.70	.98	1.30	1.38	1.40	1.43	1.44	1.45	1.45	1.46
JUL 24	.20	.36	.50	.60	.90	1.10	1.22	1.25	1.30	1.33	1.42	1.52
SEP 7	.18	.28	.35	.43	.55	.56	.56	.57	.59	.59	.60	.60
SEP 22	.25	.45	.50	.51	.51	.52	.52	.52	.52	.52	.52	.52
AUSTIN												
MAR 23	.27	.40	.63	.70	.93	.99	1.00	1.04	1.06	1.07	1.08	1.10
APR 27	.22	.30	.40	.50	.73	1.01	1.10	1.14	1.16	1.16	1.16	1.16
MAY 6	.65	1.00	1.14	1.22	1.24	1.24	1.24	1.24	1.24	1.36	1.36	1.36
MAY 16	.19	.33	.38	.39	.43	.48	.52	.57	.59	.60	.60	.60
JUN 24	.19	.32	.42	.51	.76	.94	1.24	1.28	1.42	1.52	1.60	1.60
AUG 14	.52	.93	1.36	1.71	2.31	2.54	2.67	2.70	2.71	2.72	2.74	2.77
AUG 25	.11	.17	.25	.32	.45	.63	.79	1.05	1.23	1.29	1.48	1.63
SEP 3	.18	.35	.51	.54	.55	.55	.55	.55	.55	.55	.55	.55
BROWNSVILLE												
MAY 12	M	M	M	M	M	M	M	3.40	3.40	3.40	3.40	3.40
MAY 13	.60	.86	1.04	1.10	1.13	1.13	1.14	1.15	1.16	1.16	1.16	1.16
MAY 15	.40	.79	1.00	1.33	1.57	1.73	1.80	1.82	1.82	1.82	1.82	1.82
JUN 5	.36	.64	.88	1.06	1.27	1.35	1.35	1.35	1.35	1.35	1.35	1.35
JUN 6	.57	.84	.98	1.11	1.18	1.22	1.22	1.22	1.22	1.22	1.23	1.23
AUG 24	.29	.47	.52	.56	.74	.83	.88	.92	.92	1.17	1.29	1.38
SEP 10	.20	.40	.54	.59	.67	.68	.68	.68	.68	.68	.68	.68
OCT 13	.26	.39	.47	.48	.72	.84	.99	1.37	1.51	1.53	1.76	1.81
NOV 16	.19	.33	.44	.46	.47	.47	.48	.48	.48	.48	.48	.48
CORPUS CHRISTI												
APR 12	.45	.75	.84	.92	.93	1.02	1.17	1.23	1.35	1.60	1.62	1.89
MAY 16	.24	.38	.49	.53	.65	.72	.78	.93	1.00	1.00	1.02	1.02
AUG 30	.26	.41	.47	.51	.68	.78	.82	.83	1.04	1.07	1.09	1.12
SEP 4	.23	.33	.44	.51	.51	.51	.51	.51	.52	.52	.58	.58
SEP 21	.26	.29	.30	.32	.33	.34	.34	.34	.40	.48	.51	.51
OCT 12	.25	.45	.59	.74	1.13	1.47	1.50	1.50	1.50	1.50	1.50	1.50
NOV 26	.36	.47	.92	1.13	1.21	1.36	1.57	1.69	1.78	2.08	2.17	2.29
DALLAS												
JAN 29	.20	.33	.41	.42	.62	.72	.77	.93	.96	.96	.96	.96
JAN 30	.22	.35	.47	.50	.57	.59	.64	.65	.65	.65	.65	.83
APR 27	.33	.47	.55	.65	.78	.87	.92	1.00	1.07	1.11	1.13	1.15
MAY 5	.30	.47	.59	.70	.87	.89	.90	.93	1.00	1.07	1.19	1.25
MAY 6	.48	.70	.89	1.11	1.45	1.98	2.45	2.68	3.08	3.26	3.58	3.70
AUG 4	.26	.40	.45	.60	.75	.88	.91	.93	.96	1.00	1.05	1.05
SEP 3	.15	.25	.33	.42	.54	.60	.69	.72	.77	.86	.93	1.02
SEP 16	.18	.32	.47	.51	.53	.53	.53	.53	.53	.53	.53	.53
SEP 23	.17	.33	.35	.41	.60	.76	.87	.93	1.02	1.04	1.13	1.16
OCT 12	.45	.82	1.10	1.21	1.40	1.62	2.00	2.24	2.25	2.25	2.25	2.30
OCT 12	.15	.22	.32	.40	.57	.73	.80	.91	1.03	1.09	1.12	1.22
OCT 30	.15	.22	.32	.36	.49	.62	.90	1.02	1.10	1.14	1.18	1.23
NOV 17	.23	.32	.35	.41	.45	.47	.52	.53	.55	.55	.55	.55
DEC 29	.25	.35	.47	.49	.54	.60	.64	.65	.69	.70	.71	.79
DEL RIO												
JAN 15	.40	.74	.76	.77	.79	.79	.81	.81	.81	.81	.81	.81
FEB 13	.20	.35	.43	.52	.65	.71	.83	.91	.96	.98	.98	.98
MAR 23	.39	.41	.41	.41	.45	.46	.46	.46	.46	.47	.47	.47
APR 11	.99	1.60	2.00	2.55	2.87	2.89	2.89	2.89	2.89	2.89	2.89	2.89
APR 12	.30	.54	.80	.95	1.10	1.12	1.15	1.16	1.47	1.49	1.49	1.49
MAY 2	.28	.40	.45	.50	.60	.82	.85	.88	.92	.96	.98	1.02
MAY 6	.25	.44	.47	.53	.56	.56	.56	.56	.56	.56	.56	.56
JUL 27	.63	1.01	1.08	1.15	1.33	1.36	1.36	1.36	1.36	1.36	1.36	1.36
AUG 26	.32	.62	.70	.83	1.06	1.45	1.56	1.72	1.79	1.80	1.83	1.88
AUG 27	.33	.65	.75	1.00	1.10	1.17	1.24	1.38	1.57	1.63	1.68	1.72
OCT 4	.58	1.15	1.25	1.55	2.10	2.50	2.71	2.82	3.18	3.62	4.1[illegible]	4.55
OCT 4	.45	.80	1.05	1.25	1.79	1.95	2.00	2.02	2.32	2.58	2.73	2.76
OCT 12	.42	.83	.87	.95	1.12	1.18	1.22	1.35	1.45	1.46	1.49	1.49
OCT 27	.30	.50	.61	.62	.63	.80	.95	1.03	1.04	1.32	1.65	1.71
EL PASO						NONE						
FORT WORTH												
APR 16	.34	.65	.75	.78	.83	.87	.91	.94	.95	.95	.95	.95
APR 27	.25	.43	.48	.56	.69	.80	.85	.90	.97	1.00	1.06	1.06
MAY 5	.25	.40	.45	.45	.52	.70	.82	.85	.85	.90	1.06	1.12
MAY 6	.29	.56	.61	.75	1.05	1.21	1.49	1.63	1.73	1.82	1.96	2.03
MAY 14	.33	.50	.5[illegible]	.57	.64	.65	.65	.65	.65	.65	.65	.65
JUL 21	.16	.27	.31	.40	.53	.60	.66	.68	.70	.70	.70	.70
AUG 4	.20	.32	.36	.40	.59	.59	.59	.70	.70	.70	.70	.70
AUG 5	.17	.30	.36	.40	.55	.60	.62	.65	.68	.68	.68	.68
SEP 6	.27	.42	.53	.60	.67	.70	.76	.78	.78	.78	.78	.78
SEP 22	.20	.40	.41	.47	.57	.61	.64	.69	.79	.80	.85	.89
OCT 12	.33	.55	.65	.70	1.05	1.08	1.12	1.12	1.12	1.12	1.12	1.12
OCT 12	.18	.35	.35	.46	.52	.84	.95	1.12	1.25	1.47	1.57	1.63

T CLOCK MALFUNCTION
M NO RECORD

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
TEXAS												
GALVESTON U												
FEB 21	.15	.29	.38	.44	.48	.51	.52	.56	.57	.59	.76	.76
APR 12	.25	.35	.41	.49	.52	.64	.68	.76	1.08	1.18	1.24	1.61
APR 17	.36	.45	.46	.46	.47	.53	.54	.60	.67	.69	.70	.74
APR 27	.25	.48	.64	.79	.91	.93	.98	1.10	1.10	1.10	1.10	1.10
MAY 13	.40	.70	.90	1.15	1.72	2.27	2.74	3.07	3.22	3.51	3.66	3.74
MAY 16	.51	.84	1.02	1.05	1.40	1.69	1.95	2.09	2.17	2.45	2.45	2.53
JUN 4	.50	.80	1.20	1.31	1.36	1.51	1.57	1.54	1.63	1.63	1.63	1.63
JUL 15	.24	.46	.68	.92	1.18	1.38	1.44	1.46	1.48	1.50	1.54	1.55
JUL 19	.36	.53	.57	.58	.58	.59	.64	.67	.69	.69	.69	.70
AUG 21	.26	.41	.52	.58	.65	.67	.67	.67	.67	.67	.67	.67
AUG 27	.28	.53	.66	.76	.84	.89	.89	.92	.92	.93	.94	.94
AUG 27	.30	.57	.65	.74	.92	1.04	1.14	1.65	2.05	2.20	2.23	2.24
DEC 6	.22	.40	.52	.57	.80	1.01	1.07	1.08	1.08	1.09	1.10	1.11
HOUSTON U												
JAN 16	.27	.49	.68	.79	1.05	1.39	1.93	2.04	2.11	2.16	2.28	2.36
MAY 3	.20	.34	.52	.62	.76	.95	1.06	1.09	1.15	1.17	1.18	1.19
JUN 4	.25	.50	.65	.77	.97	1.11	1.22	1.32	1.39	1.42	1.42	1.42
AUG 26	.22	.39	.47	.49	.49	.49	.49	.49	.49	.49	.49	.49
OCT 12	.17	.27	.34	.41	.43	.43	.44	.44	.44	.44	.53	.58
NOV 18	.18	.34	.52	.62	.63	.65	.65	.77	.77	.77	.85	.90
DEC 5	.15	.27	.37	.40	.45	.51	.56	.58	.59	.59	.59	.63
DEC 6	.28	.36	.38	.42	.48	.65	.68	.85	.86	.93	1.11	1.23
LUBBOCK												
MAY 15	.25	.32	.41	.55	.59	.59	.59	.59	.59	.59	.60	.60
JUN 13	.28	.40	.42	.44	.50	.67	.75	.85	1.00	1.17	1.21	1.27
JUL 21	.60	*1.15	*1.50	1.60	2.10	2.30	2.45	2.52	2.52	2.53	2.55	2.55
AUG 24	.27	.49	.60	.72	1.02	1.57	1.75	1.86	1.92	1.96	2.05	2.12
SEP 13	.25	.40	.45	.46	.47	.48	.50	.50	.50	.50	.65	.78
SEP 17	.18	.29	.35	.40	.42	.44	.45	.50	.50	.51	.52	.53
SEP 21	.28	.50	.56	.65	.75	.86	1.02	1.02	1.03	1.10	1.10	1.10
OCT -21	.20	.38	.49	.57	.70	.80	.90	.99	1.00	1.10	1.31	1.47
MIDLAND												
FEB 13	.40	.54	.67	.71	.76	.78	.82	.82	.82	.82	.83	.83
APR 11	.22	.38	.44	.47	.57	.60	.60	.61	.62	.64	.64	.66
MAY 4	.24	.44	.48	.52	.53	.53	.53	.53	.53	.53	.55	.55
MAY 4	.29	.46	.49	.51	.52	.53	.53	.55	.55	.57	.60	.60
MAY 6	.30	.52	.65	.67	.86	.99	1.00	1.01	1.02	1.02	1.02	1.02
JUN 3	.29	.55	.71	.85	1.39	1.94	2.21	2.26	2.28	2.35	2.42	2.48
PORT ARTHUR												
FEB 14	.16	.24	.38	.46	.53	.57	.59	.62	.63	.63	.63	.63
MAR 5	.33	.51	.63	.64	.69	.80	.89	.94	.97	.99	1.00	1.00
APR 5	.37	.53	.64	.73	.75	.75	.76	.76	.76	.76	.76	.86
APR 27	.27	.46	.64	.72	.81	.88	1.07	1.24	1.50	1.61	1.68	1.73
MAY 3	.19	.32	.40	.45	.57	.63	.65	.65	.65	.65	.65	.65
MAY 5	.32	.52	.74	.92	1.03	1.16	1.24	1.29	1.36	1.43	1.47	1.56
MAY 13	.40	.73	.94	1.06	1.14	1.19	1.23	1.29	1.34	1.43	1.48	1.55
JUN 4	.21	.37	.47	.52	.65	.67	.68	.68	.70	.72	.74	.74
JUL 11	.45	.78	.95	1.22	1.50	1.62	1.66	1.70	1.73	1.75	1.77	1.77
JUL 15	.65	1.20	*1.77	2.17	2.50	2.67	2.74	2.76	2.76	2.78	2.81	2.83
JUL 17	.45	.82	1.16	1.27	1.70	2.05	2.14	2.15	2.15	2.15	2.15	2.15
JUL 22	.21	.33	.43	.48	.62	.99	1.19	1.41	1.46	1.50	1.56	1.59
AUG 7	.25	.39	.48	.51	.51	.51	.51	.51	.51	.51	.51	.51
AUG 18	.31	.39	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
AUG 20	.18	.34	.37	.37	.57	.65	.65	.65	.65	.65	.65	.65
SEP 4	.22	.28	.45	.54	.58	.62	.69	.70	.78	.83	.83	.83
OCT 12	.15	.28	.40	.53	.61	.71	.72	.72	.72	.72	.73	.74
NOV 18	.26	.38	.46	.50	.58	.66	.73	.75	.89	.99	1.01	1.07
DEC 6	.37	.62	.84	1.13	1.57	2.18	2.48	2.62	2.79	2.92	3.12	3.13
DEC 6	.21	.36	.41	.44	.47	.48	.57	.84	.91	.93	.95	.95
DEC 19	.52	.68	.80	.84	.85	.86	.86	.89	1.17	1.40	1.61	1.62
SAN ANGELO												
MAR 23	.28	.44	.47	.53	.66	.71	.76	.84	.92	.95	.99	1.01
APR 12	.16	.26	.31	.40	.58	.78	.98	1.20	1.34	1.57	1.94	2.15
MAY 16	.32	.47	.50	.64	.80	.94	1.02	1.13	1.34	1.41	1.49	1.52
JUL 27	.29	.45	.45	.47	.47	.48	.48	.48	.48	.48	.48	.68
AUG 26	.26	.45	.49	.55	.58	.62	.62	.62	.63	.81	.92	.94
SEP 3	.27	.39	.42	.50	.57	.59	.60	.61	.61	.61	.61	.61
SEP 8	.21	.27	.30	.36	.50	.54	.73	.98	1.08	1.10	1.11	1.13
SEP 9	.17	.24	.27	.31	.53	.56	.93	1.04	1.06	1.10	1.12	1.14
SEP 18	.35	.68	.75	.95	1.40	1.60	1.70	1.70	1.82	1.83	1.86	1.88
OCT 12	.34	.50	.58	.66	.80	1.34	1.52	1.94	2.27	*2.64	3.20	*3.52
SAN ANTONIO												
JAN 15	.20	.30	.42	.60	.80	.87	.94	.97	.98	1.04	1.06	1.07
MAR 15	.18	.32	.43	.47	.50	.64	.68	.75	.76	.76	.76	.76
MAR 23	.28	.34	.37	.38	.39	.39	.40	.41	.41	.41	.44	.44
APR 11	.30	.33	.33	.33	.33	.34	.34	.34	.36	.36	.36	.36
MAY 3	.26	.50	.64	.79	1.10	1.24	1.30	1.37	1.43	1.48	1.64	1.76
JUN 24	.21	.37	.52	.59	.67	.95	1.06	1.08	1.08	1.08	1.08	1.08
AUG 24	.23	.39	.55	.67	.98	1.17	1.29	1.35	1.39	1.39	1.39	1.41
AUG 27	.31	.58	.73	.89	1.04	1.09	1.12	1.18	1.18	1.20	1.20	1.20
OCT 5	.48	.83	1.21	1.49	1.88	2.10	2.20	2.23	2.25	2.29	2.30	2.33
OCT 12	.23	.33	.52	.60	.88	1.18	1.19	1.21	1.24	1.26	1.26	1.26
VICTORIA												
FEB 14	.37	.44	.47	.50	.53	.55	.57	.60	.64	.69	.75	.79
FEB 21	.30	.50	.65	.75	1.10	1.25	1.35	1.50	1.59	1.73	1.82	1.83
APR 11	.70	*1.35	*1.85	2.33	*2.53	2.76	3.12	3.63	3.87	3.88	3.90	3.92
APR 12	.83	1.22	1.55	1.90	2.25	2.35	3.00	3.62	4.05	4.35	4.60	4.61
MAY 16	.35	.70	.75	.94	1.07	1.13	1.15	1.15	1.20	1.25	1.34	1.45
JUN 3	.25	.48	.63	.82	1.17	1.49	1.72	1.74	1.75	1.77	1.78	1.80
JUL 17	.30	.35	.37	.39	.42	.51	.58	.59	.60	.60	.60	.60
JUL 20	.27	.53	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55
JUL 21	.36	.47	.49	.56	.58	.59	.59	.59	.59	.59	.59	.59
AUG 29	.28	.48	.50	.55	.67	.78	.85	.87	.88	.89	.90	.90
SEP 5	.52	.83	.95	1.02	1.23	1.35	1.48	1.51	1.52	1.52	1.52	1.52
SEP 5	.30	.50	.60	.68	.90	1.20	1.23	1.23	1.23	1.23	1.23	1.23
SEP 6	.20	.33	.35	.38	.40	.41	.55	.55	.55	.55	.55	.55
SEP 20	.25	.40	.45	.57	.73	.86	.90	.98	1.03	1.05	1.05	1.05
SEP 23	.12	.21	.28	.35	.53	.59	.62	.64	.65	.68	.70	.70
OCT 12	.27	.53	.60	.71	.87	1.09	1.26	1.32	1.32	1.32	1.32	1.32
NOV 26	.22	.42	.45	.67	.83	1.05	1.25	1.35	1.56	1.82	1.92	2.05
WACO												
APR 27	.27	.43	.46	.53	.85	1.05	1.17	1.21	1.25	1.32	1.38	1.38
MAY 3	.25	.37	.41	.45	.53	.58	.58	.53	.66	.66	.66	.66
MAY 5	.25	.40	.45	.55	.75	.83	.90	.93	.93	.93	.93	.93
MAY 14	.25	.50	.53	.60	.65	.68	.70	.70	.70	.70	.70	.70
AUG 14	.30	.55	.65	.75	.85	.87	.88	.93	.95	1.06	1.08	1.09
AUG 29	.30	.53	.56	.59	.59	.64	.64	.64	.64	.64	.64	.64

EXCESSIVE SHORT DURATION RAINFALL

YEAR 1969

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
TEXAS												
WACO												
SEP 7	.33	.55	.73	.98	1.13	1.45	1.45	1.49	1.49	1.49	1.49	1.49
SEP 16	.34	.60	.86	[illegible]	1.36	1.50	1.54	1.71	1.74	1.85	1.97	2.12
SEP 23	.27	.35	.36	.38	.39	.39	.40	.40	.42	.42	.42	.42
OCT 12	.31	.47	.51	.55	.86	.97	1.18	1.31	1.40	1.49	1.49	1.49
WICHITA FALLS												
APR 25	.30	.38	.48	.54	.60	.70	*.86	1.18	1.22	*1.25	1.27	*1.28
MAY 5	.26	.40	.52	.59	.69	.75	.78	.80	.86	.90	.94	.94
JUN 6	.22	.34	.44	.47	.48	.48	.48	.49	.49	.49	.49	.49
JUN 13	.30	.40	.68	.90	*1.36	1.76	*1.84	1.92	1.99	*2.04	2.04	*2.04
AUG 2	.24	.40	.45	.47	.48	.48	.48	.48	.58	.68	.94	.97
AUG 22	.25	.36	.43	.47	.59	.65	.67	.71	.75	.79	.83	.87
SEP 21	.18	.34	.45	.52	.56	.80	1.03	1.29	1.41	1.47	1.58	1.66
UTAH												
MILFORD						NONE						
SALT LAKE CITY												
JUL 29	.23	.33	.41	.57	.70	.79	.94	1.06	1.11	1.18	1.28	1.32
WENDOVER												
JUN 21	.44	.55	.58	.63	.65	.68	.74	.74	.74	.75	.75	.75
VERMONT												
BURLINGTON												
JUN 13	.40	.44	.44	.50	.66	.67	.67	.67	.67	.67	.67	1.12
JUL 11	.39	.44	.46	.48	.49	.49	.49	.49	.49	.49	.49	.49
VIRGINIA												
LYNCHBURG												
JUN 2	.26	.42	.49	.52	.56	.59	.65	.73	.74	.74	.74	.74
JUL 7	.26	.33	.39	.42	.42	.42	.42	.42	.42	.42	.42	.42
JUL 7	.33	.55	.64	.69	.71	.73	.73	.73	.73	.73	.73	.73
JUL 25	.25	.40	.45	.50	.66	.69	.73	.75	.75	.75	.75	.75
AUG 20	.19	.31	.45	.53	.59	.65	.69	.73	.78	.81	.83	.84
NORFOLK												
MAY 21	.22	.40	.47	.49	.50	.51	.51	.51	.51	.51	.51	.51
JUN 2	.42	.68	.85	.93	.94	.95	.95	.95	.95	.95	.95	.95
JUN 15	.18	.35	.49	.57	.60	.63	.65	.65	.74	.85	1.03	1.28
JUL 1	.31	.52	.73	.82	.90	.90	.92	.93	.95	.96	1.06	1.10
JUL 7	.23	.35	.45	.46	.47	.48	.51	.52	.52	.52	.53	.54
JUL 12	.29	.44	.44	.44	.45	.46	.46	.46	.46	.47	.47	.47
JUL 23	.16	.30	.39	.42	.45	.46	.46	.46	.46	.46	.49	.50
JUL 26	.33	.43	.55	.64	.78	.87	.91	.92	.92	.92	.92	.92
JUL 27	.36	.58	.87	1.04	1.62	2.44	3.00	3.50	3.79	3.80	3.81	3.87
JUL 28	.31	.52	.56	.56	.57	.65	.68	.73	.74	.74	.75	.78
AUG 5	.30	.45	.54	.61	.69	.75	.75	.78	.81	.82	.89	.93
AUG 14	.38	.50	.74	.84	.95	1.26	1.31	1.45	1.93	2.25	2.76	2.90
OCT 2	.16	.26	.35	.45	.60	.68	.72	.85	1.01	1.07	1.10	1.16
OCT 8	.25	.36	.37	.37	.37	.37	.37	.37	.37	.43	.61	.61
RICHMOND												
MAR 24	.29	.44	.45	.50	.55	.58	.63	.68	.69	.70	.79	1.05
MAY 9	.32	.38	.45	.50	.54	.57	.59	.59	.59	.59	.59	.59
JUN 8	.55	.88	.95	.97	.98	.99	.99	.99	.99	1.04	1.49	1.65
JUN 18	.24	.33	.34	.36	.62	.64	.64	.64	.64	.64	.64	.64
JUL 3	.44	.70	.95	1.28	1.77	2.06	2.07	2.07	2.07	2.07	2.07	2.07
JUL 6	.28	.56	.83	1.09	1.37	1.60	1.63	1.64	1.66	1.67	1.72	1.74
JUL 20	.37	.54	.59	.63	.81	1.01	1.13	1.20	1.22	1.23	1.24	1.27
JUL 21	.39	.51	.70	.77	.87	.87	.87	.87	.87	.87	.87	.87
JUL 22	.37	.62	.89	1.13	1.64	2.20	2.86	3.28	3.55	3.62	3.91	4.43
JUL 28	.39	.51	.57	.58	.62	.63	.63	.66	.67	.68	.68	.68
AUG 1	.49	.83	.89	.97	1.21	1.40	1.43	1.45	1.63	1.65	1.65	1.65
AUG 3	.29	.38	.51	.65	.80	.85	.88	.89	.89	.90	.90	.91
AUG 9	.41	.42	.53	.56	.59	1.02	1.03	1.03	1.03	1.03	1.03	1.03
AUG 14	.19	.33	.38	.40	.43	.43	.43	.43	.44	.44	.49	.50
AUG 20	.44	.61	.91	1.11	1.64	1.88	2.05	2.20	2.27	2.34	2.46	2.49
SEP 2	.46	.76	.98	1.40	1.63	1.87	1.89	1.89	1.90	1.91	1.92	1.92
DEC 10	.15	.26	.39	.43	.54	.64	.76	.80	.85	.87	.90	.90
ROANOKE												
JUN 21	.40	.60	.70	.82	1.10	1.41	*1.90	2.01	2.13	2.25	2.26	2.26
JUL 1	.30	.50	.54	.64	.74	.86	.88	.88	.88	.88	.88	.88
JUL 20	.28	.41	.47	.56	.63	.64	.64	.66	.66	.66	.66	.66
JUL 21	.21	.30	.41	.54	.70	.79	.80	.83	.84	.84	.84	.86
JUL 27	.27	.41	.41	.41	.41	.47	.54	.59	.95	.95	1.00	1.02
AUG 3	.32	.38	.42	.44	.46	.48	.49	.48	.49	.48	.51	.51
AUG 16	.23	.38	.48	.52	.58	.67	.69	.76	.82	.85	.96	.98
WALLOPS ISLAND #						NONE						
WASHINGTON												
OLYMPIA						NONE						
QUILLAYUTE						NONE						
SEATTLE TACOMA						NONE						
SPOKANE						NONE						
STAMPEDE PASS						NONE						
WALLA WALLA U						NONE						
YAKIMA						NONE						
WEST INDIES												
SAN JUAN P.R.												
JAN 26	.43	.59	.78	.78	1.35	1.81	2.03	2.28	2.44	2.66	2.79	*3.18
JAN 26	.27	.31	.35	.39	.51	.59	.77	1.01	1.22	1.48	1.54	2.13
FEB 28	.25	.43	.51	.54	.83	.99	1.03	1.17	1.54	1.99	2.19	2.20
MAY 7	.17	.32	.47	.64	.93	1.09	1.31	1.52	1.55	1.57	1.61	1.62
MAY 20	.33	.41	.43	.45	.45	.45	.45	.45	.45	.45	.45	.45
MAY 25	.20	.33	.45	.49	.51	.60	.64	.68	.72	.72	.72	.70
WEST INDIES												
SAN JUAN P.R.												
JUL 16	.28	.48	.67	.73	.82	.91	.96	1.24	1.28	1.28	1.28	1.28
JUL 22	.27	.42	.48	.48	.53	.53	.53	.53	.53	.53	.69	.70
JUL 22	.29	.35	.40	.42	.42	.54	.54	.54	.54	.54	.57	.57
AUG 11	.24	.43	.50	.53	.63	.66	.66	.68	.74	.76	.77	.77
AUG 16	.33	.55	.84	.84	.84	.84	.91	.91	.92	.92	1.01	1.01
AUG 17	.30	.43	.46	.46	.53	.65	.71	.77	.81	.89	.93	.93
OCT 1	.26	.48	.63	.69	.74	1.17	1.21	1.28	1.30	1.30	1.30	1.30
OCT 5	.24	.43	.46	.47	.47	.47	.48	.48	.48	.48	.48	.48
OCT 19	.22	.32	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34
OCT 25	.25	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26
OCT 26	.22	.36	.54	.71	.86	.88	.89	.93	.93	.93	.93	.93
DEC 21	.20	.35	.47	.60	.79	.88	.92	.94	.94	.94	.94	.94
WEST VIRGINIA												
BECKLEY												
JUN 1	.29	.52	.60	.63	.64	.64	.64	.64	.64	.64	.64	.64
JUN 10	.18	.32	.44	.52	.53	.74	.78	.84	.84	.85	.95	.95
JUN 12	.20	.31	.46	.49	.54	.57	.58	.59	.59	.59	.59	.99
JUN 14	.33	.45	.51	.52	.57	.58	.60	.60	.60	.60	.60	.60
JUL 21	*.45	*.82	.89	1.00	1.11	1.42	1.55	1.64	1.72	*1.74	1.80	1.94
AUG 16	.21	.38	.52	.56	.66	.73	.78	.78	.78	.78	.78	.78
SEP 2	.18	.32	.45	.56	.71	.90	.94	.95	.95	1.01	1.02	1.04
CHARLESTON												
APR 18	.30	.32	.33	.34	.35	.40	.41	.42	.42	.42	.42	.42
JUL 6	.25	.49	.58	.63	.75	.77	.78	.80	.84	.85	.85	.85
JUL 7	.30	.34	.40	.51	.75	.86	.90	.90	.90	.90	.90	.90
JUL 12	.26	.36	.37	.42	.54	.68	.70	.70	.70	.71	.71	.71
JUL 22	.65	*1.05	1.20	1.35	1.47	1.48	1.49	1.49	1.50	1.51	1.53	1.56
AUG 2	.41	.60	.85	.88	.92	.94	.94	.94	.94	.94	.94	.94
AUG 10	.25	.37	.42	.45	.60	.67	.90	1.10	1.27	1.50	2.05	2.35
AUG 18	.27	.33	.37	.44	.62	.63	.63	.63	.63	.63	.63	.74
SEP 2	.20	.38	.55	.60	.66	.82	.90	.91	.91	.92	.92	.92
SEP 17	.35	.58	.60	.61	.61	.61	.63	.65	.65	.65	.65	.65
ELKINS												
JUN 8	.37	.63	.64	.64	.67	.69	.71	.71	.72	.72	.72	1.05
JUL 5	.37	.58	.74	.77	.78	.79	.79	.79	.81	.94	.95	.96
JUL 20	.19	.32	.33	.34	.34	.34	.34	.34	.36	.36	.36	.45
JUL 27	*.66	*.83	.83	.84	.86	.87	.95	1.07	1.07	1.07	1.07	1.07
AUG 9	.55	.72	.75	.81	.82	.91	.95	.96	.97	1.00	1.42	1.57
AUG 9	.20	.35	.50	.60	.66	.67	.67	.67	.67	.67	.67	.67
AUG 19	.15	.30	.35	.50	.54	.63	.73	.81	.86	.91	1.07	1.09
SEP 2	.32	.62	.77	.91	1.16	1.31	1.44	1.65	1.75	1.80	1.88	1.95
HUNTINGTON												
MAY 19	.25	.42	.51	.63	.82	1.01	1.10	1.10	1.10	1.10	1.10	1.10
AUG 9	.32	.56	.60	.68	.97	1.17	1.22	1.25	1.25	1.25	1.26	1.27
AUG 19	.18	.36	.47	.47	.70	.80	.85	.97	1.17	1.33	1.47	1.51
SEP 2	.15	.24	.26	.32	.48	.65	.82	1.01	1.20	1.33	1.36	1.38
SEP 6	.27	.51	.57	.66	.74	.79	.79	.79	.79	.79	.79	.79
SEP 7	.20	.35	.38	.45	.46	.52	.81	.89	.92	.95	.96	.96
SEP 17	.23	.35	.37	.42	.46	.47	.47	.50	.50	.50	.50	.50
OCT 20	.37	.57	.57	.60	.63	.65	.70	.75	.77	.81	.82	.82
PARKERSBURG U												
APR 18	.20	.36	.42	.46	.49	.53	.57	.59	.60	.95	1.06	1.07
JUN 8	.35	.67	.70	.74	1.02	1.06	1.18	1.21	1.25	1.25	1.26	1.26
JUN 14	.37	.61	.76	.81	.88	.90	.92	.93	.94	.95	.95	.95
JUN 15	.35	.41	.53	.55	.56	.56	.56	.56	.56	.56	.56	.56
JUL 7	.14	.28	.35	.39	.40	.47	.52	.57	.61	.62	.64	.64
JUL 27	.27	.46	.54	.55	.56	.59	.59	.61	.61	.61	.61	.61
AUG 9	.35	.62	.85	1.12	1.44	1.70	1.85	2.00	2.05	2.07	2.15	2.37
OCT 20	.28	.32	.33	.33	.33	.35	.37	.39	.39	.39	.39	.39
WISCONSIN												
GREEN BAY												
JUN 26	.26	.48	.53	.64	.85	1.09	1.30	1.50	1.73	1.84	2.02	2.11
JUL 4	.37	.54	.60	.67	.69	.71	.72	.75	.83	.86	.87	.88
MADISON												
MAY 31	.20	.28	.35	.40	.44	.44	.44	.46	.47	.49	.49	.49
JUN 4	.26	.45	.53	.55	.60	.83	.90	.95	.96	.96	.96	.96
JUN 12	.17	.30	.34	.36	.39	.42	.45	.45	.45	.45	.45	.59
JUN 25	.19	.35	.45	.52	.55	.75	.98	1.08	1.08	1.16	1.21	1.25
JUN 26	.27	.32	.36	.36	.47	.48	.49	.49	.49	.49	.49	.49
JUL 4	.36	.48	.51	.52	.53	.57	.65	.66	.66	.66	.66	.66
JUL 17	.25	.40	.42	.59	.63	.64	.68	.75	.77	.80	.80	.81
JUL 23	.26	.40	.62	.70	.73	.74	.74	.74	.74	.74	.75	.75
JUL 26	.16	.30	.41	.47	.57	.59	.61	.61	.61	.61	.61	.61
JUL 29	.17	.27	.30	.40	.52	.64	.65	.65	.65	.65	.65	.65
MILWAUKEE												
JUN 26	.21	.37	.41	.47	.52	.77	.89	1.00	1.20	1.23	1.37	1.37
JUN 27	.28	.48	.56	.57	.59	.66	.68	.68	.68	.68	.68	.68
JUN 29	.26	.43	.54	.73	1.03	1.21	1.32	1.55	1.66	1.79	1.84	1.91
JUL 10	.26	.37	.39	.41	.46	.47	.47	.47	.47	.47	.47	.47
JUL 16	.35	.49	.50	.51	.51	.51	.52	.52	.52	.52	.52	.52
JUL 17	.19	.37	.44	.55	.67	.70	.73	.78	.83	.84	.85	.85
JUL 17	.30	.38	.42	.48	.79	.86	1.03	1.18	1.27	1.34	1.38	1.41
JUL 26	.52	.72	.90	1.10	1.24	1.28	1.34	1.36	1.37	1.37	1.37	1.37
JUL 27	.30	.42	.44	.45	.47	.47	.48	.48	.48	.48	.48	.48
SEP 5	.26	.48	.54	.72	.74	.74	.74	.74	.74	.74	.74	.74
WYOMING												
CASPER												
AUG 3	.26	.40	.45	.45	.58	.58	.59	.58	.58	.58	.58	.58
CHEYENNE						NONE						
LANDER												
JUN 7	.21	.31	.43	.51	.70	.90	.95	1.05	1.08	1.14	1.42	1.56
SHERIDAN						NONE						

RECORDING GAGE DEFECTIVE 5/1-12/31/69

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

* Maximum of record for this duration and station. Period of record is that compiled in Weather Bureau Technical Paper No. 2, revised, plus 1962 and 1963 data. New records are denoted only for 5, 10, 15, 30, 60, 120, and 180 minutes. The continuity of record at stations that have changed location is described on page 2 of the above reference

SUNSHINE, AMOUNT AND PERCENT

Station	January Hours	January Percent of possible	February Hours	February Percent of possible	March Hours	March Percent of possible	April Hours	April Percent of possible	May Hours	May Percent of possible	June Hours	June Percent of possible	July Hours	July Percent of possible	August Hours	August Percent of possible	September Hours	September Percent of possible	October Hours	October Percent of possible	November Hours	November Percent of possible	December Hours	December Percent of possible	Annual Hours	Annual Percent of possible
ALABAMA																										
BIRMINGHAM	[illegible]	39	154	[illegible]	203	55	269	69	276	64	281	65	288	66	247	60	230	62	242	69	211	67	159	51	2683	60
MONTGOMERY	139	44	171	55	[illegible]	69	247	63	229	54	308	72	244	56	226	55	164	44	171	48	[illegible]	67	182	58	2548	57
ALASKA																										
ANCHORAGE	109	54	94	37	159	43	179	40	232	43	271	47	[illegible]	40	297	61	187	49	119	38	91	42	40	23	2007	44
JUNEAU	[illegible]	61	118	45	96	26	182	42	255	49	326	60	57	11	136	29	131	34	130	41	33	14	33	16	1636	36
NOME	29	17	146	61	156	43	237	52	278	48	114	18	195	32	185	36	162	42	54	18	103	54	28	21	1686	37
ARIZONA																										
PHOENIX	216	68	233	76	313	84	368	94	[illegible]	91	409	95	359	82	355	86	331	89	310	88	219	70	237	77	3741	84
TUCSON	264	82	222	72	317	86	376	97	394	92	418	98	318	73	348	84	312	84	332	94	260	92	263	84	3826	86
YUMA	220	69	[illegible]	82	354	95	375	96	415	97	[illegible]	99	[illegible]	87	377	91	333	90	331	94	225	71	243	78	3927	88
ARKANSAS																										
FORT SMITH	123	39	171	56	237	64	[illegible]	62	280	64	289	66	347	78	323	77	247	66	167	48	213	69	150	49	2790	63
LITTLE ROCK	116	37	154	50	259	70	279	71	360	83	377	87	377	86	318	76	234	63	229	65	204	66	155	51	3061	69
CALIFORNIA																										
EUREKA U	102	34	104	35	285	77	[illegible]	61	218	49	175	39	274	60	[illegible]	71	241	64	221	64	188	63	142	49	2497	56
FRESNO	[illegible]	14	128	42	309	83	353	90	428	98	402	92	429	96	403	96	363	97	292	84	251	82	199	66	3602	81
LOS ANGELES U	206	65	231	75	306	82	267	68	223	52	154	36	422	96	380	92	340	92	302	86	240	77	194	63	3265	73
RED BLUFF	88	29	86	29	278	75	301	76	412	92	339	75	449	98	418	98	342	91	259	75	245	82	126	43	3342	75
SACRAMENTO	[illegible]	34	120	40	310	84	360	91	435	98	416	94	451	100	421	100	365	98	301	87	257	85	168	57	3708	83
SAN DIEGO	181	57	[illegible]	65	320	86	283	72	219	51	128	30	311	71	321	78	239	64	271	77	232	74	229	73	2934	66
SAN FRANCISCO	127	42	154	51	323	87	338	85	333	76	248	56	345	77	380	90	285	76	242	70	232	76	163	55	3171	71
COLORADO																										
DENVER	193	64	215	72	284	77	295	74	275	62	251	56	329	72	321	75	267	71	175	51	210	70	161	55	2976	69
GRAND JUNCTION	149	49	181	60	264	71	324	82	331	75	295	66	336	74	350	83	265	71	150	43	232	77	181	62	3060	69
PUEBLO	204	67	231	77	271	73	309	78	303	69	281	63	306	68	306	73	272	73	161	46	246	81	201	68	3090	69
CONNECTICUT																										
HARTFORD	179	61	156	53	223	60	238	59	303	67	285	63	206	45	288	67	219	58	249	73	128	43	152	54	2628	59
FLORIDA																										
APALACHICOLA U	174	54	169	54	283	76	304	79	277	65	328	78	205	48	205	50	209	57	181	51	207	64	198	62	2739	61
JACKSONVILLE	159	49	158	51	269	72	308	80	284	67	356	84	273	63	241	59	195	53	123	35	174	55	239	75	2779	63
KEY WEST	202	60	236	74	232	62	305	80	332	80	315	77	341	81	322	80	224	61	197	55	240	73	255	77	3200	72
LAKELAND U	221	67	220	70	193	52	283	73	280	67	285	68	258	61	241	59	175	47	170	48	200	62	234	73	2759	62
TAMPA	213	65	203	65	213	57	292	76	292	70	358	86	339	80	300	74	268	73	158	44	202	62	248	77	3087	70
GEORGIA																										
ATLANTA	146	46	167	54	257	69	256	65	276	64	293	68	[illegible]	73	285	69	216	58	235	67	222	71	164	53	2835	64
MACON	132	41	150	49	247	66	267	68	274	64	317	74	295	68	247	60	210	57	226	64	218	69	192	62	2774	63
SAVANNAH	[illegible]	63	187	61	283	76	298	76	266	62	330	77	227	52	187	45	176	47	202	57	217	69	217	69	2792	63
HAWAII																										
HILO	120	35	65	20	138	37	95	25	177	44	264	66	214	52	206	52	122	33	225	62	133	40	152	45	1910	43
HONOLULU	[illegible]	61	176	55	310	83	263	69	297	73	274	68	289	70	304	76	246	67	234	65	199	59	201	60	3000	68
KAHULUI	214	63	202	63	269	72	249	66	329	81	323	80	320	78	294	74	262	71	302	84	241	72	233	69	3239	73
LIHUE	171	50	69	22	185	49	170	45	218	53	231	57	224	54	250	63	188	51	214	59	148	44	159	47	2228	50
IDAHO																										
BOISE	74	26	111	38	285	77	315	78	389	85	328	71	433	93	410	95	302	80	241	70	224	77	101	36	3213	72
POCATELLO	101	35	148	50	250	68	291	72	391	86	273	60	408	88	384	89	298	80	206	60	181	62	72	25	3005	67
ILLINOIS																										
CAIRO U	101	33	101	33	244	66	246	62	294	67	296	67	323	72	323	77	254	68	188	54	159	52	122	41	2650	60
CHICAGO MIDWAY	88	30	128	43	242	65	234	58	235	52	219	48	268	58	313	73	218	58	159	46	118	40	59	21	2283	51
MOLINE	104	35	151	51	241	65	216	54	267	59	258	57	269	58	326	76	220	59	172	50	143	48	119	42	2486	58
PEORIA	101	34	133	44	230	62	203	51	233	52	227	50	276	60	320	75	221	59	169	49	139	47	112	39	2364	53
SPRINGFIELD	104	35	132	44	241	65	249	62	283	63	285	63	317	70	321	76	271	72	199	58	154	51	92	31	2647	59
INDIANA																										
EVANSVILLE	114	37	122	40	225	61	214	54	287	65	301	68	300	67	[illegible]	80	288	77	199	57	138	45	114	38	2640	59
FORT WAYNE	112	38	171	57	261	70	220	55	305	68	252	56	285	62	[illegible]	85	236	63	189	55	99	33	93	32	2588	58
INDIANAPOLIS	72	24	105	35	204	55	188	47	214	48	224	50	273	60	328	77	226	60	200	58	101	34	55	19	2189	49
IOWA																										
DES MOINES	103	35	108	36	237	64	246	61	227	50	254	56	262	57	324	76	243	65	152	44	162	55	102	36	2419	54
SIOUX CITY	91	31	134	45	248	67	260	65	232	51	266	58	315	68	313	73	264	70	142	41	175	60	107	38	2544	57
KANSAS																										
CONCORDIA	102	34	115	38	175	47	262	66	224	50	275	61	285	63	260	61	252	67	158	46	209	70	125	43	2441	55
DODGE CITY	133	43	144	48	211	57	319	81	342	79	334	75	305	68	251	60	222	59	132	38	252	83	150	50	2794	63
TOPEKA	100	33	[illegible]	41	198	53	223	56	254	57	265	59	294	65	258	61	211	56	153	44	202	67	84	29	2365	53
WICHITA	118	38	152	50	[illegible]	54	254	64	262	60	279	63	331	74	285	68	225	60	132	38	243	80	118	40	2598	58
KENTUCKY																										
LOUISVILLE	121	40	146	48	232	63	262	66	290	66	300	68	306	68	338	80	255	68	210	60	124	41	127	43	2711	61
LOUISIANA																										
SHREVEPORT	134	42	161	50	208	56	236	61	265	62	364	85	317	73	271	66	286	77	225	64	223	71	168	54	2858	64
MAINE																										
PORTLAND	155	53	138	47	158	43	241	60	251	55	292	63	238	51	264	61	182	48	197	58	110	38	104	37	2329	52
MARYLAND																										
BALTIMORE	156	52	128	42	229	62	209	53	311	70	241	54	182	40	261	62	205	55	214	62	144	48	136	46	2415	54
MASSACHUSETTS																										
BLUE HILL OBS R	163	57	106	37	177	49	243	63	270	62	263	60	201	45	303	73	210	58	[illegible]	61	116	41	118	43	2370	55
BOSTON	[illegible]	61	119	40	196	53	275	69	283	63	290	63	230	50	327	77	234	62	228	66	123	42	122	43	2609	59
NANTUCKET	99	33	98	33	219	59	284	71	297	66	210	46	183	40	275	64	213	57	217	63	111	37	94	33	2299	52
MICHIGAN																										
ALPENA	62	22	152	52	215	58	217	54	269	58	219	47	312	66	325	75	202	54	92	27	83	29	54	20	2202	49
DETROIT M WAYNE CO	87	30	137	46	239	65	226	56	262	58	213	47	264	57	339	79	195	52	147	43	86	29	85	30	2279	51
GRAND RAPIDS	81	28	135	46	250	68	198	49	240	53	204	44	277	60	331	77	199	53	121	35	88	30	78	28	2202	49
LANSING	97	33	153	52	265	72	190	47	257	57	181	40	267	57	320	74	206	55	127	37	73	25	84	30	2218	50
MARQUETTE U	61	22	144	50	226	61	224	55	292	63	220	47	338	71	336	76	220	58	119	35	129	45	79	29	2387	[illegible]
SAULT STE MARIE	69	25	180	62	254	69	214	53	287	62	241	51	325	68	309	71	203	54	73	21	97	34	111	41	[illegible]	53
MINNESOTA																										
DULUTH	89	32	167	58	261	71	[illegible]	62	257	55	218	46	316	66	353	80	217	58	97	29	75	27	69	26	[illegible]	[illegible]
MINNEAPOLIS	99	35	131	45	263	71	249	62	304	66	211	45	286	61	371	85	249	66	119	35	76	26	69	25	2426	54
MISSISSIPPI																										
JACKSON	113	35	154	50	206	55	238	61	264	62	303	71	247	57	251	61	236	64	174	49	170	54	162	52	2518	57

SUNSHINE, AMOUNT AND PERCENT

Station	January Hours	January Percent of possible	February Hours	February Percent of possible	March Hours	March Percent of possible	April Hours	April Percent of possible	May Hours	May Percent of possible	June Hours	June Percent of possible	July Hours	July Percent of possible	August Hours	August Percent of possible	September Hours	September Percent of possible	October Hours	October Percent of possible	November Hours	November Percent of possible	December Hours	December Percent of possible	Annual Hours	Annual Percent of possible
MISSOURI																										
COLUMBIA	[illegible]	[illegible]	117	39	[illegible]	68	248	62	240	54	[illegible]	[illegible]	338	75	324	76	258	69	187	54	183	60	121	41	2665	60
KANSAS CITY	[illegible]	43	127	42	252	68	[illegible]	71	248	56	[illegible]	[illegible]	320	71	[illegible]	68	238	64	161	46	194	64	115	39	2659	[illegible]
ST LOUIS	111	[illegible]	123	41	255	69	261	66	226	51	293	66	312	69	295	70	255	69	[illegible]	[illegible]	[illegible]	[illegible]	93	31	2576	[illegible]
SPRINGFIELD	119	[illegible]	125	41	[illegible]	65	236	60	246	56	261	59	[illegible]	77	335	[illegible]	261	70	[illegible]	56	207	[illegible]	105	[illegible]	2647	59
MONTANA																										
BILLINGS	[illegible]	15	97	34	238	64	305	[illegible]	274	59	245	52	[illegible]	76	390	89	288	[illegible]	133	[illegible]	116	41	101	37	2592	58
GREAT FALLS	108	39	170	59	[illegible]	82	[illegible]	72	[illegible]	[illegible]	269	56	422	[illegible]	406	92	304	81	[illegible]	[illegible]	153	[illegible]	[illegible]	45	2988	67
HAVRE	[illegible]	[illegible]	223	78	284	77	305	[illegible]	[illegible]	[illegible]	351	73	[illegible]	[illegible]	411	[illegible]	317	84	151	45	162	59	115	44	3269	73
HELENA	[illegible]	[illegible]	[illegible]	48	[illegible]	75	263	64	332	71	265	56	[illegible]	88	394	90	286	76	140	41	165	[illegible]	157	59	2922	65
MISSOULA	[illegible]	19	119	41	[illegible]	61	204	50	336	72	[illegible]	58	[illegible]	[illegible]	395	90	[illegible]	54	147	43	146	52	[illegible]	24	2572	58
NEBRASKA																										
LINCOLN	88	[illegible]	117	39	[illegible]	54	[illegible]	[illegible]	252	56	273	60	312	[illegible]	280	66	[illegible]	71	157	[illegible]	[illegible]	59	[illegible]	[illegible]	2526	57
NORTH PLATTE	[illegible]	30	109	36	226	61	287	72	275	[illegible]	281	62	328	72	[illegible]	71	[illegible]	[illegible]	135	39	220	74	[illegible]	55	2686	[illegible]
OMAHA	[illegible]	[illegible]	104	[illegible]	[illegible]	[illegible]	278	69	285	63	383	85	337	[illegible]	335	78	281	75	199	58	191	64	[illegible]	54	2841	64
VALENTINE	[illegible]	44	[illegible]	40	212	57	281	70	290	64	262	[illegible]	315	68	344	80	291	78	143	42	[illegible]	62	[illegible]	[illegible]	2703	61
NEVADA																										
ELY	182	[illegible]	[illegible]	55	319	[illegible]	[illegible]	83	[illegible]	83	[illegible]	[illegible]	341	75	316	[illegible]	306	82	215	62	253	[illegible]	130	44	[illegible]	71
LAS VEGAS	[illegible]	[illegible]	198	65	[illegible]	81	380	96	390	89	394	90	[illegible]	84	386	92	331	[illegible]	305	[illegible]	257	83	271	90	[illegible]	85
[illegible]	145	48	[illegible]	[illegible]	[illegible]	[illegible]	377	95	415	[illegible]	[illegible]	[illegible]	421	93	416	98	368	98	325	94	258	86	[illegible]	88	3807	[illegible]
WINNEMUCCA	105	35	[illegible]	[illegible]	231	[illegible]	338	[illegible]	415	93	216	48	408	89	403	[illegible]	341	91	276	80	249	[illegible]	[illegible]	46	[illegible]	71
NEW HAMPSHIRE																										
CONCORD	[illegible]	60	[illegible]	52	[illegible]	[illegible]	246	61	[illegible]	63	301	[illegible]	240	[illegible]	300	70	195	52	197	58	111	38	125	45	2543	[illegible]
MT WASHINGTON OBS	76	26	123	41	105	28	167	41	171	[illegible]	175	37	[illegible]	31	106	24	109	28	142	41	54	18	101	[illegible]	[illegible]	33
NEW JERSEY																										
ATLANTIC CITY	[illegible]	45	94	31	178	48	193	49	240	59	[illegible]	[illegible]	193	43	[illegible]	66	214	57	204	59	144	48	107	37	2238	[illegible]
TRENTON U	187	62	128	[illegible]	243	65	[illegible]	61	[illegible]	76	[illegible]	62	205	45	309	73	232	62	[illegible]	60	[illegible]	45	120	41	2626	59
NEW MEXICO																										
ALBUQUERQUE	[illegible]	68	227	74	301	81	328	84	[illegible]	79	367	[illegible]	313	71	320	77	289	[illegible]	[illegible]	72	251	81	225	74	3425	77
ROSWELL	[illegible]	68	219	71	286	77	311	80	322	75	333	78	[illegible]	78	286	69	226	61	237	67	225	72	[illegible]	61	3194	72
NEW YORK																										
ALBANY	[illegible]	[illegible]	132	44	175	47	223	55	255	56	261	57	237	51	[illegible]	64	164	44	191	56	78	27	108	38	[illegible]	50
BINGHAMTON	[illegible]	[illegible]	140	47	207	[illegible]	213	53	[illegible]	64	264	58	249	54	310	72	245	[illegible]	194	57	76	26	91	32	[illegible]	53
BUFFALO	105	[illegible]	[illegible]	46	193	52	233	58	[illegible]	62	231	50	316	68	341	79	192	51	154	45	65	22	76	27	2315	52
NEW YORK U	[illegible]	66	145	49	221	60	233	[illegible]	[illegible]	76	296	66	[illegible]	40	288	67	247	[illegible]	222	64	116	39	[illegible]	41	2605	[illegible]
ROCHESTER	126	43	144	49	183	[illegible]	239	[illegible]	[illegible]	59	[illegible]	50	[illegible]	68	306	71	190	51	128	37	[illegible]	19	52	19	2205	49
SYRACUSE	69	[illegible]	99	34	183	49	218	54	267	59	255	55	314	67	339	[illegible]	205	55	[illegible]	[illegible]	65	22	[illegible]	35	2242	50
NORTH CAROLINA																										
ASHEVILLE	[illegible]	[illegible]	162	53	275	74	287	73	324	74	[illegible]	67	[illegible]	71	298	71	213	[illegible]	224	64	212	69	178	59	2932	66
CAPE HATTERAS P	[illegible]	[illegible]	[illegible]	[illegible]	260	70	273	70	317	73	318	73	315	71	307	[illegible]	[illegible]	59	185	53	140	45	144	47	2772	62
CHARLOTTE	177	57	[illegible]	61	302	81	298	76	346	[illegible]	292	67	321	73	283	68	194	[illegible]	222	63	[illegible]	64	206	[illegible]	3024	68
GREENSBORO	140	45	166	54	277	75	252	64	309	71	238	[illegible]	283	64	[illegible]	62	209	56	217	62	180	[illegible]	162	[illegible]	2694	61
RALEIGH	148	48	191	63	296	80	309	78	[illegible]	72	259	59	296	67	282	69	235	63	224	64	[illegible]	61	182	60	2932	66
WILMINGTON	191	61	194	63	286	77	278	71	327	76	286	66	316	[illegible]	289	69	201	54	236	67	216	69	198	64	[illegible]	[illegible]
NORTH DAKOTA																										
BISMARCK	145	52	109	[illegible]	266	[illegible]	299	73	342	73	290	61	366	[illegible]	371	85	279	74	[illegible]	[illegible]	110	39	97	36	[illegible]	63
FARGO	74	[illegible]	91	[illegible]	274	74	273	[illegible]	283	61	235	[illegible]	335	70	[illegible]	91	287	76	139	41	155	55	106	40	2652	59
WILLISTON	128	47	[illegible]	[illegible]	245	[illegible]	287	70	[illegible]	73	316	66	389	[illegible]	406	92	294	78	160	48	146	[illegible]	90	34	2970	66
OHIO																										
CINCINNATI ABO	138	46	123	41	235	[illegible]	204	51	277	62	276	62	[illegible]	[illegible]	[illegible]	70	[illegible]	[illegible]	194	56	70	23	103	[illegible]	2367	53
CLEVELAND	[illegible]	34	[illegible]	45	204	55	228	[illegible]	297	66	250	[illegible]	[illegible]	54	314	[illegible]	187	[illegible]	183	53	62	21	29	10	2238	[illegible]
COLUMBUS	[illegible]	[illegible]	121	40	[illegible]	48	[illegible]	49	266	[illegible]	228	51	248	54	316	74	[illegible]	53	201	[illegible]	53	18	62	21	2163	49
DAYTON	[illegible]	43	146	49	207	[illegible]	[illegible]	[illegible]	284	64	262	58	237	52	323	[illegible]	275	74	[illegible]	55	96	32	[illegible]	26	2434	[illegible]
TOLEDO	123	41	163	55	[illegible]	[illegible]	238	60	305	68	226	50	[illegible]	53	339	79	175	47	171	50	91	31	107	37	2451	54
OKLAHOMA																										
OKLAHOMA CITY	149	48	168	55	220	59	[illegible]	61	[illegible]	55	313	72	392	[illegible]	329	[illegible]	275	74	163	46	219	71	141	46	2846	64
TULSA	104	33	168	55	224	[illegible]	246	62	267	61	237	[illegible]	350	79	302	72	232	62	142	41	216	70	133	44	2621	[illegible]
OREGON																										
PORTLAND	78	[illegible]	147	[illegible]	[illegible]	74	[illegible]	59	286	62	243	52	327	69	[illegible]	75	215	[illegible]	[illegible]	44	106	[illegible]	47	17	2443	55
PACIFIC AREA																										
JOHNSTON	183	[illegible]	[illegible]	50	302	81	214	57	308	77	315	80	307	76	291	74	248	[illegible]	[illegible]	70	227	67	247	[illegible]	3060	[illegible]
KOROR R	[illegible]	68	263	[illegible]	278	74	281	76	183	47	140	37	129	33	[illegible]	50	168	46	223	60	[illegible]	46	[illegible]	65	2506	57
MAJURO	[illegible]	41	[illegible]	57	213	57	192	52	238	62	199	53	193	50	[illegible]	62	[illegible]	54	248	[illegible]	157	44	142	[illegible]	[illegible]	[illegible]
PAGO PAGO	164	41	[illegible]	39	172	46	[illegible]	[illegible]	141	40	[illegible]	45	133	38	171	47	309	86			211	55	[illegible]	61	[illegible]	
PONAPE R	[illegible]	42	143	43	218	[illegible]	208	[illegible]	223	58	233	62	[illegible]	35	[illegible]	58	226	62	227	61	184	52	150	41	2326	52
TAGUAC GUAM R	184	52	219	[illegible]	281	75	284	76	276	70	287	74	[illegible]	59	229	59	185	50	144	39	177	51	177	50	2677	60
TRUK MOEN ISLAND	275	[illegible]	253	76	296	[illegible]	269	[illegible]	284	73	[illegible]	73	[illegible]	71	308	[illegible]	[illegible]	76	272	[illegible]	207	59	238	66	3231	73
WAKE	249	72	229	71	330	88	322	85	341	84	328	82	308	[illegible]	331	83	231	63	286	[illegible]	207	61	208	[illegible]	[illegible]	[illegible]
YAP R	195	54	201	61	[illegible]	[illegible]	246	66	245	63	217	57	150	38	214	[illegible]	147	40	223	60	174	[illegible]	[illegible]	[illegible]	2478	[illegible]
PENNSYLVANIA																										
HARRISBURG	156	52	138	46	264	[illegible]	233	59	308	69	266	[illegible]	199	44	298	[illegible]	232	62	225	[illegible]	[illegible]	43	122	42	2573	[illegible]
PHILADELPHIA	169	[illegible]	112	[illegible]	246	66	214	54	288	[illegible]	272	61	[illegible]	39	278	65	[illegible]	60	[illegible]	62	[illegible]	53	130	45	2485	[illegible]
PITTSBURGH	95	[illegible]	[illegible]	46	[illegible]	64	204	51	267	60	211	47	[illegible]	49	237	56	171	46	[illegible]	[illegible]	63	21	37	13	[illegible]	[illegible]
PITTSBURGH U	92	31	137	46	217	58	221	55	265	[illegible]	207	[illegible]	232	[illegible]	[illegible]	[illegible]	151	40	202	58	62	21	82	28	2116	47
SCRANTON	[illegible]	44	[illegible]	49	212	[illegible]	235	59	323	72	310	68	247	54	321	75	230	62	210	[illegible]	69	23	89	31	2523	57
RHODE ISLAND																										
PROVIDENCE	[illegible]	59	118	[illegible]	215	[illegible]	265	66	[illegible]	62	260	57	[illegible]	42	293	68	[illegible]	63	226	66	123	[illegible]	123	43	2505	56
SOUTH CAROLINA																										
CHARLESTON	148	[illegible]	167	54	234	63	264	68	253	59	280	68	279	64	[illegible]	43	200	[illegible]	219	62	230	73	[illegible]	69	2673	60
COLUMBIA	181	57	149	49	235	63	251	64	279	65	257	60	237	54	176	42	172	46	220	63	216	69	192	62	2565	[illegible]
GNVLE SPARTANBURG	140	45	[illegible]	[illegible]	[illegible]	77	252	64	292	67	[illegible]	62	283	64	241	58	206	[illegible]	[illegible]	66	210	[illegible]	[illegible]	[illegible]	2748	62
SOUTH DAKOTA																										
HURON	107	37	112	[illegible]	[illegible]	[illegible]	257	64	[illegible]	65	282	61	[illegible]	79	351	81	287	76	135	39	158	55	[illegible]	[illegible]	[illegible]	62
RAPID CITY	107	37	107	36	230	[illegible]	244	60	313	68	[illegible]	50	[illegible]	[illegible]	361	[illegible]	[illegible]	82	149	44	158	54	[illegible]	53	2697	60
TENNESSEE																										
CHATTANOOGA	120	38	127	41	207	56	235	[illegible]	275	63	[illegible]	56	[illegible]	62	255	61	[illegible]	[illegible]	206	59	185	59	123	40	2455	55
KNOXVILLE	[illegible]	[illegible]	145	[illegible]	254	69	298	76	337	77	319	73	335	76	[illegible]	79	[illegible]	[illegible]	234	67	171	55	81	27	2927	66
MEMPHIS	137	44	149	49	204	55	250	[illegible]	[illegible]	64	311	72	321	73	[illegible]	[illegible]	[illegible]	61	239	68	[illegible]	62	164	54	2764	62
NASHVILLE	[illegible]	37	121	[illegible]	235	63	252	64	315	72	320	73	318	71	321	[illegible]	240	[illegible]	[illegible]	62	[illegible]	47	[illegible]	34	2702	61

SUNSHINE, AMOUNT AND PERCENT

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
TEXAS																										
[illegible]	187	58	[illegible]	[illegible]	219	[illegible]	305	[illegible]	314	73	335	78	381	88	314	76	217	59	171	48	195	62	202	65	3023	68
AMARILLO	[illegible]	51	177	58	214	58	275	70	298	69	335	77	373	84	314	75	221	[illegible]	166	47	249	80	166	54	2948	66
[illegible]	[illegible]	43	[illegible]	44	204	55	233	60	274	65	298	71	330	77	292	71	250	67	178	[illegible]	191	60	202	64	2726	61
[illegible]	[illegible]	[illegible]	106	33	198	53	242	63	312	75	[illegible]	[illegible]	381	90	[illegible]	[illegible]	226	61	198	55	129	[illegible]	220	67	2764	62
[illegible]	117	36	111	35	[illegible]	54	[illegible]	54	[illegible]	74	362	87	329	77	[illegible]	71	263	71	177	50	[illegible]	48	178	55	2701	61
DALLAS	[illegible]	[illegible]	155	50	192	52	231	59	240	56	321	[illegible]	348	80	289	[illegible]	220	59	184	52	217	[illegible]	[illegible]	56	2725	61
EL PASO	[illegible]	[illegible]	273	[illegible]	341	92	375	96	386	90	398	[illegible]	332	77	[illegible]	[illegible]	300	81	253	80	249	79	247	79	3769	85
GALVESTON U	[illegible]	[illegible]	116	37	195	[illegible]	225	58	266	63	350	83	338	79	320	78	304	82	218	61	[illegible]	[illegible]	136	43	2784	63
HOUSTON	[illegible]	[illegible]	101	33	202	54	231	[illegible]	262	62	328	[illegible]	[illegible]	77	304	74	263	71	216	61	[illegible]	59	166	52	2726	61
PORT ARTHUR	[illegible]	[illegible]	111	36	174	47	163	[illegible]	[illegible]	64	318	75	273	[illegible]	259	63	226	61	249	70	218	68	175	55	2531	57
[illegible]	[illegible]	44	144	45	[illegible]	57	240	62	270	64	[illegible]	72	344	80	[illegible]	72	292	79	203	57	157	49	224	70	2927	[illegible]
[illegible]																										
SALT LAKE CITY	95	32	149	50	316	[illegible]	320	80	425	[illegible]	353	78	424	93	392	90	328	[illegible]	220	64	205	69	[illegible]	34	3315	74
VERMONT																										
[illegible]	[illegible]	60	[illegible]	[illegible]	208	56	239	[illegible]	271	59	323	70	376	[illegible]	[illegible]	67	207	[illegible]	191	56	104	36	128	47	[illegible]	[illegible]
[illegible]																										
LYNCHBURG	[illegible]	44	152	50	273	73	237	60	298	[illegible]	230	52	252	56	247	59	200	54	236	[illegible]	171	[illegible]	154	51	[illegible]	58
NORFOLK	187	61	[illegible]	55	[illegible]	79	[illegible]	69	324	74	273	62	254	57	[illegible]	67	201	54	172	49	156	51	174	58	2757	62
[illegible]	143	47	[illegible]	[illegible]	265	71	272	69	342	78	236	53	215	48	260	62	200	54	182	52	[illegible]	51	138	[illegible]	2539	57
WASH NATL AP	163	[illegible]	121	40	[illegible]	61	227	57	317	72	258	58	197	44	280	66	226	61	230	66	149	43	117	40	[illegible]	[illegible]
WASHINGTON																										
QUILLAYUTE	[illegible]	[illegible]	[illegible]	[illegible]	176	49	59	14	236	[illegible]	161	34	251	52	210	47	127	[illegible]	[illegible]	46	[illegible]	[illegible]	19	7	1638	37
SEATTLE TACOMA	[illegible]	24	133	46	235	64	172	42	287	61	254	53	321	67	292	66	188	[illegible]	[illegible]	45	101	36	[illegible]	26	2266	51
[illegible]	[illegible]	12	120	42	[illegible]	75	[illegible]	60	325	[illegible]	325	[illegible]	385	[illegible]	384	[illegible]	177	47	141	42	102	[illegible]	10	4	2526	56
WALLA WALLA U	21	[illegible]	45	16	217	[illegible]	248	61	328	71	332	70	[illegible]	[illegible]	[illegible]	91	[illegible]	[illegible]	[illegible]	55	90	[illegible]	14	5	[illegible]	[illegible]
[illegible]																										
[illegible]	214	62	238	74	[illegible]	80	296	79	[illegible]	64	[illegible]	[illegible]	299	74	290	[illegible]	264	72	[illegible]	74	[illegible]	[illegible]	[illegible]	[illegible]	3110	[illegible]
WEST VIRGINIA																										
PARKERSBURG U	[illegible]	[illegible]	114	[illegible]	193	52	198	50	[illegible]	63	210	47	219	48	[illegible]	65	177	47	214	62	[illegible]	[illegible]	[illegible]	[illegible]	2111	47
[illegible]																										
GREEN BAY	117	41	[illegible]	[illegible]	241	65	212	52	265	58	220	47	274	58	327	75	225	60	130	38	125	43	100	36	2407	54
[illegible]	[illegible]	37	140	48	233	63	212	53	241	53	[illegible]	44	266	57	335	78	222	[illegible]	154	45	113	[illegible]	77	[illegible]	2304	52
MILWAUKEE	122	[illegible]	168	57	256	69	219	54	[illegible]	56	208	45	244	53	316	73	217	[illegible]	158	46	[illegible]	36	66	23	2334	52
[illegible]																										
CHEYENNE	141	47	172	[illegible]	255	69	[illegible]	75	296	66	217	48	306	[illegible]	307	72	252	[illegible]	148	43	181	61	161	56	2735	61
LANDER	[illegible]	[illegible]	161	[illegible]	289	[illegible]	280	70	345	[illegible]	289	63	[illegible]	88	379	88	314	84	176	51	203	69	160	57	3177	71
[illegible]	[illegible]	54	169	[illegible]	[illegible]	63	270	67	301	65	249	54	358	76	372	86	298	79	143	42	180	62	138	50	2866	64

Data from airport unless otherwise specified.
"U" indicates Urban, "R" indicates Rural, sites.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow*: Total	Precipitation: Snow*: Greatest in 24 hours	Precipitation: Snow*: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 04-07	Number of days: Sunrise to sunset: Cloudy, 08-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90° and above	Number of days: Max temp: 32° and below	Number of days: Min temp: 32° and below	Number of days: Min temp: 0° and below
	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	M p h	M p h		M p h			Tenths											

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temp. Avg. Daily maximum	Temp. Avg. Daily minimum	Temp. Avg. Annual	Extremes Highest	Date	Extremes Lowest	Date	Heating degree days	Cooling degree days	Precip. Total	Greatest in 24 hours	Date	Snow Total	Snow Greatest in 24 hours	Date	Rel. humidity 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind Average speed	Resultant speed	Resultant direction	Fastest mile Speed	Direction	Date	Average sky cover sunrise to sunset	Sunrise to sunset Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp 90° and above	Max temp 32° and below	Min temp 32° and below	Min temp 0° and below
	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	Mph	Mph		Mph			Tenths											
CALIFORNIA																																					
BAKERSFIELD	78.4	[illegible]	66.5	[illegible]	JUL 21	26	DEC [illegible]	[illegible]	[illegible]	7.00	[illegible]	FEB 24-25	.0	.0		[illegible]	62	47	36	5.1	[illegible]	[illegible]	[illegible]	31	APR [illegible]	[illegible]	205	74	[illegible]	[illegible]	0	0	[illegible]	117	[illegible]	[illegible]	0
BISHOP	73.6	36.8	54.8	[illegible]	AUG 5+	-2	FEB 8+	[illegible]	[illegible]	17.04	[illegible]	FEB 24-25	[illegible]	[illegible]	JAN 24-25			35	25							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	0	171	[illegible]
BLUE CANYON	59.0	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN [illegible]	[illegible]	474	[illegible]	4.82	JAN 17-[illegible]	[illegible]	[illegible]	JAN 11-12			[illegible]					64	[illegible]	FEB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				0	24	181	[illegible]
EUREKA	57.4	46.6	52.0	76	OCT 7	29	JAN 23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 11-12	[illegible]	[illegible]	[illegible] 28								42	[illegible]	[illegible] 11	[illegible]	92	82	[illegible]	[illegible]	0			0	0	[illegible]	[illegible]
FRESNO	75.7	48.2	62.0	[illegible]	[illegible] 21	24	DEC 30	2752	[illegible]	19.14	[illegible]	JAN 24-25	T	T	JAN 30	67	79	[illegible]	43	[illegible]	[illegible]	31	[illegible]	NW	MAR 3	[illegible]	195	74	95	55	0	10	[illegible]	107	0	[illegible]	0
LONG BEACH	73.8	54.2	64.0	96	AUG 22	34	JAN 30	[illegible]	[illegible]	[illegible]	3.04	JAN 19-20	.0	.0		71	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	[illegible]	DEC 28	5.0	134	[illegible]	[illegible]	[illegible]	0	[illegible]	40	17	0	[illegible]	[illegible]
LOS ANGELES	68.8	56.6	62.7	84	OCT 7	[illegible]	DEC 31+	[illegible]	594	[illegible]	1.96	JAN 19-20	.0	.0		76	79	[illegible]	[illegible]	8.[illegible]	[illegible]	[illegible]	41Y	[illegible]	DEC 29	5.0	[illegible]	116	111	45	0	5	27	0	[illegible]	[illegible]	[illegible]
LOS ANGELES CO	73.6	57.2	65.4	97	AUG 22	[illegible]	JAN 29	1032	[illegible]	26.32	4.35	JAN 24-25	.0	.0									[illegible]	NW	MAR [illegible]	4.[illegible]	175	[illegible]	98	46	[illegible]			14	0	[illegible]	[illegible]
MT SHASTA	61.6	[illegible]	[illegible]	96	JUL 22	[illegible]	JAN 27	[illegible]	314	[illegible]	3.98	DEC 20-21	163.4	18.6	JAN 11															[illegible]	[illegible]			18	7	[illegible]	[illegible]
OAKLAND	63.7	[illegible]	57.2	87	MAY 5	35	JAN 10	2806	56	25.70	1.69	OCT 14-15	.0	.0		81	85	[illegible]	68	8.[illegible]	[illegible]	17	[illegible]	[illegible]	DEC 19+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	8	7	[illegible]	0	[illegible]	0
RED BLUFF	75.6	[illegible]	63.0	110	AUG [illegible]	24	JAN 29	2694	[illegible]	26.93	[illegible]	DEC 11-12	T	T	JAN [illegible]	58	[illegible]	51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	185	[illegible]	115	74	0	6	14	104	0	[illegible]	0
SACRAMENTO	73.5	47.8	60.7	106	AUG 3	28	DEC 1+	2763	[illegible]	[illegible]	1.99	DEC 19-20	.0	.0		75	84	64	47	[illegible]	[illegible]	21	35	[illegible]	[illegible] 14	[illegible]	202	[illegible]	91	65	0	7	35	[illegible]	0	[illegible]	[illegible]
SANDBERG	63.8	46.0	54.9	[illegible]	AUG 15+	17	JAN 29	4416	872	16.82	2.36	JAN 10-11	33.3	7.4	FEB 23-24	55	57	47	46				[illegible]	[illegible]	JAN [illegible]	[illegible]	188	78	[illegible]	[illegible]	[illegible]			15	3	58	0
SAN DIEGO	69.6	57.2	63.4	89	AUG [illegible]	38	JAN 30	1145	678	11.76	2.10	JAN 13-14	.0	.0		75	75	64	63	7.5	3.4	28	35	[illegible]	FEB 25	5.3	138	96	131	[illegible]	0	1	13	0	[illegible]	0	0
SAN FRANCISCO	64.9	48.9	56.9	86	SEP 25+	33	JAN 27+	2908	57	28.07	2.06	JAN 18-19	.0	.0		79	85	[illegible]	64	12.3	7.[illegible]	28	47	[illegible]	JAN 25	4.5	176	79	110	[illegible]	0	4	7	0	0	0	0
SAN FRANCISCO CO	61.9	51.0	56.5	82	SEP 25	38	JAN 29	3066	44	[illegible]	3.00	DEC 19-20	.0	.0				[illegible]					34	[illegible]	APR 30+					75	0			0	0	0	0
SANTA MARIA	68.1	46.3	57.2	88	NOV 1	27	DEC 29	2760	37	18.58	2.34	FEB 24-25	.0	.0				64	63							4.5	162	113	[illegible]	53	0			[illegible]	0	[illegible]	[illegible]
STOCKTON	73.7	48.4	61.1	104	SEP 2+	27	DEC 1+	2820	1491	18.53	1.54	FEB 11-12	.0	.0		67	75	62	47	7.9	2.7	29	32	[illegible]	OCT 11+	4.0	193	78	94	53	0	2	44	89	0	25	0
COLORADO																																					
ALAMOSA	58.9	25.1	42.0	90	JUL 3	-16	DEC 31	8390	117	11.55	1.27	OCT 11-12	49.8	15.5	OCT 11-12		82	48	43							4.9	132	136	97	85	17			1	24	224	29
COLORADO SPRINGS	60.7	35.2	48.0	96	AUG 8+	-2	DEC 29	6563	449	20.99	1.69	MAY 6-7	60.2	12.8	OCT 11	67	[illegible]	45	46	9.7	2.5	3	43	31	JUN 24	6.0	98	110	157	112	16	69	40	16	28	172	4
DENVER	63.5	36.3	49.9	100	AUG 8	-5	JAN 24	6109	721	21.52	3.14	MAY 6-7	59.6	12.4	OCT 3-4	68	75	46	46	7.1	1.3	20	46	SW	JAN 8	5.9	97	115	153	97	16	47	10	34	23	165	4
GRAND JUNCTION	65.9	40.2	53.1	103	AUG 6	2	JAN 9	5567	1329	10.31	1.57	JUN 23-24	22.6	5.0	MAR 6-7	53	61	43	36	9.3	2.2	13	48	NW	JUN 25	5.2	141	98	126	88	6	47	8	69	15	147	0
PUEBLO	69.0	40.8	54.9	104	AUG 8+	-1	DEC 30+	4863	1292	11.67	.96	OCT 10-11	27.0	4.1	MAR 13-14	57	65	43	38	9.2	1.2	4	54	NW	JUL 5+	5.4	108	135	122	76	11	36	18	63	8	141	2
CONNECTICUT																																					
BRIDGEPORT	59.0	44.0	51.5	93	AUG 25	8	JAN 28	5526	725	41.69	2.44	MAR 24-25	35.8	16.7	FEB 9-10	76	74	[illegible]	67	10.8	3.7	31	65	34	FEB 10	6.1	101	112	152	118	8	20	24	7	21	117	0
HARTFORD	59.1	39.3	49.2	97	JUN 28	-1	JAN 5	6348	725	47.63	3.00	APR 22-23	75.4	15.0	FEB 9-10	78	79	56	64	9.2	2.4	29	37	NE	MAY 29+	6.7	75	106	184	124	15	22	23	13	44	141	1
DELAWARE																																					
WILMINGTON	62.8	45.4	54.1	95	JUN 28	12	JAN 6+	5025	1162	40.38	5.37	SEP 2-3	23.1	4.7	FEB 19-20	74	76	53	63	9.9	2.6	28	39	27	JAN 1	6.2	93	103	169	104	6	31	30	7	13	113	0
DIST.OF COLUMBIA																																					
WASH NATIONAL	66.3	48.1	57.2	100	JUN 28	13	JAN 5	4300	1580	43.30	4.40	JUL 22-23	15.9	5.1	DEC 25-26	69	71	51	58	8.9	2.2	29	45	NW	DEC 27	6.1	107	85	173	108	7	28	5	39	5	90	0
FLORIDA																																					
APALACHICOLA	74.4	60.4	67.4	95	JUL 7	29	JAN 6	1562	2568	67.11	7.10	SEP 20	.0	.0									42	E	FEB 15	5.4	129	102	134	107	0	58	22	33	0	4	0
DAYTONA BEACH	78.2	61.2	69.7	97	JUL 9	32	FEB 5	1098	2925	50.22	4.13	AUG 22-23	.0	.0		81	82	59	72	8.5	1.7	6	35	26	FEB 15	6.3	80	129	156	131	0	66	16	53	0	1	0
FORT MYERS	81.1	64.4	72.8	93	JUN 27+	40	DEC 5	521	3439	71.94	5.72	SEP 2-3	.0	.0		88	91	61	75	8.2	2.6	6	32	16	JUL 17	5.7	92	149	124	113	0	84	20	65	0	0	0
JACKSONVILLE	77.9	58.6	68.3	100	JUL 6	29	NOV 15	1508	2816	67.26	5.44	NOV 31-1	.0	.0		86	88	57	73	9.4	1.0	6	58	N	JUN 5	5.9	96	124	145	127	0	67	20	72	0	4	0
KEY WEST	81.1	72.8	77.0	92	JUL 16+	54	DEC 15	46	4497	62.92	4.97	OCT 26-27	.0	.0		[illegible]	81	71	75	10.7	5.2	8	40	SE	OCT 2	6.1	73	154	138	126	0	77	1	27	0	0	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow*: Total	Snow*: Greatest in 24 hours	Snow*: Date (s)	Relative humidity: 1:00 a m E S T	Relative humidity: 7:00 a m E S T	Relative humidity: 1:00 p m E S T	Relative humidity: 7:00 p m E S T	Wind: Average speed	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90 °F and above	Number of days: Max temp: 32 °F and below	Number of days: Min temp: 32 °F and below	Number of days: Min temp: 0 °F and below
FLORIDA	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	Mph	Mph		Mph			Tenths											
LAKELAND	[illegible]	62.3	[illegible]	96	JUL 10+	[illegible]	NOV 15	855	3074	[illegible]	2.84	MAR 16-17	.0	.0												[illegible]	88	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
MIAMI	[illegible]	68.8	[illegible]	[illegible]	JUL 26	[illegible]	DEC 27+	[illegible]	4142	[illegible]	[illegible]	OCT 23-24	.0	.0		78	81	[illegible]	68	[illegible]	[illegible]	[illegible]	28	[illegible]	NOV 4+	[illegible]	60	151	154	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ORLANDO	[illegible]	[illegible]	[illegible]	[illegible]	JUL 8	[illegible]	NOV 15	340	[illegible]	[illegible]	3.61	DEC 9-10	.0	.0		[illegible]	87	55	[illegible]	8.6	[illegible]	[illegible]	[illegible]	[illegible]	SEP 23+	[illegible]	76	[illegible]	149	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PENSACOLA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 5	1688	[illegible]	[illegible]	[illegible]	JUN 21	T	T	FEB 14					[illegible]			56	[illegible]	APR [illegible]	[illegible]	[illegible]	111	[illegible]	[illegible]	[illegible]			41	0	[illegible]	[illegible]
TALLAHASSEE	79.0	[illegible]	[illegible]	[illegible]	[illegible]	18	JAN 6	[illegible]	2568	74.52	9.47	FEB [illegible]	.0	.0		[illegible]	[illegible]	[illegible]	71	6.4	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	96	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]
TAMPA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32	FEB 5	[illegible]	3201	[illegible]	[illegible]	DEC [illegible]	[illegible]	[illegible]		[illegible]	95	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAR 6	[illegible]	75	[illegible]	[illegible]	114	[illegible]	[illegible]	15	[illegible]	[illegible]	[illegible]	[illegible]
WEST PALM BEACH	[illegible]	[illegible]	[illegible]	[illegible]	12	[illegible]	[illegible] 27	[illegible]	[illegible]	76.75	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	81	62	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	FEB 15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GEORGIA																																					
ATHENS	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	JAN 5	3246	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	FEB 15	76	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	141	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ATLANTA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 5	[illegible]	1668	44.40	[illegible]	MAY 8	1.2	1.0	FEB 15-16	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAR 2[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUGUSTA	[illegible]	[illegible]	61.8	[illegible]	[illegible]	11	JAN 6	2907	1853	45.86	4.93	FEB 2-3	T	T	DEC 6+	84	87	[illegible]	[illegible]	6.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLUMBUS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	JAN 6	2672	[illegible]	48.96	4.52	APR 17-18	T	T	DEC 6+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MACON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	JAN 6	[illegible]	[illegible]	[illegible]	[illegible]	AUG 22-23	T	T	NOV 14+	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAVANNAH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 15	[illegible]	2247	60.54	[illegible]	NOV 31-1	T	T	FEB 14	[illegible]	[illegible]	55	[illegible]	[illegible]	[illegible]	[illegible]	34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HAWAII																																					
HILO	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	54	JAN [illegible]	0	[illegible]	[illegible]	15.70	FEB 31-1	[illegible]	.0		84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HONOLULU	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN 20	[illegible]	[illegible]	22.50	4.53	JAN 2-3	[illegible]	.0		[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KAHULUI	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]	48	JAN [illegible]	[illegible]	3789	[illegible]	[illegible]	DEC 28-29	.0	.0		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FEB 21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LIHUE	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	JAN 22	31	3675	[illegible]	[illegible]	NOV 12	[illegible]	.0		[illegible]	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 28+	[illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IDAHO																																					
BOISE	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	5	JAN [illegible]	[illegible]	[illegible]	12.31	[illegible]	APR 6	34.7	[illegible]	APR 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LEWISTON	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN [illegible]	5641	765	14.43	[illegible]	JUN [illegible]	[illegible]	[illegible]	JAN 11		[illegible]	[illegible]	[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
POCATELLO	[illegible]	[illegible]	[illegible]	104	AUG 1	[illegible]	DEC 28+	7120	435	[illegible]	.85	NOV 6-7+	[illegible]	[illegible]	FEB 25	[illegible]	[illegible]	51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	109	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ILLINOIS																																					
CAIRO	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN 4	4177	[illegible]	[illegible]	[illegible]	JAN [illegible]	27.0	[illegible]	JAN 26								36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
CHICAGO MIDWAY	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	-10	JAN 1	[illegible]	[illegible]	[illegible]	[illegible]	JUL 17-18	40.7	[illegible]	DEC [illegible]-23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N	[illegible] 28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MOLINE	[illegible]	[illegible]	48.8	[illegible]	JUL [illegible]	[illegible]	JAN [illegible]	[illegible]	931	[illegible]	[illegible]	JUL 17	[illegible]	5.8	DEC 6-7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PEORIA	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]	[illegible]	JAN 4	6484	[illegible]	[illegible]	[illegible]	OCT 10-11	[illegible]	[illegible]	DEC 6-7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROCKFORD	[illegible]	[illegible]	[illegible]	[illegible]	JUL 4	[illegible]	JAN [illegible]	[illegible]	671	43.29	[illegible]	JUN 7-8	[illegible]	7.2	DEC [illegible]-23	[illegible]	[illegible]	[illegible]	64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APR [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SPRINGFIELD	[illegible]	[illegible]	[illegible]	[illegible]	JUN 7	-5	JAN 4	[illegible]	1162	[illegible]	[illegible]	APR 17-18	[illegible]	6.3	FEB 28	[illegible]	[illegible]	[illegible]	64	10.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INDIANA																																					
EVANSVILLE	[illegible]	[illegible]	[illegible]	96	JUL [illegible]	5	JAN 5+	5064	1326	[illegible]	[illegible]	JUL [illegible]	22.0	4.0	FEB 15-16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FORT WAYNE	[illegible]	[illegible]	[illegible]	[illegible]	SEP [illegible]	[illegible]	JAN 1	6481	870	37.49	2.26	OCT 12	21.8	4.2	DEC [illegible]-31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INDIANAPOLIS	[illegible]	[illegible]	[illegible]	92	JUL [illegible]	[illegible]	JAN [illegible]	5924	975	[illegible]	4.30	JUL [illegible]	31.9	[illegible]	JAN 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SOUTH BEND	[illegible]	[illegible]	48.6	[illegible]	[illegible] 16	[illegible]	JAN 4	6617	[illegible]	[illegible]	[illegible]	JUL 26-27	66.5	[illegible]	JAN 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAY [illegible]	[illegible]	72	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow*: Total	Greatest in 24 hours	Date (s)	Relative humidity: 100am EST	700am EST	100pm EST	700pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset*: Clear, 0–.3	Partly cloudy, .4–.7	Cloudy, .8–1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp: 90 °F and above	32 °F and below	Min temp: 32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	Mph	Mph		Mph			Tenths											
IOWA																																					
BURLINGTON	58.5	39.9	49.2	95	JUL 16	-11	JAN 4	654[illegible]	913	34.17			25.8			78	81	64	64	[illegible]	1.0	27	45	36	JUN 28	6.5	80	110	175		8	[illegible]	24	7	63	14[illegible]	[illegible]
DES MOINES	57.6	39.4	48.5	95	JUL 12	-12	JAN 4	6872	989	32.43	2.60	JUN 11-12	33.9	5.2	DEC 6-7	76	8[illegible]	62	62	10.4	[illegible].3	26	[illegible]	NW	JUN 26	6.3	95	[illegible]	180	114	13	55	21	16	76	141	11
DUBUQUE	54.8	36.1	45.5	91	AUG 29	-17	JAN 4	7632	633	33.70	2.44	JUN 6-7	40.8	9.3	DEC 7		86	65	70							6.6	87	[illegible]	193	124	11			4	80	162	17
SIOUX CITY	56.0	36.6	46.6	98	JUL 14+	-19	JAN 4	7440	842	28.37	2.55	AUG 30-31	44.7	8.1	DEC 27	83	86	68	67	1[illegible].7	[illegible].4	11	52	NW	JUL 4	6.5	93	[illegible]	185	102	15	47	[illegible]	1[illegible]	78	1[illegible]	22
WATERLOO	54.2	34.3	44.3	92	AUG 6	-15	JAN 4	8014	575	34.52	3.54	JUL 7-8	29.6	8.4	DEC 6-7	6[illegible]	85	64	66	10.1	1.[illegible]	[illegible]	41	20	JUL 16	6.6	80	99	186	120	11	48	27	6	88	163	27
KANSAS																																					
CONCORDIA	61.9	41.2	51.6	105	JUL 3	- 8	JAN 4	5965	1183	29.53	1.72	MAY 21	31.7	6.9	FEB 14-15	8[illegible]	88	65	66	11.6	1.5	15	53	NW	SEP 4	5.9	121	85	159	106	13	57	30	32	39	14	3
DODGE CITY	66.0	43.6	54.8	106	AUG 12+	2	MAR 11+	5117	1519	18.79	1.97	AUG 24-25	28.7	7.8	MAR 2	77	84	58	56	11.0	2.0	1[illegible]	45	N	JAN 8	6.0	107	94	164	86	10	58	[illegible]	61	16	129	0
GOODLAND	63.[illegible]	39.0	51.0	107	JUL 3	- 2	JAN 24+	5978	975	18.67	1.71	MAY 15-16	42.6	7.8	MAR 2	69	79	61	55	12.5	2.1	19	40	34	APR 4	5.7	120	[illegible]	152	88	12	44	49	37	12	149	4
TOPEKA	62.8	43.0	52.9	99	AUG 8	- 4	JAN 31	5525	1233	33.48	3.24	APR 26	21.8	4.4	JAN 26	80	84	63	63	8.7	0.3	13	43	N	NOV 13	6.4	89	95	181	97	7	50	20	24	31	123	2
WICHITA	65.5	44.8	55.2	106	JUL 15	- 1	MAR 11	5030	1558	34.17	3.74	JUL 19-20	16.9	6.4	FEB 14-15	75	80	60	59	11.6	1.6	15	50	SW	JUN 25	5.8	121	85	159	97	5	56	14	50	20	118	1
KENTUCKY																																					
COVINGTON	62.8	43.4	53.1	95	JUL 5	3	JAN 5+	5377	1162	33.97	2.28	JUN 12-13	11.2	2.2	DEC 25	77	80	59	63	9.1	1.0	29	40	26	JUN 12	6.7	68	116	181	114	4	33	23	11	28	121	0
LEXINGTON	64.1	45.1	54.6	94	JUL 5	2	JAN 5	4936	1268	39.50	2.94	AUG 19	16.3	3.8	DEC 25	74	78	56	6[illegible]	8.6	1.4	[illegible]	27	20	MAR 20	6.3	99	92	174	119	5	31	15	20	18	108	0
LOUISVILLE	64.8	45.6	55.2	94	JUL 5	4	JAN 4	4764	1307	36.79	1.72	AUG 19	20.1	3.3	DEC 25	76	81	57	60	8.0	1.3	26	40	NW	JUN 22	6.3	89	117	159	123	6	36	[illegible]	22	13	103	0
LOUISIANA																																					
ALEXANDRIA	75.5	52.9	64.2	99	AUG 10+	18	JAN 5	2311	2119	50.15			.0	.0																98	0	59	24	80	0	43	0
BATON ROUGE	77.7	56.9	67.3	100	JUN 28	21	JAN 5	1709	2662	53.06	6.48	APR 12-13	.0	.0		83	88	57	63	7.3	1.5	7	35	8	JUL 14	5.8	100	120	145	105	0	55	25	67	0	16	0
LAKE CHARLES	76.8	57.4	67.1	98	JUN 30	23	JAN 5	1676	2561	55.12	3.83	APR 5	T	T	FEB 19 +	89	91	62	70	7.9	1.9	9	32	18	MAR 23	5.9	97	128	140	88	0	68	48	79	0	14	0
NEW ORLEANS	77.[illegible]	57.5	67.3	98	JUL 3+	23	JAN 6	1581	2534	52.04	3.20	MAR 15-16	T	T	JAN 11	82	85	62	68	8.3	1.7	5	42	33	AUG 17	5.5	117	115	133	107	0	47	18	62	0	13	0
SHREVEPORT	75.9	55.1	65.5	105	AUG 10	20	JAN 5	2344	2652	42.80	5.94	NOV 17-18	T	T	DEC 30 +	75	82	56	56	7.8	1.2	12	35	22	MAY 24	5.7	113	110	142	82	0	42	17	105	0	26	0
MAINE																																					
CARIBOU	49.1	30.9	40.0	91	JUN 13	-20	FEB 6	9141	159	39.74	3.00	SEP 9	128.3	12.8	FEB 10		84	66	75							7.4	50	92	223	162	25			1	90	182	24
PORTLAND	55.4	37.5	46.5	93	SEP 1+	- 6	MAR 6+	7101	447	55.00	4.09	SEP 8-9	104.4	21.5	FEB 9-10	80	77	61	72	7.8	1.5	28	45	SW	JUN 20	6.2	102	93	170	131	17	18	42	9	38	149	8
MARYLAND																																					
BALTIMORE	65.1	45.9	55.5	98	JUL 18+	10	JAN 5	4707	1371	33.58	2.15	SEP 2-3	23.3	6.1	DEC 25	71	74	51	58	8.6	3.0	28	49	NW	JUL 12	5.9	110	93	162	102	8	26	23	39	10	108	0
MASSACHUSETTS																																					
BLUE HILL OBS R	56.7	40.4	48.6	93	SEP 1+	3	JAN 28	6431	563	58.38	5.68	DEC 26-27	99.2	28.2	FEB 24-25	81	79	59	70				58	S	DEC 11					131	16			7	54	134	0
BOSTON	58.0	44.4	51.2	95	SEP 1+	7	JAN 28	5662	746	47.78	4.[illegible]7	DEC 26-27	60.9	17.0	FEB 24-25	73	73	60	66	14.4	3.8	28	51	W	JAN 1	6.0	99	110	156	119	13	17	17	11	27	104	0
NANTUCKET	57.2	43.4	50.3	90	JUL 18	14	JAN 1	5596	360	43.53	5.05	SEP 8-9	22.2	5.6	MAR 2-3	82	79	67	79				47	N	MAR 7+	6.9	63	110	192	123	8			1	7	96	0
WORCESTER	55.3	38.7	47.0	92	JUN 27	0	JAN 28	6933	488	46.10	2.59	DEC 26-27	78.0	15.6	FEB 24-25	76	75	59	67	9.9	4.2	28	43	28	FEB 4+	6.1	96	119	159	135	16	26	85	3	71	144	1
MICHIGAN																																					
ALPENA	52.3	32.0	42.2	93	MAY 28	-10	DEC 24	8500	295	31.42	2.65	JUN 11-12	77.0	8.8	JAN 8-9	82	83	62	69	7.0	1.7	27	40	W	JUN 12	6.8	64	111	190	152	23	36	34	6	78	182	12
DETROIT	57.1	41.2	49.2	91	AUG 30+	- 2	JAN 1	6410	757	29.91	2.65	JUL 18-19	25.4			70	72	56	59	9.2	2.9	27	35	29	OCT 21+					103	9	26	7	6	46	128	1
DETROIT METRO.	57.9	39.2	48.6	93	JUN 26	- 4	JAN 1	6614	741	29.33	2.67	JUL 4-5	25.1	3.4	DEC 31	77	80	59	65	9.6	2.4	27	38	W	APR 21	6.7	73	103	189	127	9	29	12	6	42	141	2
FLINT	55.3	37.1	46.2	90	AUG 30	- 3	JAN 1	7198	458	28.58	2.24	MAY 8-9	32.2	4.4	JAN 6-7	79	80	61	66	9.5	2.6	25	35	23	JUN 1	6.7	83	95	187	129	10	32	17	1	54	144	1
GRAND RAPIDS	55.7	36.1	45.9	92	AUG 30+	- 8	DEC 24	7439	590	34.76	2.53	JUL 17-18	68.0	7.5	JAN 6	79	81	61	66	10.0	2.2	24	54	SW	OCT 7	6.9	72	92	201	141	24	35	33	13	63	164	6

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

YEAR 1969

State and Station	Temperature Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow*: Total	Greatest in 24 hours	Date (s)
MICHIGAN	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In	
HOUGHTON LAKE	52.3	32.2	42.3	88	AUG 24+	-15	DEC 24	8487	310	30.51	2.59	JUN 25-26	84.3	9.3	NOV 20-21
LANSING	[illegible]	36.6	[illegible]	[illegible]	AUG 30	-4	DEC 24+	[illegible]	663	28.0[illegible]	1.57	JUL 4	35.6	[illegible]	JAN 6
MARQUETTE	[illegible]	[illegible]	[illegible]	[illegible]	MAY 18	-5	JAN 1	8241	412	26.88	1.83	SEP 15-16	103.2	8.4	MAR 20-21
MUSKEGON	[illegible]	38.9	[illegible]	[illegible]	JUN 26	[illegible]	DEC 24	7081	565	29.74	2.20	OCT 10-11	110.9	[illegible]	JAN 24-25
SAULT STE MARIE	49.0	[illegible]	[illegible]	89	AUG 17	-17	JAN 1	[illegible]	164	[illegible]	2.74	JUN 26-27	99.9	[illegible]	OCT 27-28
MINNESOTA															
DULUTH	48.3	29.1	[illegible]	[illegible]	AUG 28+	-20	JAN 1	[illegible]	[illegible]	[illegible]	[illegible]	JUL 26-27	113.7	[illegible]	DEC 7-8
INTERNATIONAL FALLS	[illegible]	25.8	36.7	94	MAY 27	[illegible]	JAN 26	[illegible]	137	[illegible]	2.14	OCT 4-5	66.0	4.8	DEC 7-8 +
MINNEAPOLIS	[illegible]	[illegible]	44.7	96	AUG [illegible]	[illegible]	JAN 1	[illegible]	786	[illegible]	.76	JUL 8	73.9	8.4	DEC 27-28
ROCHESTER	[illegible]	[illegible]	[illegible]	[illegible]	MAY 27	-21	JAN 1	8496	[illegible]	28.30	[illegible]	AUG 6	[illegible]	7.7	DEC 22-23
ST CLOUD	[illegible]	[illegible]	[illegible]	[illegible]	MAY 27	-21	FEB 1+	8938	[illegible]	21.78	[illegible]	APR 26-27	[illegible]	[illegible]	JAN 27-28
MISSISSIPPI															
JACKSON	[illegible]	51.8	[illegible]	[illegible]	JUN 29	[illegible]	JAN 5	2554	1267	[illegible]	3.51	APR 17	T	T	DEC 6
MERIDIAN	[illegible]	51.1	[illegible]	[illegible]	JUN 29	[illegible]	JAN 5	[illegible]	2011	41.17	[illegible]	APR [illegible]	[illegible]	[illegible]	
MISSOURI															
COLUMBIA REGIONAL A	[illegible]	[illegible]	[illegible]	98	JUN 13	[illegible]	JAN 4	5810	1368	50.34	4.78	OCT 11-12	23.8	[illegible]	JAN 26
KANSAS CITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 13	[illegible]	JAN 4	[illegible]	[illegible]	[illegible]	7.40	AUG 15-16	[illegible]	5.5	JAN 26
ST JOSEPH	[illegible]	[illegible]	[illegible]	[illegible]	JUL 13	-8	FEB 1	5144	[illegible]						
ST LOUIS	[illegible]	44.7	[illegible]	[illegible]	JUL [illegible]	[illegible]	JAN 4	[illegible]	1440	[illegible]	2.85	SEP [illegible]	[illegible]	[illegible]	DEC 22-23
SPRINGFIELD	[illegible]	44.0	[illegible]	[illegible]	JUL 13	[illegible]	JAN 4	4862	1382	[illegible]	[illegible]	OCT 12	24.6	7.7	FEB 15
MONTANA															
BILLINGS	[illegible]	[illegible]	[illegible]	[illegible]	AUG 24	[illegible]	JAN 24+	7668	541	[illegible]	[illegible]	JUN 24-25	40.2	5.0	NOV 16-17
GLASGOW	[illegible]	[illegible]	[illegible]	[illegible]	AUG 24+	-47	JAN 25	[illegible]	463	10.48	1.68	JUL 6-7	35.8	7.4	JAN 21-22
GREAT FALLS	[illegible]	[illegible]	[illegible]	[illegible]	AUG 24	-37	JAN 25	[illegible]	487	12.41	[illegible]	JUN 25-26	50.0	[illegible]	JAN [illegible] +
HAVRE	[illegible]	26.1	39.8	[illegible]	AUG 24	-52	JAN 24	[illegible]	424	[illegible]	1.01	JUN 25-26	[illegible]	[illegible]	JAN 6-7
HELENA	[illegible]	28.4	41.4	[illegible]	AUG 24	[illegible]	JAN 24+	[illegible]	345	[illegible]	1.50	JUL 6-7	[illegible]	11.5	JAN 20-21
KALISPELL	53.8	28.8	41.3	[illegible]	AUG 24	-28	MAR 11	[illegible]	94	14.24	.85	JUN 23-24	63.8	7.4	JAN 31-1
MILES CITY	56.1	[illegible]	44.1	[illegible]	AUG 18	-37	JAN 25	8313	822	15.18			30.4		
MISSOULA	[illegible]	[illegible]	42.8	[illegible]	AUG [illegible]	-18	JAN 24	[illegible]	[illegible]	[illegible]	1.53	JUN 23-24	[illegible]	[illegible]	MAR 5-6
NEBRASKA															
GRAND ISLAND	59.4	37.9	48.7	104	JUL 11	-17	JAN 4	6862	1019	[illegible]	2.20	AUG 30	47.5	10.6	FEB 13-14
LINCOLN	[illegible]	[illegible]	[illegible]	[illegible]	JUL 11+	-12	JAN 4	[illegible]	1255	25.90	1.95	JUL 6	42.4	8.2	FEB 14
NORFOLK	[illegible]	36.6	[illegible]	[illegible]	JUL [illegible]	[illegible]	JAN 4	[illegible]	869	27.30	4.23	JUN 24-25	[illegible]	7.2	DEC 26-27
NORTH PLATTE	[illegible]	34.2	[illegible]	[illegible]	JUL 13	-18	JAN 24	[illegible]	730	15.19	1.44	JUN 24-25	35.7	8.8	OCT 15
OMAHA	[illegible]	[illegible]	[illegible]	99	JUL [illegible]	-14	JAN 4	6532	1138	30.19	2.78	AUG 30-31	45.9	10.2	DEC 5-6
SCOTTSBLUFF	[illegible]	[illegible]	48.8	[illegible]	AUG 11+	-8	JAN 4	[illegible]	816	13.74	1.56	MAY 4-5	45.8	8.5	OCT 11-12
VALENTINE	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]	[illegible]	JAN 25	[illegible]	[illegible]	13.73	.82	JUN 24-25	25.5	3.6	MAR 1-2

State and Station	Relative humidity: 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear 0-0.3	Partly cloudy 0.4-0.7	Cloudy 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp: 90 °F and above	32 °F and below	Min temp: 32 °F and below	0 °F and below
MICHIGAN	%	%	%	%	Mph	Mph		Mph			Tenths											
HOUGHTON LAKE	84	86	65	[illegible]	8.6	[illegible]	27	[illegible]	27	[illegible] 12	[illegible]	82	77	[illegible]	[illegible]	26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21
LANSING	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	SEP 6	[illegible]	72	[illegible]	[illegible]	126	11	[illegible]	18	[illegible]	[illegible]	[illegible]	6
MARQUETTE								[illegible]	W	OCT 2	7.1	[illegible]	[illegible]	[illegible]	168	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
MUSKEGON	[illegible]	[illegible]	[illegible]	[illegible]	10.2	1.8	27	[illegible]	[illegible]	NOV 19+	6.8	[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAULT STE MARIE	[illegible]	[illegible]	[illegible]	[illegible]	8.7	[illegible]	[illegible]	[illegible]	NW	DEC 2	[illegible]	[illegible]	88	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]
MINNESOTA																						
DULUTH	[illegible]	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	APR 21	[illegible]	66	[illegible]	[illegible]	144	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INTERNATIONAL FALLS	[illegible]	84	66	[illegible]	9.9	[illegible]	[illegible]	[illegible]	[illegible]	MAY [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MINNEAPOLIS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	JUL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROCHESTER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ST CLOUD	[illegible]	81	[illegible]	[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
MISSISSIPPI																						
JACKSON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MERIDIAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAR [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MISSOURI																						
COLUMBIA REGIONAL A	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KANSAS CITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ST JOSEPH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	[illegible]	[illegible]	[illegible]
ST LOUIS	77	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SPRINGFIELD	76	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MONTANA																						
BILLINGS	[illegible]	67	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GLASGOW	[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GREAT FALLS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	MAR 16+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HAVRE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HELENA	[illegible]	74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FEB 9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KALISPELL	[illegible]	[illegible]	58	51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APR [illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	21	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MILES CITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MISSOULA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	JAN 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEBRASKA																						
GRAND ISLAND	[illegible]	85	[illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LINCOLN								[illegible]	[illegible]	OCT [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
NORFOLK		[illegible]	[illegible]	[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
NORTH PLATTE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OMAHA	[illegible]	[illegible]	61	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	MAY 10+	[illegible]	81	[illegible]	[illegible]	114	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SCOTTSBLUFF	[illegible]	[illegible]	[illegible]	[illegible]	11.4	[illegible]	[illegible]	[illegible]	[illegible]	OCT [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VALENTINE								[illegible]	[illegible]	SEP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

YEAR [illegible]

State and station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date(s)	Snow*: Total	Greatest in 24 hours	Date(s)	Relative humidity: 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp: 90 °F and above	32 °F and below	Min temp: 32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	M p h	M p h		M p h			Tenths											
NEVADA																																					
ELKO	61.4	31.0	46.2	98	AUG 9+	- 9	DEC 29	7184	466	9.70	.68	JUN 17	48.9	5.1	DEC 23-24															86	10	17	[illegible]	[illegible]	[illegible]	184	[illegible]
ELY	60.8	24.9	45.4	95	AUG 8	-11	MAR 9	7339	312	11.45	1.54	FEB 24-25	45.3	7.7	FEB 24-25	60	68	44	[illegible]	[illegible]	[illegible]	21	54	SW	JAN 26	5.4	123	117	125	85	17	36	1	25	14	199	[illegible]
LAS VEGAS	79.3	53.3	66.3	113	AUG 5+	22	DEC 31	2567	3175	5.09	.80	MAY 6-7	T	T	DEC 27+	37	[illegible]	31	23	8.4	[illegible]	24	48	N	APR 18	3.5	221	67	77	39	0	13	1	137	0	32	0
RENO	67.8	32.9	50.4	103	AUG 9	9	FEB 7+	5612	385	10.22	1.43	JAN 25-26	39.2	8.5	JAN 24-25	48	64	42	30	5.7	1.5	27	59	SW	JAN 12	4.4	172	89	104	53	10	18	5	59	3	172	0
WINNEMUCCA	65.3	32.2	48.8	103	AUG 10	-10	JAN 29	6258	456	9.67	.95	DEC 23	37.1	4.3	FEB 23-24	54	62	44	36	6.6	0.6	26	45	SE	AUG 10	5.1	147	85	133	65	11	13	3	59	6	180	1
NEW HAMPSHIRE																																					
CONCORD	55.8	33.7	44.8	90	SEP 1+	-17	DEC 25	7627	363	42.30	3.31	DEC 26-27	83.0	13.8	FEB 9-10	84	85	59	70	6.9	2.2	30	37	NW	JAN 1	6.2	88	128	149	131	20	18	40	3	57	167	18
MT WASHINGTON OBS	33.7	21.0	27.4	68	JUN 13	-26	JAN 1	13627	0	130.14	8.64	DEC 26-27	495.2	49.3	FEB 25	86	84	83	84	33.1			135Y	W	JAN 2	8.0	41	69	255	210	77	16	317	0	172	242	56
NEW JERSEY																																					
ATLANTIC CITY	62.9	41.9	52.4	106	JUN 28	1	JAN 28	5423	945	44.45	4.85	JUL 20-21	25.7	11.5	MAR 2	83	82	57	73	11.7	3.2	27	40	32	FEB 9	6.1	104	101	160	108	4	26	44	25	14	121	0
NEWARK	61.6	46.2	53.9	96	JUN 28+	10	JAN 28	5093	1169	41.95	4.60	SEP 3-4	32.0	13.6	FEB 9-10	70	72	53	60	10.8	5.5	28	39	30	DEC 27	6.0	100	120	145	132	8	22	10	15	18	104	0
TRENTON U	61.6	46.3	54.0	95	JUN 28	11	JAN 28	5010	1091	45.59	3.40	SEP 3-4	37.4	8.0	DEC 25-26+								40	NW	FEB 10	5.9	104	114	147	117	11			10	20	101	0
NEW MEXICO																																					
ALBUQUERQUE	70.2	42.9	56.6	102	JUN 29	8	DEC 30	4458	1481	10.56	1.80	OCT 21-22	8.4	2.4	MAR 4	48	61	38	29	9.5	0.4	13	50	NW	MAR 1	4.6	162	97	106	61	3	41	[illegible]	77	2	129	0
CLAYTON	65.8	39.3	52.6	101	JUL 30	1	JAN 24	5222	820	25.70	2.68	AUG 22-23	32.4	6.5	MAR 13-14		75	44	45							5.3	131	108	126	91	15			30	17	146	0
ROSWELL	75.9	44.6	60.3	106	JUN 21	- 2	DEC 31	3524	1910	13.33	1.99	OCT 20-21	24.8	6.5	DEC 28-29								36	SW	JAN 22					58	6			104	3	115	2
NEW YORK																																					
ALBANY	57.5	35.7	46.6	93	JUL 16	-22	DEC 25	7133	556	39.50	1.69	NOV 5-6	92.4	14.5	DEC 25-26	83	82	60	71	8.5	2.5	26	42	W	JAN 8	7.1	57	106	202	133	22	26	25	7	63	158	11
BINGHAMTON	53.4	37.6	45.5	87	JUN 27+	- 8	DEC 25	7381	384	30.97	1.35	SEP 5-6	93.4	15.6	DEC 25-26	84	85	66	71	9.9	3.6	27	38	SE	MAR 24	7.4	54	84	227	152	26	30	49	0	84	140	3
BUFFALO	55.1	39.0	47.1	92	JUN 27	- 2	DEC 25	6995	568	36.16	2.28	AUG 16-17	101.6	7.8	JAN 3	80	81	64	71	11.1	4.8	25	47	SW	MAY 9	7.4	57	87	221	172	29	28	16	2	67	141	1
NEW YORK KENNEDY	60.8	47.0	53.9	99	MAY 29	11	JAN 28	5040	1117	40.69	3.21	JUL 28	32.7	19.9	FEB 9	73	73	58	68	12.2	3.2	28	46	6	DEC 26	5.9	93	133	139	116	6	25	24	17	17	98	0
NEW YORK U	62.1	47.4	54.8	97	MAY 29	11	JAN 28	4845	1234	48.54	5.80	SEP 3-4	30.0	15.0	FEB 9-10	70	72	54	61	8.9	2.4	30	42	NE	DEC 26					120	9	19		16	17	90	0
NEW YORK LA GUARDIA	60.1	46.9	53.5	95	JUL 17	9	JAN 28	5070	1002	46.26	4.52	SEP 3-4	32.0	15.9	FEB 9-10	65	67	53	57	11.6	3.2	31	52	N	JUL 3	6.0	92	126	147	125	7	26	5	8	20	95	0
ROCHESTER	56.8	38.8	47.8	95	JUN 27	- 5	DEC 25	6793	646	29.14	1.30	JUN 2-3	96.8	7.9	DEC 26-27	80	79	60	68	9.2	4.1	26	47	SW	JUN 27	7.1	66	86	213	145	28	24	10	10	54	142	3
SYRACUSE	56.2	38.0	47.1	94	JUN 27	- 3	DEC 25	7016	624	32.05	3.13	MAY 19-20	119.1	15.5	DEC 25-26	78	79	60	67	8.8	3.0	26	47	W	JUN 30	7.2	64	83	218	154	36	26	13	6	72	146	4
NORTH CAROLINA																																					
ASHEVILLE	66.2	43.8	55.0	96	JUN 28	9	JAN 5	4527	997	48.61	4.02	JUL 27	49.5	11.7	FEB 15-16	87	89	58	70	7.8	2.9	35	49	35	FEB 9	5.7	116	102	147	136	10	53	79	20	4	114	0
CAPE HATTERAS R	67.6	53.5	60.6	95	JUL 6	24	MAR 16	3111	1612	46.29	2.72	AUG 5-6	.2	.2	JAN 4	82	81	65	79	12.7	2.3	35	46	WSW	MAR 9	5.8	121	99	145	113	0	41	15	2	0	33	0
CHARLOTTE	68.6	48.4	58.5	98	JUN 28	12	JAN 6	3824	1565	39.79	3.21	AUG 2-3	16.2	12.0	FEB 15-16	75	82	52	60	7.0	0.7	35	37	SW	JUN 23	5.7	122	94	149	101	3	32	29	37	4	90	0
GREENSBORO	68.2	47.3	57.8	98	JUL 19+	9	JAN 5	4020	1499	41.80	4.20	JUN 15	13.3	10.7	MAR 1	77	80	52	62	6.9	1.1	30	40	W	JUL 28+	5.9	105	106	154	113	2	42	32	38	2	100	0
RALEIGH	67.9	45.9	56.9	95	JUL 6	9	JAN 6	4107	1264	41.52	2.35	SEP 19-20	10.1	9.3	MAR 1-2	81	85	54	67	8.7	1.1	30	46	33	AUG 10	5.7	114	108	143	92	1	40	39	15	1	104	0
WILMINGTON	71.8	51.6	61.7	98	JUL 7	21	JAN 6	2885	1801	60.75	5.43	JUN 15-16	.5	.5	JAN 4	84	84	57	74	7.6	0.9	32	38	W	MAR 9	5.9	106	109	150	103	0	45	19	26	1	57	0
NORTH DAKOTA																																					
BISMARCK	52.8	28.7	40.8	101	AUG 28+	-29	FEB 2	9288	571	14.76	2.33	JUL 18	51.9	6.7	FEB 26-27	73	78	57	55	10.0	0.9	35	52	N	MAY 9	6.5	91	95	179	104	18	32	29	24	97	183	59
FARGO	49.5	28.9	39.2	95	AUG 16+	-27	JAN 25+	9788	483	18.52	3.06	JUL 14-15	38.7	4.5	FEB 28	80	85	67	65	11.5	0.7	26	41	NW	MAY 8+	6.1	109	89	167	98	15	29	20	10	120	182	61
WILLISTON	52.4	28.0	40.2	103	AUG 22	-37	JAN 25	9398	464	12.62	1.30	JUL 6-7	28.0	3.1	DEC 21-22	74	81	58	57	10.3	2.0	33	46	NW	MAY 27	6.4	81	111	173	101	8	30	9	29	101	187	58

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow*: Total	Greatest in 24 hours	Date (s)	Relative humidity: 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp: 90 °F and above	32 °F and below	Min temp: 32 °F and below	0 °F and below
OHIO	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	Mph	Mph		Mph			Tenths											
AKRON	58.7	39.6	49.2	91	JUN 27+	0	JAN 1	6296	682	32.86	3.61	JUL 4-5	38.8	3.4	DEC 14-15	79	82	61	[illegible]	9.6	[illegible]	26	29	33	JUL 4+	7.0	[illegible]	[illegible]	203	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	134	[illegible]
CINCINNATI ABBE OBS.	62.9	[illegible]	[illegible]	96	JUL 5	2	JAN 4	5316	1165	35.84	1.57	NOV 18-19	7.0	2.0	DEC 23								27	[illegible]	JUN 12+					[illegible]	[illegible]			23	[illegible]	116	[illegible]
CLEVELAND	57.2	[illegible]	[illegible]	92	JUL 16+	[illegible]	JAN 1	6443	725	39.38	2.87	JUL 4-5	46.5	3.7	DEC 31	73	74	60	64	[illegible]	3.[illegible]	24	[illegible]	N	JUL 4+	7.1	[illegible]	64	[illegible]	[illegible]	20	[illegible]	2	9	58	127	1
COLUMBUS	[illegible]	[illegible]	[illegible]	92	JUL 16+	2	JAN 8	6027	[illegible]	40.21	3.82	JUL 19-20	18.9	[illegible]	DEC 21-22	80	82	[illegible]	65	8.7	1.4	25	[illegible]	W	NOV [illegible]	6.9	69	[illegible]	193	127	[illegible]	32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAYTON	[illegible]	[illegible]	[illegible]	[illegible]	AUG 31	0	JAN 10+	5843	945	[illegible]	2.98	AUG 9	19.9	3.5	DEC 21-22	76	79	58	63	9.3	[illegible]	24	40	NW	JUL 11+	6.8	76	98	191	118	[illegible]	[illegible]	27	11	[illegible]	125	[illegible]
MANSFIELD	59.2	[illegible]	[illegible]	91	JUL 16+	0	JAN 5+	6159	889	39.47	5.06	JUL 4-5	34.4	3.6	MAR 10-11	74	78	[illegible]	66	11.0	[illegible]	[illegible]	30	20	NOV 30	6.8	75	96	194	[illegible]	[illegible]	[illegible]	17	6	47	131	[illegible]
TOLEDO	[illegible]	37.7	47.9	92	JUL 16+	[illegible]	JAN 5	[illegible]	656	35.80	4.39	JUL 4-5	42.8	8.0	DEC 23	[illegible]	82	59	67	9.2	[illegible]	27	53	NW	[illegible] 4	6.7	72	111	182	[illegible]	[illegible]	17	[illegible]	0	[illegible]	155	[illegible]
YOUNGSTOWN	56.4	[illegible]	46.2	91	JUN 27	[illegible]	JAN [illegible]	[illegible]	524	[illegible]	2.32	JUL 4-5	57.3	4.0	FEB 8-9	[illegible]	[illegible]	64	65	[illegible]	2.4	[illegible]	[illegible]	28	DEC 18	7.1	66	86	213	[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	144	[illegible]
OKLAHOMA																																					
OKLAHOMA CITY	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	[illegible]	[illegible]	1844	[illegible]	[illegible]	JUN 13-14	[illegible]	[illegible]	MAR 2-3	75	82	57	[illegible]	10.2	[illegible]	16	48	NW	MAY 11	5.4	133	89	143	84	[illegible]	44	11	64	[illegible]	[illegible]	[illegible]
TULSA	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	[illegible]	3876	2062	[illegible]	[illegible]	OCT 11-12	[illegible]	4.0	FEB 20	72	79	56	54	9.5	[illegible]	17	[illegible]	[illegible]	JUN 22	5.6	[illegible]	[illegible]	140	81	[illegible]	40	16	79	6	75	[illegible]
OREGON																																					
ASTORIA	[illegible]	[illegible]	[illegible]	[illegible]	MAY [illegible]	11	JAN 28	5534	5	62.71	[illegible]	DEC 10-11	[illegible]	6.6	JAN 27+	86	88	73	[illegible]	[illegible]	1.4	[illegible]	[illegible]	18	MAR 14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	40	0	8	55	[illegible]
BURNS	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	-10	JAN 24	7378	331	[illegible]	1.02	JAN 20-21	53.6	5.8	JAN 20	[illegible]	[illegible]	57	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	156	[illegible]	[illegible]			20	[illegible]	[illegible]	4
EUGENE	[illegible]	[illegible]	[illegible]	[illegible]	JUN 17	[illegible]	JAN 28	[illegible]	214	[illegible]	[illegible]	DEC [illegible]	[illegible]	22.9	JAN 25-26	81	[illegible]	[illegible]	61	7.4	[illegible]	[illegible]	17	[illegible]	[illegible] 11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	4	41	[illegible]
MEACHAM	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN [illegible]	7827	[illegible]	[illegible]	1.49	JAN [illegible]-24	135.[illegible]	11.8	APR 5-6			58					18	[illegible]	MAR 22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
MEDFORD	[illegible]	[illegible]	[illegible]	[illegible]	JUL 28+	[illegible]	JAN [illegible]	[illegible]	662	[illegible]	1.72	DEC [illegible]	17.5	3.4	JAN 15	72	85	[illegible]	48	4.4	[illegible]	[illegible]	[illegible]	[illegible]	FEB 27	[illegible]	[illegible]	81	164	[illegible]	6	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PENDLETON	[illegible]	[illegible]	[illegible]	[illegible]	AUG 28+	-8	JAN [illegible]	[illegible]	719	11.45	.98	APR 5-6	[illegible]	7.8	JAN 25-26	67	[illegible]	[illegible]	[illegible]	8.8	[illegible]	[illegible]	[illegible]	24	MAR [illegible]	6.1	154	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PORTLAND	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	18	JAN [illegible]	4651	297	37.11	2.23	FEB 17	18.3	5.1	JAN 10	76	84	72	58	6.8	[illegible]	[illegible]	[illegible]	[illegible]	DEC 11	7.1	[illegible]	71	[illegible]	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]
SALEM	[illegible]	[illegible]	[illegible]	[illegible]	JUN 17	[illegible]	JAN [illegible]	[illegible]	183	40.38	2.01	FEB 11-12	22.3	9.4	JAN 25-26	81	87	72	57	[illegible]	1.8	11	[illegible]	19	DEC 11	[illegible]	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]
SEXTON SUMMIT	55.2	[illegible]	[illegible]	[illegible]	JUN 3	14	JAN 13	6467	186	44.15	3.63	DEC 20-21	151.[illegible]	[illegible]	JAN 31			72	[illegible]				[illegible]	14	JAN [illegible]	[illegible]	140	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
PACIFIC ISLANDS																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NOV [illegible]	65	JAN 24	0	5302	17.11	1.78	FEB 28	.0	.0		[illegible]	78	77	[illegible]	15.4	[illegible]	[illegible]	[illegible]	E	[illegible]	6.[illegible]	87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.0		[illegible]	87	[illegible]	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APR [illegible]	8.8	5	71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	91	[illegible]	[illegible]	JAN 18	0	[illegible]	[illegible]	[illegible]	JUN 25-26	.0	.0		[illegible]	77	81	[illegible]	14.6	[illegible]	7	[illegible]	[illegible]	18	9.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	91	[illegible]	[illegible]	[illegible]	0	6038	134.28	6.63	MAR 4-5	[illegible]	[illegible]		77	79	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	E	20	8.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	85.[illegible]	[illegible]	[illegible]	92	[illegible]	[illegible]	[illegible] 13	0	5596	[illegible]	[illegible]	APR 2[illegible]	[illegible]	[illegible]		84	88	88	78	[illegible]	7.[illegible]	11	[illegible]	NW	[illegible]	7.7	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	87.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NOV [illegible]	0	5633	[illegible]	[illegible]	FEB 6-7	.0	.0		[illegible]	81	89	77	[illegible]	[illegible]	6	[illegible]	NE	[illegible]	8.7	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	74.1	[illegible]	[illegible]	[illegible]	61	[illegible]	0	[illegible]	[illegible]	[illegible]	OCT [illegible]	[illegible]	.0		[illegible]	88	91	75				29	E	[illegible]	7.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	86.[illegible]	76.[illegible]	81.2	91	JAN 21	72	[illegible] 18+	0	[illegible]	[illegible]	5.58	NOV 24-25	[illegible]	[illegible]		76	83	[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WAKE	86.[illegible]	[illegible]	[illegible]	[illegible]	SEP [illegible]	68	FEB 16	0	5888	24.47	1.99	SEP 19	[illegible]	[illegible]		65	71	80	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YAP	86.8	[illegible]	[illegible]	[illegible]	NOV 15+	[illegible]	JUL 18+	[illegible]	[illegible]	117.80	7.44	JUL 28-2[illegible]	[illegible]	[illegible]		[illegible]	86	88	[illegible]	8.[illegible]	[illegible]	[illegible]	[illegible]	W	[illegible]	7.[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PENNSYLVANIA																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAY [illegible]	[illegible]	DEC [illegible]	[illegible]	791	[illegible]	4.54	JUL 27-28	41.6	[illegible]	DEC 25-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]
ERIE	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	FEB [illegible]	6957	[illegible]	[illegible]	2.23	MAY 9	85.6	[illegible]	JAN 1	[illegible]	[illegible]	[illegible]		11.4	[illegible]	[illegible]	[illegible]	27	[illegible]	7.0	[illegible]	97	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1027	[illegible]	[illegible]	JUL [illegible]	52.2	[illegible]	DEC 2[illegible]-26	72	[illegible]	[illegible]	[illegible]	8.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	JAN [illegible]	[illegible]	[illegible]	43.36	[illegible]	JUL 2[illegible]-28	[illegible]	5.1	DEC 25-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	161	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature Averages Daily maximum °F	Daily minimum °F	Annual °F	Extremes Highest °F	Date	Lowest °F	Date	Heating degree days Base 65 °F	Cooling degree days Base 65 °F	Precipitation Total In	Greatest in 24 hours In	Date (s)	Snow* Total In	Greatest in 24 hours In	Date (s)
PENNSYLVANIA															
PITTSBURGH	59.4	39.9	49.7	93	JUN 30+	3	JAN 5	6195	707	29.58	2.33	JUL 4-5	43.3	5.9	NOV 14
PITTSBURGH	60.8	42.9	51.9	95	JUN 30+	3	JAN 1	5637	954	28.79	1.83	JUL 4-5	27.3	3.0	DEC 21-22
SCRANTON	57.2	40.1	48.7	91	JUL 17+	- 7	DEC 25	6447	627	35.68	2.83	JUN 15-16	56.6	12.4	DEC 21-22
WILLIAMSPORT	60.2	39.8	50.0	95	MAY 29	-10	DEC 25	6072	729	37.55	2.02	DEC 10-11	45.4	16.5	DEC 25-26
RHODE ISLAND															
BLOCK ISLAND	55.7	44.4	50.1	85	SEP 2+	9	JAN 28	5797	468	43.53	3.96	NOV 2-3	18.3	8.0	FEB 24
PROVIDENCE	59.2	41.5	50.4	95	JUL 17	6	JAN 28	5993	761	44.59	3.85	DEC 26-27	48.6	14.4	FEB 24-25
SOUTH CAROLINA															
CHARLESTON	73.0	52.9	63.0	98	JUL 7+	20	JAN 15	2682	2058	52.12	5.24	NOV 1	2.0	2.0	MAR 4
COLUMBIA	73.9	50.2	62.1	100	JUN 28	11	JAN 6	2938	1992	40.67	2.99	APR 15-16	.8	.7	FEB 15
GRNVLLE-SPRTNBRG	69.5	48.3	58.9	97	JUL 19+	12	JAN 5	3614	1509	55.04	4.21	JUN 16-17	8.8	5.3	FEB 15-16
SOUTH DAKOTA															
ABERDEEN	53.5	30.4	42.0	99	AUG 11	-25	JAN 1	8889	575	17.29	2.88	JUN 24-25	55.0	14.0	FEB 27-28
HURON	54.5	32.3	43.4	96	AUG 16	-23	JAN 4	8336	556	20.09	1.70	MAY 3	53.0	7.9	FEB 20
RAPID CITY	58.9	33.3	46.1	101	AUG 11	-14	JAN 25+	7389	600	15.90	1.80	JUL 16	33.8	5.2	APR 26-27
SIOUX FALLS	54.6	32.6	43.6	99	AUG 6	-24	JAN 4	8385	681	26.58	2.36	AUG 19-20	69.1	9.8	FEB 14
TENNESSEE															
BRISTOL	64.9	42.8	53.9	94	JUN 8	- 6	JAN 5	4980	1046	43.77	2.95	DEC 29-30	36.1	10.7	FEB 15-16
CHATTANOOGA	68.3	45.9	57.1	96	JUL 4	9	JAN 5	4089	1322	50.82	3.60	DEC 29-30	13.4	7.5	JAN 26-27
KNOXVILLE	66.7	47.3	57.0	95	JUL 6+	7	JAN 5	4152	1346	48.98	4.89	DEC 29-30	22.3	8.9	DEC 25-26
MEMPHIS	70.9	51.2	61.1	103	JUL 11	15	JAN 5	3449	2120	42.12	3.35	AUG 17-18	.1	.1	DEC 21
NASHVILLE	69.2	47.9	58.6	100	JUL 11	5	JAN 5	4053	1811	47.27	2.50	DEC 29-30	21.0	6.7	FEB 15-16
OAK RIDGE R	66.9	46.2	56.6	95	JUL 6+	5	JAN 5	4324	1364	49.58	5.12	DEC 29-30	22.0	8.1	DEC 25-26
TEXAS															
ABILENE	74.9	53.4	64.2	106	AUG 13	17	JAN 1	2668	2482	36.84	3.88	AUG 22-23	3.6	2.0	DEC 6
AMARILLO	70.5	45.1	57.8	104	JUL 30	7	DEC 30	4219	1713	22.55	1.93	AUG 24	20.5	6.4	DEC 28-29
AUSTIN	78.2	57.5	67.9	105	AUG 11	22	JAN 5	1727	2893	33.59	2.80	AUG 14-15	.0	.0	
BROWNSVILLE	83.5	65.6	74.6	99	JUL 29	33	JAN 5	462	4071	27.35	4.56	MAY 12-13	.0	.0	
CORPUS CHRISTI	80.5	62.2	71.4	100	AUG 18+	28	JAN 5	931	3374	23.57	2.58	NOV 26-27	.0	.0	
DALLAS	76.3	56.8	66.6	105	AUG 13+	20	JAN 1	2250	2945	38.55	5.41	MAY 6-7	T	T	DEC 30 +
DEL RIO	80.4	58.5	69.5	109	AUG 17	26	NOV 20	1496	3235	33.22	7.60	OCT 4	T	T	DEC 29
EL PASO	78.8	51.5	65.2	105	AUG 17+	20	JAN 5	2448	2626	4.34	.63	JUL 8-9	7.9	6.0	NOV 27-28
FORT WORTH	76.2	54.7	65.5	104	JUL 15	17	JAN 1	2320	2596	35.69	3.53	OCT 12	T	T	DEC 30 +
GALVESTON U	74.6	65.4	70.0	95	AUG 17	34	JAN 5	1138	3074	41.79	3.88	AUG 27	.0	.0	
HOUSTON INTERCON C	79.3	58.3	68.8	101	AUG 10+	25	NOV 15	1373	2868	43.26	2.74	FEB 20-21	.0	.0	
LUBBOCK	73.1	46.6	59.9	106	JUN 21	10	DEC 30	3590	1823	29.19	3.43	OCT 21-22	19.6	10.0	MAR 14-15
MIDLAND	76.1	50.0	63.1	106	AUG 17	18	JAN 24	2771	2182	16.94	2.54	JUN 3	3.3	1.4	MAR 15

State and Station	Relative humidity 100am EST %	700am EST %	100pm EST %	700pm EST %	Wind Average speed Mph	Resultant speed Mph	Resultant direction	Fastest mile Speed Mph	Direction	Date	Average sky cover sunrise to sunset Tenths	Number of days Sunrise to sunset Clear, 0-03	Partly cloudy, 04-07	Cloudy, 08-10	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp 90 °F and above	Max temp 32 °F and below	Min temp 32 °F and below	Min temp 0 °F and below
PENNSYLVANIA																						
PITTSBURGH	73	77	55	60	9.4	3.5	27	45	29	NOV 19	7.1	58	97	210	162	15	28	14	7	42	135	0
PITTSBURGH															159	7			9	36	[illegible]	0
SCRANTON	74	79	59	[illegible]	8.4	2.2	27	34	5	NOV 19	6.7	72	108	185	141	12	34	20	[illegible]	55	136	1
WILLIAMSPORT	87	87	60	69	8.1	2.8	28	29	27	OCT 20+	6.8	71	114	180	138	10	28	33	6	26	148	2
RHODE ISLAND																						
BLOCK ISLAND															[illegible]	[illegible]			0	22	99	0
PROVIDENCE	77	75	55	66	11.0	3.5	30	40	30	JAN 1	6.0	102	107	156	119	9	21	16	11	27	134	0
SOUTH CAROLINA																						
CHARLESTON	82	83	55	69	8.2	0.5	36	52Y	N	NOV 1	6.8	106	110	149	111	1	51	18	43	0	56	0
COLUMBIA	82	87	51	64	6.5	0.6	33	35	32	JUN 9	5.5	126	93	146	88	0	45	30	65	1	72	[illegible]
GRNVLLE-SPRTNBRG	78	81	53	63	6.9	1.4	35	35	NW	JUN 9	5.5	128	96	142	111	3	32	22	41	1	87	[illegible]
SOUTH DAKOTA																						
ABERDEEN	81	85	64	64	10.7	0.3	3	39	1	MAR 28	6.1	107	91	167	100	16	41	28	17	99	177	47
HURON	75	78	61	61	11.0	1.2	19	56	NW	JUL 14	6.3	97	87	181	95	15	39	17	13	88	164	40
RAPID CITY	68	72	51	50	11.2	3.4	35	56	NW	DEC 22	5.8	123	94	148	89	10	34	22	31	57	175	14
SIOUX FALLS	77	80	61	63	11.4	3.7	21	39	10	JUL 3	6.2	95	103	167	104	17	41	29	16	95	171	43
TENNESSEE																						
BRISTOL	82	87	56	65	5.4	1.2	30	29	26	DEC 31+	6.1	91	122	152	132	9	42	45	16	13	118	1
CHATTANOOGA	82	87	59	62	6.2	0.7	31	33	NW	JUL 8+	5.9	114	104	147	117	2	43	45	36	3	92	0
KNOXVILLE	77	81	56	60	6.6	1.2	32	47	SW	MAR 24	6.2	96	104	165	127	6	44	32	22	4	83	0
MEMPHIS	73	79	55	57	8.2	0.5	11	45	NW	JUL 2	5.5	130	93	142	101	0	45	5	68	3	64	0
NASHVILLE	79	85	57	61	8.4	0.9	23	42	W	JUL 27	5.9	109	99	157	126	6	44	20	59	4	87	0
OAK RIDGE R								44Y		MAR 24	6.2	108	84	173	133	7			34	3	92	0
TEXAS																						
ABILENE	65	71	54	48	11.1	4.1	17	47	N	JUN 23	5.4	142	82	141	73	2	49	16	81	0	44	0
AMARILLO	66	75	48	45	12.9	3.7	19	59	NW	JUN 7	5.1	140	102	123	83	7	58	43	72	13	119	0
AUSTIN	75	83	56	53	9.2	1.7	14	53	NW	AUG 14	5.5	116	126	123	78	0	37	28	108	0	14	0
BROWNSVILLE	83	86	59	67	11.0	4.9	13	59	E	MAY 12	6.1	93	136	136	79	0	20	36	114	0	0	0
CORPUS CHRISTI	83	87	62	66	11.9	6.0	11	42	W	DEC 6	6.0	98	114	153	75	0	18	44	103	0	5	0
DALLAS	65	75	53	49	10.2	3.0	14	36	W	JAN 22	5.4	133	90	142	79	0	33	2	103	0	22	0
DEL RIO	66	79	57	47	10.2	5.9	11	43	29	DEC 6	5.7	108	116	141	61	0	41	19	114	0	11	0
EL PASO	41	52	33	26	7.6	1.5	25	53	SW	MAR 23	3.7	197	99	69	39	3	30	2	114	0	55	0
FORT WORTH	76	85	58	56	9.8	2.2	16	47	31	APR 27	5.6	132	91	142	79	0	49	7	96	0	32	0
GALVESTON U	79	82	66	72				54	SE	FEB 14					76	0			20	0	0	0
HOUSTON INTERCON C	87	90	60	66	7.9	2.1	12	46	10	JUL 15	6.1	87	123	155	82	0	59	44	103	0	13	0
LUBBOCK	66	76	48	44	10.7	2.5	17	44	36	JUN 13+	5.2	145	85	135	68	6	54	28	77	2	91	0
MIDLAND	63	73	43	37	10.4	3.5	15	41	27	MAR 7	4.7	166	94	105	67	2	41	14	89	1	59	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

YEAR 1969

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow*: Total	Greatest in 24 hours	Date (s)	Relative humidity: 1:00 a m E S T	7:00 a m E S T	1:00 p m E S T	7:00 p m E S T	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp: 90 °F and above	32 °F and below	Min temp: 32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	Mph	Mph		Mph			Tenths											
TEXAS																																					
PORT ARTHUR	78.4	58.7	68.6	100	JUL 15+	21	JAN 5	1456	2876	48.44	5.64	DEC 5-6	T	T	FEB 19	70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	FEB 14	[illegible]	97	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	[illegible]
SAN ANGELO	78.8	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	JAN 1	2127	[illegible]	30.04	3.92	OCT 12	T	T	DEC 29 +	[illegible]	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APR [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
SAN ANTONIO	78.9	[illegible]	[illegible]	104	AUG 17+	[illegible]	JAN 5	1640	[illegible]	31.42	[illegible]	OCT 4-5	T	T	DEC 30 +	[illegible]	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]	[illegible]	105	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	[illegible]
VICTORIA	[illegible]	[illegible]	[illegible]	[illegible]	AUG 17+	24	JAN 6	1141	3256	44.64	8.57	APR 11-12	T	T	DEC 30	[illegible]	[illegible]	[illegible]	64	[illegible]	[illegible]	12	[illegible]	[illegible]	APR 12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WACO	[illegible]	[illegible]	[illegible]	[illegible]	AUG 11	[illegible]	JAN [illegible]	[illegible]	3217	31.50	2.20	SEP 16	[illegible]	T	DEC 30 +	[illegible]	82	55	[illegible]	[illegible]	2.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	144	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]
WICHITA FALLS	[illegible]	[illegible]	62.6	112	AUG [illegible]	11	[illegible] 31	[illegible]	[illegible]	31.61	2.28	SEP 21-22	10.1	5.0	DEC 29-30	[illegible]	86	55	[illegible]	[illegible]	[illegible]	[illegible]	46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
UTAH																																					
MILFORD	[illegible]	[illegible]	[illegible]	100	JUL 27	[illegible]	MAR 9+	6075	[illegible]	11.63	.74	APR 14-15	57.9	10.4	MAR 3-4			[illegible]								[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
SALT LAKE CITY	[illegible]	[illegible]	[illegible]	[illegible]	AUG 24+	[illegible]	FEB 4	[illegible]	[illegible]	[illegible]	1.36	JUL 29	[illegible]	8.8	FEB 25	[illegible]	[illegible]	46	43	[illegible]	[illegible]	17	45	[illegible]	AUG 11	[illegible]	116	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WENDOVER	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	.88	APR 14-15	[illegible]	2.7	FEB 20-21		57	45												[illegible]	6			[illegible]	[illegible]	[illegible]	[illegible]
VERMONT																																					
BURLINGTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8484	[illegible]	[illegible]	1.61	[illegible] 27-28	[illegible]	15.0	DEC 27-28	[illegible]	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NOV [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VIRGINIA																																					
LYNCHBURG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 5	[illegible]	[illegible]	[illegible]	2.00	MAR 24-25	[illegible]	[illegible]	MAR [illegible]		[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	MAY [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
NORFOLK	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]-27	[illegible]	[illegible]	MAR 9	83	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RICHMOND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 22-23	13.7	7.9	MAR 1-2	82	64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	34	N	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ROANOKE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 5	4737	[illegible]	[illegible]	2.26	JUN [illegible]	42.1	[illegible]	DEC 25-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.7	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WASHINGTON																																					
OLYMPIA	[illegible]	[illegible]	[illegible]	[illegible]	JUN 17	4	JAN [illegible]	5559	[illegible]	[illegible]	1.74	NOV 4	[illegible]	[illegible]	JAN 30-31		[illegible]	76	[illegible]				41	18	[illegible] 11	[illegible]	51	[illegible]	[illegible]	[illegible]	16	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
QUILLAYUTE	[illegible]	[illegible]	[illegible]	[illegible]	JUN 17	[illegible]	JAN [illegible]	[illegible]	[illegible]	96.28	[illegible]	JAN 3-4	46.8	8.2	JAN [illegible]	[illegible]	[illegible]	[illegible]	74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43	78	244	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEATTLE-TACOMA	[illegible]	[illegible]	[illegible]	[illegible]	JUN 17	[illegible]	JAN 28	4720	171	[illegible]	1.83	MAY 29	45.4	[illegible]	JAN [illegible]-28	74	82	[illegible]	[illegible]	[illegible]	1.8	[illegible]	42	[illegible]	[illegible] 14	7.4	[illegible]	78	228	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SPOKANE	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	13.70	.88	JAN [illegible]-26	[illegible]	22.0	JAN 25-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.4	18	36	[illegible]	JAN 11	[illegible]	83	94	188	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	147	[illegible]
STAMPEDE PASS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	36	86.44	3.66	JAN [illegible]	[illegible]	[illegible]	DEC 22-23		[illegible]	[illegible]												[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
WALLA WALLA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	880	[illegible]	[illegible]	APR [illegible]	[illegible]	6.5	JAN 25-26								36	[illegible]	FEB 5	[illegible]	[illegible]	77	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
YAKIMA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	424	6.94	.56	JAN 25-26	[illegible]	7.0	JAN 25-26	[illegible]	[illegible]	[illegible]	44	7.2	[illegible]	[illegible]	[illegible]	[illegible]	NOV [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WEST INDIES																																					
SAN JUAN, P.R.	[illegible]	71.5	[illegible]	[illegible]	JUN 14+	[illegible]	FEB [illegible]	0	[illegible]	61.81	[illegible]	JAN [illegible]	.0	.0		[illegible]	[illegible]	67	76	[illegible]	5.2	[illegible]	[illegible]	NE	MAR 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SWAN ISLAND	[illegible]	[illegible]	[illegible]	[illegible]	MAY [illegible]	[illegible]	JAN [illegible]	0	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]												[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
WEST VIRGINIA																																					
BECKLEY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 5	[illegible]	[illegible]	[illegible]	2.12	AUG [illegible]	[illegible]	7.2	[illegible]	[illegible]	83	[illegible]	[illegible]	[illegible]	[illegible]	24	41	16	MAR [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CHARLESTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]-10	[illegible]	[illegible]	DEC 25-26	81	84	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	NOV [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ELKINS	59.8	[illegible]	[illegible]	92	JUN [illegible]	- 6	DEC 25	6458	[illegible]	[illegible]	3.21	[illegible]	75.8	[illegible]	DEC [illegible]-22		[illegible]	61	71							7.4	[illegible]	100	214	[illegible]	[illegible]			[illegible]	18	[illegible]	[illegible]
HUNTINGTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	[illegible]	DEC [illegible]	[illegible]	85	[illegible]	61	[illegible]	1.7	[illegible]	[illegible]	[illegible]	JUL [illegible]	[illegible]	62	[illegible]	[illegible]	125	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PARKERSBURG	[illegible]	[illegible]	[illegible]	94	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	[illegible]	[illegible]	DEC 23								[illegible]	[illegible]	NOV [illegible]					[illegible]	4			[illegible]	[illegible]	[illegible]	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow*: Total	Greatest in 24 hours	Date (s)	Relative humidity: 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile: Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp: 90 °F and above	32 °F and below	Min temp: 32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	Base 65 °F	In	In		In	In		%	%	%	%	Mph	Mph		Mph			Tenths											
WISCONSIN																																					
GREEN BAY	52.[illegible]	32.6	42.4	[illegible]	AUG [illegible]	-26	JAN 1	8544	[illegible]	27.67	2.65	JUN 26-27	32.8	5.5	DEC 7	78	82	63	68	9.7	1.9	28	47	S	AUG 13	6.4	87	107	174	115	1[illegible]	2[illegible]	21	3	70	176	19
LA CROSSE	55.2	35.6	45.4	94	AUG 10+	-18	JAN 4	7722	717	27.03			41.3			82	86	63	65	8.5	1.1	23								112	16	25	27	13	80	155	25
MADISON	54.3	33.8	44.1	90	AUG [illegible]	-14	JAN 12	7957	460	29.64	2.71	JUN 25-26	42.0	8.4	DEC 7	83	86	65	68	8.8	1.6	27	37	W	OCT 9	6.6	98	87	190	114	12	32	23	1	79	175	16
MILWAUKEE	53.5	36.6	45.2	[illegible]	AUG 30	-11	JAN 1	7564	449	34.05	2.34	JUN 29	33.6	3.9	DEC 23	75	81	65	67	10.6	2.4	28	46	W	[illegible] 15	6.6	84	104	177	124	11	34	25	3	65	162	12
WYOMING																																					
CASPER	59.7	32.1	45.9	99	AUG 10	-9	JAN 23	7336	491	10.68	1.67	JUN 10-11	64.3	7.6	MAR 19	64	72	47	43	11.7	6.6	24	48	21	JAN 21	5.9	112	98	155	86	21	[illegible]	12	41	39	184	[illegible]
CHEYENNE	59.3	34.2	46.8	96	AUG 10+	-[illegible]	MAR 4	6984	431	10.93	.98	JUN 10-11	39.1	5.3	OCT 3-4	6[illegible]	62	41	43	12.4	5.4	28	[illegible]	W	JAN 8	5.8	101	123	141	84	[illegible]	[illegible]	18	20	34	167	7
LANDER	58.6	32.9	45.8	96	AUG 10	-7	DEC 29	7433	538	12.36	3.11	JUN 7-8	94.2	12.5	MAR 6-7	[illegible]	64	47	42	6.5	2.2	[illegible]	57	S	APR 6+	5.9	100	125	140	59	26	18	1	30	3[illegible]	185	7
SHERIDAN	56.5	30.3	43.4	98	AUG 25+	-17	JAN 29	8124	355	11.53	.76	JAN 5-6	53.3	11.2	JAN 5-6	69	75	53	51	7.[illegible]	3.3	21	61	NW	JUL 3	6.1	104	95	168	104	15	23	9	25	58	189	22

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month

Wind directions under resultant direction are in tens of degrees

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated

\+ And also on an earlier date or dates

* Includes all forms of frozen precipitation, except hail occurring alone

A Moved from Municipal AP to Regional AP October 16

C Moved from Hobby AP to Intercontinental AP June 1

B Number of days maximum 70 F or above for Alaskan Stations

Y Peak gust

V Sun below horizon November 19 - January 23, inclusive

X Sun below horizon November 24 - January 17, inclusive

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow †: Total	Precipitation: Snow †: Greatest in 24 hours	Precipitation: Snow †: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 32.2 °C and above	Number of days: Max temp: 0 °C and below	Number of days: Min temp: 0 °C and below	Number of days: Min temp: -17.8 °C and below
	°C	°C	°C	°C		°C		Base 18.3 °C	Base 18.3 °C	Mm	Mm		Mm.	Mm.		%	%	%	%	M.p.s.	M.p.s.		M.p.s.			Tenths											

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Averages: Daily minimum	Averages: Annual	Extremes: Highest	Extremes: Date	Extremes: Lowest	Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow †: Total	Snow: Greatest in 24 hours	Snow: Date (s)	Relative humidity: 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	Max temp: 32.2°C and above	Max temp: 0°C and below	Min temp: 0°C and below	Min temp: -17.8°C and below
[illegible]	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	M.p.s.	M.p.s.		M.p.s.			Tenths											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	724	672	507	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	756	330	[illegible]	[illegible]	[illegible]				76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	711	[illegible]	[illegible]	[illegible]											[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	174	[illegible]	[illegible]	[illegible]	4150	472	JAN 11															[illegible]	[illegible]			[illegible]		[illegible]	
OAKLAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 12	1557	31	653	43	OCT 14-15	[illegible]	[illegible]		[illegible]	45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 29	1497	[illegible]	684	46	11-12	T	T	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DEC 1+	1535	728	[illegible]	51	19-20	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 27	[illegible]	484	[illegible]	[illegible]	JAN 20-21	846	[illegible]	FEB 23-24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN DIEGO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 30	636	377	[illegible]	53	13-14	[illegible]	0		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN FRANCISCO	18.3	9.4	[illegible]	[illegible]	[illegible]	[illegible]	JAN 29+	1616	32	713	52	JAN 18-19	[illegible]	[illegible]		[illegible]	85	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN FRANCISCO	[illegible]	10.6	[illegible]	37.8	[illegible]	3.3	JAN 29	1703	24	686	76	DEC 19-20	0	0				78					[illegible]	[illegible]	[illegible]					[illegible]	[illegible]			[illegible]			[illegible]
SANTA MARIA	[illegible]	[illegible]	[illegible]	[illegible]	NOV [illegible]	-2.8	DEC 29	1533	21	472	59	FEB 24-25	0	0				[illegible]	63							4.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
STOCKTON	[illegible]	[illegible]	[illegible]	[illegible]	SEP [illegible]	-2.8	DEC 1+	[illegible]	828	471	39	FEB 11-12	0	0		67	75	[illegible]	47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	OCT 11+	4.3	[illegible]	76	[illegible]	63	0	2	44	89	[illegible]	[illegible]	[illegible]
COLORADO																																					
ALAMOSA	[illegible]	[illegible]	[illegible]	[illegible]	JUL 3	[illegible]26.7	DEC 31	4661	65	[illegible]	32	OCT 11-12	1265	494	OCT 11-12		82	48	43							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	24	[illegible]	[illegible]
COLORADO SPRINGS	[illegible]	[illegible]	[illegible]	[illegible]	AUG 8+	-18.9	DEC 29	4646	249	[illegible]	43	MAY 6-7	[illegible]	325	OCT 11	[illegible]	[illegible]	[illegible]	46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	28	[illegible]	[illegible]
DENVER	[illegible]	[illegible]	[illegible]	[illegible]	AUG [illegible]	20.6	JAN 24	[illegible]	401	547	80	MAY 6-7	[illegible]	315	OCT [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GRAND JUNCTION	[illegible]	4.6	[illegible]	[illegible]	AUG 6	-15.7	JAN 9	3093	738	[illegible]	40	JUN 23-24	[illegible]	127	MAR 6 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PUEBLO	[illegible]	4.9	[illegible]	[illegible]	AUG 8+	[illegible]	DEC 30+	2702	718	[illegible]	[illegible]	OCT [illegible]	686	[illegible]	MAR [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.1	[illegible]	[illegible]	[illegible]	NW	[illegible]	5.4	[illegible]	[illegible]	[illegible]	76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CONNECTICUT																																					
BRIDGEPORT	[illegible]	5.7	10.8	33.9	AUG [illegible]	-13.[illegible]	JAN 28	3070	403	[illegible]	62	MAR 24-25	909	424	FEB 9-10	76	[illegible]	[illegible]	[illegible]	[illegible]	1.7	[illegible]	[illegible]	[illegible]	FEB [illegible]	6.1	[illegible]	[illegible]	[illegible]	118	8	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]
HARTFORD	[illegible]	4.1	9.6	36.1	JUN [illegible]	-18.3	JAN 5	3527	403	[illegible]	76	APR 22-23	[illegible]	381	FEB 9-10	78	[illegible]	[illegible]	64	4.1	[illegible]	[illegible]	15.5	NE	MAY 29+	6.7	75	[illegible]	184	[illegible]	15	[illegible]	[illegible]	[illegible]	44	141	[illegible]
DELAWARE																																					
WILMINGTON	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	JAN 6+	[illegible]	[illegible]	[illegible]	136	FEB 2-3	[illegible]	119	FEB 19-20	[illegible]	76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 1	6.2	[illegible]	[illegible]	[illegible]	104	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DIST. OF COLUMBIA																																					
WASH NATIONAL	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	[illegible]	JAN [illegible]	[illegible]	878	[illegible]	112	JUL 22-23	404	[illegible]	DEC 25-26	[illegible]	71	[illegible]	58	[illegible]	[illegible]	[illegible]	[illegible]	NW	DEC 27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FLORIDA																																					
APALACHICOLA	[illegible]	15.8	[illegible]	[illegible]	JUL [illegible]	[illegible]	JAN 6	[illegible]	1427	[illegible]	180	SEP 20	0	0									[illegible]	[illegible]	FEB 15	5.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	58	[illegible]	[illegible]	[illegible]	4	[illegible]
DAYTONA BEACH	25.7	[illegible]	[illegible]	[illegible]	JUL 8	[illegible]	FEB 5	610	1625	[illegible]	105	AUG 22-23	[illegible]	0		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FEB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	66	16	[illegible]	0	1	[illegible]
FORT MYERS	27.3	18.0	22.7	33.9	JUN 27+	4.4	DEC 5	289	[illegible]	[illegible]	145	SEP 2-3	[illegible]	0		89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUL 17	5.7	[illegible]	[illegible]	124	[illegible]	[illegible]	84	[illegible]	[illegible]	0	0	[illegible]
JACKSONVILLE	25.5	[illegible]	20.2	37.8	JUL 6	-1.7	NOV 15	838	[illegible]	[illegible]	[illegible]	NOV [illegible]	0	0		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N	[illegible]	[illegible]	[illegible]	124	[illegible]	[illegible]	[illegible]	67	[illegible]	[illegible]	0	4	[illegible]
KEY WEST	27.3	[illegible]	[illegible]	[illegible]	JUL [illegible]	12.2	DEC [illegible]	26	[illegible]	[illegible]	126	OCT 26-27	0	0		[illegible]	[illegible]	[illegible]	[illegible]	4.8	[illegible]	[illegible]	[illegible]	[illegible]	OCT [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	0	[illegible]	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Temperature – Averages – Daily maximum	Temperature – Averages – Daily minimum	Temperature – Averages – Annual	Temperature – Extremes – Highest	Temperature – Extremes – Date	Temperature – Extremes – Lowest	Temperature – Extremes – Date	Heating degree days	Cooling degree days	Precipitation – Total	Precipitation – Greatest in 24 hours	Precipitation – Date (s)	Precipitation – Snow† – Total	Precipitation – Snow† – Greatest in 24 hours	Precipitation – Snow† – Date (s)	Relative humidity – 1:00 am E S T	Relative humidity – 7:00 am E S T	Relative humidity – 1:00 pm E S T	Relative humidity – 7:00 pm E S T	Wind – Average speed	Wind – Resultant speed	Wind – Resultant direction	Wind – Fastest mile (1.6 kilometers) – Speed	Wind – Fastest mile (1.6 kilometers) – Direction	Wind – Fastest mile (1.6 kilometers) – Date	Average sky cover sunrise to sunset	Number of days – Sunrise to sunset – Clear, 0–0.3	Number of days – Sunrise to sunset – Partly cloudy, 0.4–0.7	Number of days – Sunrise to sunset – Cloudy, 0.8–1.0	Number of days – Precipitation 25mm or more	Number of days – Snow, Sleet 25.4mm or more	Number of days – Thunderstorms	Number of days – Heavy fog	Number of days – Max temp. – 32.2 °C and above	Number of days – Max temp. – 0 °C and below	Number of days – Min. temp – 0 °C and below	Number of days – Min. temp – −17.8 °C and below
	°C	°C	°C	°C		°C		Base 18.3 °C	Base 18.3 °C	Mm	Mm		Mm.	Mm		%	%	%	%	M.p.s	M.p.s		M.p.s.			Tenths											

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow†: Total	Greatest in 24 hours	Date (s)	Relative humidity: 100am EST	700am EST	100pm EST	700pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	Max temp: 32.2°C and above	0°C and below	Min temp: 0°C and below	-17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	Mps	Mps		Mps			Tenths											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LOUISIANA																																					
ALEXANDRIA	24.2	[illegible]	[illegible]	37.2	[illegible]	-7.8	JAN 6	[illegible]	1458	[illegible]																	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BATON ROUGE	25.4	13.9	19.6	37.8	[illegible]	[illegible]	JAN 6	[illegible]	[illegible]	[illegible]	[illegible]	APR 12-13				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LAKE CHARLES	24.3	14.1	19.5	36.7	[illegible]	[illegible]	JAN 5	[illegible]	[illegible]	[illegible]	[illegible]	APR [illegible]	T	T	FEB [illegible]	89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEW ORLEANS	[illegible]	[illegible]	[illegible]	36.7	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAR 14-15	T	T	JAN 11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18.3	[illegible]	[illegible]	5.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]
SHREVEPORT	24.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 5	[illegible]	[illegible]	1287	[illegible]	17-19	T	[illegible]	[illegible]	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAY 14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAINE																																					
CARIBOU	9.5	-.6	4.4	32.8	[illegible]	[illegible]	FEB 6	[illegible]	88	[illegible]	76	SEP 9	[illegible]	[illegible]	FEB 10		84	66	[illegible]							7.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			1	[illegible]	[illegible]	24
PORTLAND	[illegible]	[illegible]	8.1	33.9	[illegible]	[illegible]	MAR [illegible]	[illegible]	248	[illegible]	104	SEP 8-9	[illegible]	[illegible]	FEB 9-10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MARYLAND																																					
BALTIMORE	18.4	7.7	[illegible]	[illegible]	[illegible]	-12.2	JAN 5	2615	764	[illegible]	55	[illegible]	[illegible]	[illegible]	DEC [illegible]	[illegible]	74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MASSACHUSETTS																																					
BLUE HILL OBS R	13.7	4.7	9.2	33.9	[illegible]	-16.1	JAN 28	[illegible]	[illegible]	1483	144	OCT 26-27	2520	[illegible]	FEB 24-25	81	79	[illegible]	[illegible]				25.9	[illegible]	DEC 11					[illegible]	[illegible]			7	54	[illegible]	0
BOSTON	14.4	[illegible]	[illegible]	35.0	[illegible]	[illegible]	JAN 3	3146	414	1214	[illegible]	DEC [illegible]	[illegible]	412	FEB 24-25	[illegible]	[illegible]	[illegible]	[illegible]	6.4	[illegible]	28	[illegible]	[illegible]	JAN [illegible]	6.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	17	[illegible]	[illegible]	[illegible]	0
NANTUCKET	14.0	[illegible]	[illegible]	[illegible]	JUL 18	[illegible]	JAN 1	[illegible]	[illegible]	1106	128	FEB [illegible]	[illegible]	142	MAR 2-3	[illegible]	[illegible]	[illegible]	[illegible]				21.1	N	MAR 7+	[illegible]	63	[illegible]	192	[illegible]	8			1	7	[illegible]	0
WORCESTER	12.9	3.7	8.3	[illegible]	[illegible]	[illegible]	JAN 8	[illegible]	271	1171	66	OCT [illegible]	1981	396	FEB 24-25	76	75	[illegible]	[illegible]	4.4	1.7	28	[illegible]	[illegible]	FEB 4+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33	[illegible]	[illegible]	144	[illegible]
MICHIGAN																																					
ALPENA	11.3	[illegible]	6.7	33.9	MAY 28	[illegible]	DEC 24	4722	164	798	67	JUN 11-12	1956	224	JAN 8-9	82	83	[illegible]	[illegible]	[illegible]	.8	[illegible]	[illegible]	N	JUN 12	6.8	64	[illegible]	[illegible]	[illegible]	[illegible]	36	34	6	78	182	12
DETROIT	13.9	5.1	9.6	32.8	AUG 30+	-18.9	JAN 1	3561	[illegible]	760	67	JUL 18-19	645			[illegible]	72	[illegible]	[illegible]	[illegible]	1.3	[illegible]	[illegible]	[illegible]	OCT 21+					103	[illegible]	26	7	6	46	128	1
DETROIT METRO.	14.4	[illegible]	[illegible]	[illegible]	JUN 26	[illegible]	JAN [illegible]	3674	412	745	68	JUL [illegible]	638	[illegible]	DEC 31	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	17.2	N	APR 21	6.7	[illegible]	[illegible]	183	127	[illegible]	[illegible]	[illegible]	[illegible]	42	141	2
FLINT	[illegible]	2.8	7.9	[illegible]	AUG [illegible]	-19.4	JAN 1	3999	254	726	57	MAY 9-9	818	[illegible]	JAN 6-7	[illegible]	80	[illegible]	66	[illegible]	[illegible]	[illegible]	15.6	[illegible]	JAN 1	6.7	[illegible]	[illegible]	187	[illegible]	10	32	[illegible]	[illegible]	54	144	[illegible]
GRAND RAPIDS	13.2	2.3	[illegible]	33.3	AUG 30+	-22.2	DEC 24	4133	328	883	64	JUL 17-18	1727	191	JAN 6	79	81	61	66	[illegible]	[illegible]	[illegible]	[illegible]	N	OCT 7	6.9	[illegible]	[illegible]	201	141	24	[illegible]	33	[illegible]	63	164	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature – Averages – Daily maximum	Temperature – Averages – Daily minimum	Temperature – Averages – Annual	Temperature – Extremes – Highest	Temperature – Extremes – Date	Temperature – Extremes – Lowest	Temperature – Extremes – Date	Heating degree days	Cooling degree days	Precipitation – Total	Precipitation – Greatest in 24 hours	Precipitation – Date (s)	Precipitation – Snow † – Total	Precipitation – Snow † – Greatest in 24 hours	Precipitation – Snow † – Date (s)	Relative humidity – 1:00am EST	Relative humidity – 7:00am EST	Relative humidity – 1:00pm EST	Relative humidity – 7:00pm EST	Wind – Average speed	Wind – Resultant speed	Wind – Resultant direction	Wind – Fastest mile (1.6 kilometers) – Speed	Wind – Fastest mile (1.6 kilometers) – Direction	Wind – Fastest mile (1.6 kilometers) – Date	Average sky cover sunrise to sunset	Number of days – Sunrise to sunset – Clear, 0-0.3	Number of days – Sunrise to sunset – Partly cloudy, 0.4-0.7	Number of days – Sunrise to sunset – Cloudy, 0.8-1.0	Number of days – Precipitation 25mm or more	Number of days – Snow, Sleet 25.4mm or more	Number of days – Thunderstorms	Number of days – Heavy fog	Number of days – Max temp. – 32.2°C and above	Number of days – Max temp. – 0°C and below	Number of days – Min temp. – 0°C and below	Number of days – Min temp. – −17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	M.p.s.	M.p.s.		M.p.s.			Tenths											

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature – Averages – Daily maximum	Temperature – Averages – Daily minimum	Temperature – Averages – Annual	Temperature – Extremes – Highest	Date	Temperature – Extremes – Lowest	Date	Heating degree days	Cooling degree days	Precipitation – Total	Precipitation – Greatest in 24 hours	Date (s)	Snow † – Total	Snow † – Greatest in 24 hours	Date (s)	Relative humidity – 100am EST	700am EST	100pm EST	700pm EST	Wind – Average speed	Wind – Resultant speed	Wind – Resultant direction	Fastest mile (1.6 kilometers) – Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days – Sunrise to sunset – Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	Max temp – 32.2°C and above	Max temp – 0°C and below	Min temp – 0°C and below	Min temp – -17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm	Mm.		%	%	%	%	M.p.s.	M.p.s.		M.p.s.			Tenths											
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FEB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	T	[illegible] +		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3119	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEW HAMPSHIRE																																					
CONCORD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MT WASHINGTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEW JERSEY																																					
ATLANTIC CITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FEB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEWARK	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JAN 28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TRENTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11			[illegible]	[illegible]	[illegible]	[illegible]
NEW MEXICO																																					
ALBUQUERQUE	[illegible]	6.1	[illegible]	[illegible]	[illegible]	[illegible]	DEC 30	2477	[illegible]	[illegible]	[illegible]	OCT 21-22	[illegible]	[illegible]	[illegible] 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CLAYTON	18.8	4.1	[illegible]	38.[illegible]	[illegible]	- [illegible]7.2	JAN 24	2991	45[illegible]	[illegible]	[illegible]	[illegible]	9[illegible]	1[illegible]	1[illegible]-14		76	44	45							[illegible]	[illegible]	[illegible]	126	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
ROSWELL	24.4	7.[illegible]	15.7	41.1	[illegible]	- 18.9	DEC 31	1959	[illegible]	[illegible]	[illegible]	OCT 20-21	[illegible]	16[illegible]	DEC 18-[illegible]								16.[illegible]	[illegible]	JAN 22					[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
NEW YORK																																					
ALBANY	14.2	[illegible]	[illegible]	[illegible]	JUL [illegible]	- 30.0	DEC 25	[illegible]	[illegible]	1[illegible]03	[illegible]	[illegible]	2447	[illegible]	25-26	8[illegible]	82	[illegible]	7[illegible]	3.8	[illegible].1	[illegible]	[illegible]	[illegible]	JAN 9	7.[illegible]	57	[illegible]	[illegible]	[illegible]	22	26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BINGHAMTON	[illegible]1.9	3.1	7.5	[illegible]	[illegible]	[illegible]	DEC [illegible]	4101	213	787	34	SEP [illegible]	2272	394	DEC 25-26	8[illegible]	[illegible]	[illegible]	[illegible]	4.[illegible]	[illegible]	[illegible]	17.[illegible]	[illegible]	MAR 24	7.4	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]
BUFFALO	[illegible]2.8	3.9	[illegible].4	[illegible]	[illegible]	[illegible]3.9	DEC 25	[illegible]886	316	[illegible]18	58	AUG [illegible]6-17	258[illegible]	[illegible]38	JAN [illegible]	[illegible]	8[illegible]	64	7[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAY 9	7.4	57	[illegible]	[illegible]21	[illegible]72	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEW YORK [illegible]	[illegible]6.7	8.6	[illegible]	[illegible]	[illegible]	[illegible]	JAN 28	[illegible]693	686	[illegible]	[illegible]	SEP [illegible]	[illegible]	[illegible]	FEB 9-[illegible]		7	[illegible]	[illegible]	4.[illegible]	[illegible]		[illegible]	[illegible]	DEC 26					[illegible]		[illegible]		16	17	[illegible]	[illegible]
NEW YORK KENNEDY	1[illegible]	8.[illegible]	[illegible]	[illegible]	MAY [illegible]	- [illegible].7	JAN 2[illegible]	2800	621	103[illegible]	82	JUL 28	811	50[illegible]	FEB 9	7[illegible]	7[illegible]	6[illegible]	68	[illegible]	1.4	[illegible]	[illegible]	[illegible]	FEB 25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]4	14	17		
NEW YORK LA GUARDIA	[illegible]5.6	8.3	[illegible]	[illegible]	[illegible]	- 1[illegible].8	JAN [illegible]	[illegible]817	557	[illegible]	[illegible]	SEP [illegible]4	815	4[illegible]4	FEB 9-[illegible]0	[illegible]	[illegible]7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N	OCT 3	[illegible]	[illegible]	[illegible]	[illegible]41	[illegible]	7	26		9	[illegible]	[illegible]	[illegible]
ROCHESTER	[illegible]3.8	[illegible].8	8.9	35.[illegible]	JUN [illegible]7	- 20.6	DEC 25	3774	359	[illegible]	[illegible]	JUN [illegible]-3	245[illegible]	[illegible]	DEC 26-27	8[illegible]	7[illegible]	6[illegible]	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUN [illegible]	7.[illegible]	56	86	[illegible]1[illegible]	[illegible]4[illegible]	28	[illegible]4	10	[illegible]	[illegible]4	[illegible]	
SYRACUSE	13.4	[illegible]	[illegible].4	34.4	JUN [illegible]7	- [illegible].4	DEC 25	3898	347	81[illegible]	80	MAY 19-20	3025	94	DEC 25-26	78	78	6[illegible]	[illegible]	[illegible].9	[illegible]	[illegible]	[illegible]	W	JUN 30	7.2	64	8[illegible]	[illegible]18	[illegible]54	[illegible]6	25	[illegible]3	[illegible]	72	[illegible]46	4
NORTH CAROLINA																																					
ASHEVILLE	19.[illegible]	6.6	[illegible]2.8	3[illegible].6	[illegible] 28	- 12.8	JAN 5	[illegible]515	554	[illegible]	[illegible]	JUL 27	125[illegible]	[illegible]	FEB 15-17	87	89	58	70	[illegible].5	[illegible]	[illegible]	[illegible]1.[illegible]	[illegible]	FEB [illegible]	5.7	116	[illegible]	[illegible]47	[illegible]3[illegible]	10	53	78	20	4	[illegible]4	[illegible]
CAPE HATTERAS [illegible]	19.8	11.9	15.9	35.0	[illegible]	- 4.4	MAR 16	1728	896	[illegible]	[illegible]	AUG [illegible]	[illegible]	[illegible]	JAN 4	82	91	65	79	5.7	1.[illegible]	[illegible]	[illegible]	W[illegible]W	MAR 9	6.8	[illegible]	49	14[illegible]	[illegible]	0	41	15	0	0	33	0
CHARLOTTE	20.3	9.1	14.7	[illegible]6.7	[illegible] 28	- 11.[illegible]	JAN [illegible]	[illegible]124	853	[illegible]	32	AUG 2-3	411	305	FEB 15-16	7[illegible]	82	[illegible]	[illegible]	[illegible].1	[illegible]	[illegible]	16.5	SW	[illegible] 23	[illegible].7	122	44	[illegible]	[illegible]	[illegible]	32	29	37	4	[illegible]	[illegible]
GREENSBORO	20.1	8.5	14.[illegible]	[illegible]6.7	[illegible]	- [illegible]2.8	JAN [illegible]	2[illegible]	83[illegible]	[illegible]	10[illegible]	JUN 15	[illegible]49	[illegible]	MAR 1	[illegible]7	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17.[illegible]	[illegible]	[illegible] 15+	5.9	[illegible]5	[illegible]	[illegible]54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]8	[illegible]	1[illegible]	[illegible]
RALEIGH	19.9	7.7	[illegible]3.9	35.[illegible]	[illegible]	- 1[illegible].8	JAN 6	2282	702	[illegible]	[illegible]	SEP 19-20	257	236	MAR 1-2	81	85	54	57	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.7	1.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
WILMINGTON	22.1	10.9	16.5	36.7	JUL [illegible]	- 6.1	JAN 6	1623	1301	1543	138	JUN 15-16	1[illegible]	1[illegible]	JAN 4	84	84	[illegible]	74	3.4	[illegible]	[illegible]	17.[illegible]	W	[illegible] 9	5.9	[illegible]	[illegible]	15[illegible]	[illegible]	0	45	1	26	[illegible]	57	[illegible]
NORTH DAKOTA																																					
BISMARCK	[illegible]1.6	- 1.8	4.9	38.[illegible]	AUG 18+	- 33.[illegible]	FEB 2	5160	317	[illegible]75	59	JUL 18	1318	170	FEB 26-27	73	78	57	55	4.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MAY 9	6.5	71	95	[illegible]	124	1[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	69
FARGO	9.7	- 1.7	4.0	35.[illegible]	AUG 16+	- 32.8	JAN 25+	54.8	268	47[illegible]	78	JUL 14-15	[illegible]83	[illegible]14	FEB 28	8[illegible]	85	67	65	5.1	[illegible]	2[illegible]	19.3	[illegible]	MAY 8+	6.1	[illegible]	9[illegible]	167	98	1[illegible]	2[illegible]	23	[illegible]	[illegible]	13[illegible]	[illegible]1
WILLISTON	11.[illegible]	- 2.[illegible]	4.6	39.4	AUG [illegible]	- 38.3	JAN 25	5221	258	321	33	JUL 6-7	711	79	DEC 21-22	74	81	58	57	4.[illegible]	[illegible]	[illegible]	[illegible]	NW	MAY 27	6.4	91	1.1	1[illegible]	10[illegible]	8	30	9	29	101	187	59

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow †: Total	Snow †: Greatest in 24 hours	Snow †: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max. temp.: 32.2°C and above	Number of days: Max. temp.: 0°C and below	Number of days: Min temp: 0°C and below	Number of days: Min temp: -17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm.	Mm		%	%	%	%	M.p.s	M.p.s		M.p.s			Tenths											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	5.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	4.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	6.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	7.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow †: Total	Greatest in 24 hours	Date (s)	Relative humidity: 1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	Max temp: 32.2 °C and above	0 °C and below	Min temp: 0 °C and below	-17.8 °C and below
PENNSYLVANIA	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm.		Mm	Mm		%	%	%	%	M.p.s	M.p.s		M.p.s			Tenths											
PITTSBURGH	[illegible]	4.4	[illegible]	[illegible]	JUN [illegible]+	-16.[illegible]	JAN [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUL 4-5	[illegible]	[illegible]	NOV 14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PITTSBURGH U	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUL [illegible]	[illegible]	[illegible]	[illegible] 21-22																						
SCRANTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	JUN 15-16	[illegible]	[illegible]	DEC [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WILLIAMSPORT	[illegible].7	[illegible]	[illegible]	[illegible]	[illegible]	-[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DEC 10-11	[illegible]	[illegible]	[illegible] 25-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RHODE ISLAND																																					
BLOCK ISLAND	[illegible]	[illegible]	[illegible]	[illegible]	FEB [illegible]	[illegible].8	JAN 19	[illegible]	[illegible]	[illegible]	[illegible]	NOV 2-3	[illegible]	[illegible]	FEB 24																						
PROVIDENCE	1[illegible].1	5.[illegible]	[illegible]	3[illegible]	[illegible]	-14.4	JAN 28	[illegible]	[illegible]	1133	[illegible]	[illegible] 26-27	1234	[illegible]	[illegible] 24-25	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SOUTH CAROLINA																																					
CHARLESTON	22.8	11.[illegible]	17.2	36.7	JUL 7+	-[illegible].7	JAN 15	1499	1143	1224	[illegible]	NOV	[illegible]	51	MAR 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLUMBIA	2[illegible]	10.[illegible]	16.7	37.8	JUL 28	-[illegible].7	JAN 6	1632	1107	[illegible]	[illegible]	APR 15-16	[illegible]	19	FEB 15	81	87	[illegible]	54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GRNVLLE-SPRTNBRG	2[illegible].9	[illegible].1	14.[illegible]	36.1	JUL 19+	-11.[illegible]	JAN 5	[illegible]8	848	1398	1[illegible]	JUN 16-17	224	135	FEB 15-16	78	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SOUTH DAKOTA																																					
ABERDEEN	11.[illegible]	-.[illegible]	[illegible].6	37.[illegible]	AUG [illegible]	-31.7	JAN [illegible]	4939	310	[illegible]	[illegible]3	JUN 24-25	[illegible]	[illegible]6	FEB 27-28	8[illegible]	85	54	64	[illegible]	[illegible]	[illegible]	17.4	[illegible]	[illegible]8	6.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HURON	12.5	.2	[illegible]	35.[illegible]	AUG 16	-30.6	JAN 4	4631	309	51[illegible]	43	MAY 3	1346	[illegible]1	FEB [illegible]	75	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	14	6.[illegible]	97	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAPID CITY	14.9	.7	7.8	36.[illegible]	AUG 1[illegible]	-26.6	JAN 25+	4205	323	404	46	JUL 16	859	[illegible]	APR 26-27	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	6.[illegible]	[illegible]	94	145	[illegible]	[illegible]	34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SIOUX FALLS	12.6	.3	6.4	37.2	AUG 6	-31.1	JAN 4	4658	379	675	60	AUG 19-20	1255	249	FEB 14	77	80	[illegible]	63	[illegible]	[illegible]	[illegible]	17.4	[illegible]	[illegible]3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]	[illegible]	1[illegible]	[illegible]	171	[illegible]
TENNESSEE																																					
BRISTOL	18.[illegible]	6.0	12.2	34.4	JUN 8	-21.1	JAN 5	2767	681	1112	75	DEC 29-30	917	272	FEB 15-16	82	87	56	65	2.4	[illegible]	[illegible]	13.[illegible]	[illegible]	[illegible] 31+	6.1	[illegible]	12[illegible]	1[illegible]	1[illegible]	[illegible]	4[illegible]	45	[illegible]	1[illegible]	116	[illegible]
CHATTANOOGA	20.2	7.7	13.9	35.6	JUL 4	12.8	JAN 5	2272	734	1291	91	DEC 2[illegible]-30	342	186	JAN 26-27	82	87	[illegible]	62	2.8	.3	[illegible]1	14.8	NW	[illegible] 8+	5.9	114	104	142	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	72	0
KNOXVILLE	19.3	8.5	13.9	35.0	JUL [illegible]+	-13.9	JAN 5	2317	749	1244	124	DEC 29-30	366	226	DEC 25-26	77	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	MAR 24	6.2	[illegible]	[illegible]	145	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]	0
MEMPHIS	21.6	10.7	16.2	39.4	JUL 11	-9.4	JAN 5	1916	1178	1070	85	AUG 17-18	3	3	DEC 21	[illegible]	[illegible]	[illegible]	[illegible]	3.7	[illegible]	11	[illegible]	NW	JUL [illegible]	[illegible].5	[illegible]	[illegible]	147	101	0	4[illegible]	[illegible]	[illegible]	[illegible]	64	0
NASHVILLE	2[illegible].7	8.8	14.8	37.8	JUL 11	-15.0	JAN 5	2252	1306	1201	64	DEC 29-30	[illegible]33	170	FEB 15-16	79	[illegible]	67	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W	JUL [illegible]	5.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	87	[illegible]
OAK RIDGE R	19.4	7.9	13.7	35.0	JUL 6+	-15.0	JAN 5	2402	758	1259	130	DEC 29-30	5[illegible]	[illegible]	DEC 25-26								19.7Y		MAR 24	[illegible]	108	94	[illegible]	[illegible]	7			34	[illegible]	72	[illegible]
TEXAS																																					
ABILENE	23.8	11.[illegible]	17.9	41.1	AUG 13	-8.3	JAN 1	1482	1379	936	99	AUG 22-23	91	51	DEC 6	65	71	54	48	[illegible]	1.8	17	21.0	N	JUN 23	5.4	142	82	141	73	2	49	16	81	0	44	[illegible]
AMARILLO	21.4	7.3	14.3	40.0	JUL [illegible]	-13.9	DEC 30	2344	952	574	49	AUG 24	521	163	DEC 28-29	66	75	46	45	[illegible].8	1.7	[illegible]	26.4	NW	JUN 7	5.1	140	[illegible]	123	85	7	58	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUSTIN	25.7	14.2	19.9	40.6	AUG 11	-5.6	JAN 5	959	[illegible]	853	71	AUG 14-15	0	0		75	83	56	57	4.1	.9	14	2[illegible].7	NW	AUG 14	6.[illegible]	1[illegible]6	126	123	78	0	[illegible]	28	109	[illegible]	14	0
BROWNSVILLE	28.6	18.7	23.7	37.2	JUL 29	.6	JAN 5	257	2262	695	116	MAY 12-13	0	0		93	86	59	67	4.[illegible]	2.2	[illegible]	26.4	[illegible]	MAY 12	6.1	93	136	136	74	0	20	35	114	0	[illegible]	[illegible]
CORPUS CHRISTI	26.9	16.8	21.9	37.8	AUG 18+	-2.2	JAN 5	517	1974	599	66	NOV 26-27	0	0		83	87	62	6[illegible]	[illegible].3	2.7	11	18.6	W	DEC 6	6.[illegible]	98	114	1[illegible]	75	0	15	44	10[illegible]	0	[illegible]	0
DALLAS	24.6	13.8	19.[illegible]	40.6	AUG 13+	-6.7	JAN [illegible]	1250	1636	979	137	MAY 6-7	T	T	DEC 30 +	65	75	53	49	4.6	1.3	14	16.[illegible]	W	JAN 22	5.[illegible]	133	9[illegible]	142	79	0	53	[illegible]	[illegible]	0	22	0
DEL RIO	26.9	14.7	20.8	42.8	AUG [illegible]	-3.3	NOV 20	831	1797	844	193	OCT 4	T	T	DEC 29	66	79	57	47	4.6	[illegible]	11	19.2	29	DEC 6	[illegible].7	103	116	141	6[illegible]	0	41	1[illegible]	114	0	11	0
EL PASO	26.0	10.8	18.4	40.6	AUG 17+	-6.7	JAN 5	1360	1459	[illegible]	16	JUL 8-9	[illegible]01	152	NOV 27-28	41	52	33	[illegible]	3.4	.7	25	[illegible]	[illegible]	MAR 22	3.7	1[illegible]7	9[illegible]	[illegible]	[illegible]	[illegible]	30	2	114	0	[illegible]	0
FORT WORTH	24.6	12.6	18.6	40.0	JUL 15	-6.3	JAN 1	1289	1442	707	90	OCT 12	T	T	DEC 30 +	76	85	58	56	4.4	[illegible]	16	21.0	[illegible]1	APR 27	5.6	13[illegible]	9[illegible]	142	79	0	47	7	[illegible]	0	32	0
GALVESTON U	23.7	18.6	21.1	35.0	AUG 17	1.1	JAN 5	632	1708	1061	99	AUG 27	0	0		79	82	66	72				24.[illegible]	[illegible]	FEB 14					76	0			20	0	[illegible]	0
HOUSTON INTERCON C	26.3	14.6	20.4	38.3	AUG 10+	-3.9	NOV 15	763	1593	1099	70	FEB 20-21	0	0		87	90	60	64	3.5	.9	12	20.6	1[illegible]	JUL 15	6.1	87	123	155	62	0	59	44	10[illegible]	0	13	0
LUBBOCK	22.8	8.1	15.5	41.1	JUN 21	-12.2	DEC 30	1594	1313	741	87	OCT 21-22	498	254	MAR 14-15	66	76	48	44	4.8	1.1	17	19.7	16	JUN 13+	5.2	145	85	135	68	[illegible]	54	28	77	2	91	0
MIDLAND	24.5	10.0	17.3	41.1	AUG [illegible]	-7.8	JAN 24	1539	1212	430	65	JUN 3	94	36	MAR 15	63	73	43	37	4.6	1.6	15	18.3	27	MAR 7	4.7	106	94	105	67	2	41	14	[illegible]	[illegible]	59	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature – Averages – Daily maximum	Temperature – Averages – Daily minimum	Temperature – Averages – Annual	Temperature – Extremes – Highest	Temperature – Extremes – Date	Temperature – Extremes – Lowest	Temperature – Extremes – Date	Heating degree days	Cooling degree days	Precipitation – Total	Precipitation – Greatest in 24 hours	Precipitation – Date (s)	Precipitation – Snow † – Total	Precipitation – Snow † – Greatest in 24 hours	Precipitation – Snow † – Date (s)	Relative humidity – 1:00am E.S.T.	Relative humidity – 7:00am E.S.T.	Relative humidity – 1:00pm E.S.T.	Relative humidity – 7:00pm E.S.T.	Wind – Average speed	Wind – Resultant speed	Wind – Resultant direction	Wind – Fastest mile (1.6 kilometers) – Speed	Wind – Fastest mile – Direction	Wind – Fastest mile – Date	Average sky cover sunrise to sunset	Number of days – Sunrise to sunset – Clear, 0–0.3	Number of days – Sunrise to sunset – Partly cloudy, 0.4–0.7	Number of days – Sunrise to sunset – Cloudy, 0.8–1.0	Number of days – Precipitation 25mm or more	Number of days – Snow, Sleet 25.4mm or more	Number of days – Thunderstorms	Number of days – Heavy fog	Number of days – Max temp – 32.2°C and above	Number of days – Max temp – 0°C and below	Number of days – Min temp – 0°C and below	Number of days – Min temp – −17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	M.p.s.	M.p.s.		M.p.s.			Tenths											

† See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow†: Total	Precipitation: Snow†: Greatest in 24 hours	Precipitation: Snow†: Date (s)	Relative humidity: 1:00am EST	Relative humidity: 7:00am EST	Relative humidity: 1:00pm EST	Relative humidity: 7:00pm EST	Wind: Average speed	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 32.2°C and above	Number of days: Max temp: 0°C and below	Number of days: Min temp: 0°C and below	Number of days: Min temp: -17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	Mps	Mps		Mps			Tenths											
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																																					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

Data in this table are obtained by conversion from data in the English Units table.

† Includes all forms of frozen precipitation, except hail occurring alone.

+ And also on an earlier date or dates.

A Moved from Municipal AP to Regional AP October 16.

B Number of days maximum 21.1°C or above for Alaskan Stations.

C Moved from Hobby AP to Intercontinental AP June 1.

Y Peak gust.

\ Sun below horizon November 19 - January 23, inclusive.

X Sun below horizon November 24 - January 17, inclusive.

* Less than 0.05.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temp. Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal	Precip. Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Rel. humidity January 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	July 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (m.p.h.) Mean speed January	July	Fastest mile	Sunshine (percent of possible) January	July	Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Zero and below
ALABAMA							86	112	-24							0.00	20.33																								
BIRMINGHAM	620	56.6	36.[illegible]	[illegible]	70.7	64.1	6	102	-4	572	2551	6.00	2.95	53.05	17.67	T	6.57	.5	1.5	[illegible]	81	61	[illegible]	89	63	69	8.7	[illegible]	65	41	60	101	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	39	67	•
HUNTSVILLE	624						2	101	[illegible]						9.48	0.77	5.04	2.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]	65	[illegible]	[illegible]	46			112	[illegible]	15[illegible]	10[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]
MOBILE	211	62.3	43.7	[illegible]	[illegible]	68.2	8	102	8	415	1560	9.67	3.03	68.13	19.29	0.05	13.36	.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	71	11.1	7.3	63			1[illegible]	1[illegible]	142	12[illegible]	•	80	36	80	21	•
MONTGOMERY	183	58.5	37.[illegible]	[illegible]	71.[illegible]	[illegible]	[illegible]	102	[illegible]	542	2291	6.16	2.28	50.69	21.32	0.02	8.81	.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.8	[illegible]	63	47	64	1[illegible]	140	150	108	•	61	21	88	43	[illegible]
ALASKA							86	100	-76							0.00	37.67																								
ANCHORAGE PC 1966	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	[illegible]	-38	1631	[illegible]	2.57	0.42	14.71	[illegible]	0.00	2.06	[illegible]	[illegible]	[illegible]															113	21			[illegible]	[illegible]	[illegible]
ANCHORAGE	114	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	85	-30	1640	10[illegible]	2.57	0.42	14.71	4.60	T	1.66	[illegible]	[illegible]	[illegible]	71	71	71	[illegible]	[illegible]	[illegible]	5.7	[illegible]	[illegible]	40	43	[illegible]	[illegible]	[illegible]	11[illegible]	21	[illegible]	[illegible]	[illegible]	1[illegible]	[illegible]
ANNETTE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	90	1	949	7067	16.88	[illegible]	118.[illegible]	[illegible]	0.71	7.59	[illegible]	[illegible]	[illegible]	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.5	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	167	[illegible]
BARROW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	49	78	-56	2517	[illegible]	0.90	0.11	4.26	[illegible]	0.00	1.30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.2	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BARTER ISLAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	75	-59	2936	1[illegible]	1.05	0.17	6.78	4.91	T	2.25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.2	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	•	324	169
BETHEL	125	[illegible]	[illegible]	[illegible]	[illegible]	28.7	11	86	[illegible]	1903	13176	4.20	0.58	18.43	[illegible]	0.03	1.34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	67	14.1	[illegible]	62			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	312	107
BETTLES	644						19	92	[illegible]						[illegible]	0.00	1.43	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			82	76	200	135	[illegible]	[illegible]	[illegible]	12	225	[illegible]
BIG DELTA	1268						28	92	-63						6.18	T	2.14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.8	6.1	74			78	[illegible]	193	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
COLD BAY	96	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	78	[illegible]	[illegible]	9680	4.59	1.66	34.30	9.47	[illegible]	4.73	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81	17.6	[illegible]	[illegible]			[illegible]	[illegible]	304	209	[illegible]	•	[illegible]	•	[illegible]	[illegible]
CORDOVA 1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84	[illegible]	1299	[illegible]	12.51	3.48	80.78	27.72	0.28	7.92	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FAIRBANKS	[illegible]	[illegible]	[illegible]	71.7	[illegible]	[illegible]	6	96	-61	2359	14279	[illegible]	0.25	11.29	6.23	T	3.42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.6	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GULKANA	1572						27	91	-65						[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.7	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HOMER	67						27	80	-18			[illegible]	1.05	24.47	8.43	0.00	3.02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.2	[illegible]				71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ILIAMNA	186						27	91	-47						[illegible]	0.01	2.65	[illegible]	[illegible]	[illegible]							[illegible]	[illegible]				74	[illegible]	[illegible]	141	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUNEAU	12	[illegible]	[illegible]	[illegible]	47.8	[illegible]	[illegible]	[illegible]	-22	[illegible]	9075	6.33	2.87	54.62	15.23	0.21	4.66	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]	[illegible]	[illegible]	8.3	[illegible]			81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KING SALMON	4[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	84	-35	[illegible]	[illegible]	[illegible]	0.64	19.18	7.33	0.00	2.00	[illegible]	[illegible]	[illegible]	74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KOTZEBUE	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	85	-52	2136	16105	1.16	0.28	8.18	5.18	T	1.78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.6	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MCGRATH	3[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	90	[illegible]	2294	14[illegible]	3.72	0.47	18.58	[illegible]	T	2.59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	86	-47	1879	14171	3.45	0.43	17.58	7.83	T	2.48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ST. PAUL ISLAND	22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-26	1228	11199	[illegible]	0.96	23.60	4.32	0.09	1.73	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20.2	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	204	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SHEMYA	122	[illegible]	28.6	[illegible]	[illegible]	38.4	[illegible]	[illegible]	[illegible]	1046	7687	[illegible]	[illegible]	[illegible]	8.7[illegible]	0.14	5.25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.7	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SUMMIT	2401						19	85	-52						7.43	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.4	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TALKEETNA	345						[illegible]	91	-48			[illegible]	0.75	28.02	11.42	0.04	3.12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
UNALAKLEET	1[illegible]						24	86	-50						8.07	T	1.53	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	111	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YAKUTAT	[illegible]	[illegible]	[illegible]	[illegible]	47.7	[illegible]	6	78	-24	1169	[illegible]	19.59	[illegible]	131.81	45.89	0.52	7.13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.9	7.0	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ARIZONA							75	127	-33							0.00	11.29																								
FLAGSTAFF	7[illegible]	[illegible]	[illegible]	81.4	[illegible]	45.6	[illegible]	[illegible]	[illegible]	1169	71[illegible]	2.84	0.31	18.31	7.30	T	[illegible]	[illegible]	[illegible]	[illegible]	76	54	[illegible]	[illegible]	[illegible]	[illegible]	8.0	[illegible]	40			164	96	104	74	[illegible]	51	6	[illegible]	[illegible]	[illegible]
PHOENIX	11[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	115	[illegible]	474	1765	[illegible]	[illegible]	7.20	5.56	0.00	[illegible]	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.8	[illegible]	75	73	84	211	84	70	35	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PRESCOTT 1966	5[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-5	865	4362	2.66	[illegible]	[illegible]	9.61	0.00	3.08	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.1	[illegible]	[illegible]	73	74	184	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TUCSON	2584	64.0	[illegible]	[illegible]	[illegible]	[illegible]	29	111	[illegible]	471	1800	2.88	0.13	11.00	7.93	0.00	2.93	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WINSLOW	4880	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	105	-25	1056	4782	1.43	[illegible]	7.23	4.90	0.00	2.12	[illegible]	[illegible]	[illegible]	[illegible]	54	[illegible]	[illegible]	[illegible]	[illegible]	7.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YUMA	1[illegible]	66.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	116	27	363	1217	0.50	[illegible]	3.03	2.68	0.00	2.42	T	[illegible]	T	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	7.3	[illegible]	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16[illegible]	[illegible]	[illegible]
ARKANSAS							79	120	-29							0.01	13.00																								
FORT SMITH	447	[illegible]	[illegible]	[illegible]	[illegible]	61.8	[illegible]	110	[illegible]	781	3292	5.26	[illegible]	42.22	14.01	T	7.13	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	88	55	[illegible]	8.3	[illegible]	68	47	70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	82	•
LITTLE ROCK	2[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	61.7	10	108	-4	756	3219	[illegible]	[illegible]	48.66	14.45	T	7.71	2.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	65	45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	•
TEXARKANA 1964	3[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	64.3	3	101	[illegible]	626	2533	5.30	2.73	49.17	15.69	T	5.55	1.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	•
CALIFORNIA							85	134	-45							0.00	26.12																								
BAKERSFIELD	475	[illegible]	[illegible]	[illegible]	[illegible]	65.1	[illegible]	111	25	546	2122	1.17	T	6.36	4.61	0.00	1.68	T	T	T	81	74	[illegible]	[illegible]	[illegible]	[illegible]	5.0	7.0	44			190	81	85	37	0	[illegible]	[illegible]	106	[illegible]	[illegible]
BISHOP	4108	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22	109	-6	874	42[illegible]	1.18	0.09	5.84	8.93	0.00	3.64	[illegible]	[illegible]	[illegible]	[illegible]	47	34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			208	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14[illegible]	[illegible]
BLUE CANYON	52[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	865	5[illegible]	11.70	0.05	65.37	45.12	0.00	9.38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.2	[illegible]	70			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99	[illegible]
BURBANK 1965	7[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1646	3.22	T	14.53	13.54	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			187	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EUREKA	43	53.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	540	4643	6.71	0.10	38.43	15.37	0.00	3.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	117	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FRESNO	328	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112	[illegible]	596	2491	2.19	T	11.34	4.50	0.00	2.54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	•	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LONG BEACH	34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	111	[illegible]	[illegible]	1711	2.81	T	9.84	11.29	0.00	[illegible]	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.4	[illegible]	43	[illegible]	79	[illegible]	[illegible]	[illegible]	43	•	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LOS ANGELES	97	63.8	[illegible]	[illegible]	[illegible]	[illegible]	11	110	[illegible]	[illegible]	[illegible]	2.88	[illegible]	[illegible]	11.02	0.00	5.88	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LOS ANGELES	27[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	110	28	[illegible]	[illegible]	[illegible]	T	[illegible]	11.0[illegible]	0.00	5.14	T	T	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MT SHASTA R	3544	[illegible]	[illegible]	[illegible]	[illegible]	49.9	27	105	[illegible]	905	5722	[illegible]	0.18	36.72	17.60	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	168	[illegible]	117	[illegible]	21	[illegible]	[illegible]	31	[illegible]	[illegible]
OAKLAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	527	[illegible]	[illegible]	T	[illegible]	[illegible]	0.00	5.44	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	•	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
POINT ARGUELLO 1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	97	[illegible]	474	3595	[illegible]	[illegible]	11.27	8.36	T	2.28	T	T	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	69	•	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RED BLUFF	342	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	114	[illegible]	605	2515	[illegible]	[illegible]	[illegible]	11.38	0.00	4.40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SACRAMENTO	17	53.2	37.2	[illegible]	57.4	60.4	9	115	[illegible]	614	2773	3.24	T	16.29	13.64	0.00	5.59	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SACRAMENTO U 1964	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112	[illegible]	577	2503	3.58	T	18.02	12.80	0.00	4.87				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	194	66	105	57	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SANDBERG R	4517	[illegible]	[illegible]	[illegible]	[illegible]	55.5	37	102	[illegible]	778	4209	2.58	[illegible]	12.10	11.12	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	59	[illegible]	[illegible]	[illegible]	66	[illegible]	[illegible]
SAN DIEGO	13	64.6	45.8	74.8	[illegible]	[illegible]	9	111	31	313	1439	[illegible]	[illegible]	13.41	7.03	0.00	3.07	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	73	68	[illegible]	[illegible]	[illegible]	42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN FRANCISCO	8	55.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	636	3012	4.29	[illegible]	18.69	12.50	0.00	4.58	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	•	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SAN FRANCISCO	52	55.8	45.5	[illegible]	[illegible]	56.8	83	10[illegible]	[illegible]	440	3[illegible]	4.55	[illegible]	20.78	11.47	0.00	3.55	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	47	56	66	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SANTA CATALINA 1968	1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	[illegible]	34	355	2052	3.16	[illegible]	14.36	7.49	0.00	4.22	[illegible]	[illegible]	[illegible]															[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SANTA MARIA	23[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	459	2967	2.84	[illegible]	13.17	9.66	0.00	3.07	T	[illegible]	[illegible]	81	69	[illegible]	88	64	[illegible]	6.7	[illegible]				173	94	[illegible]	42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
STOCKTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	61.3	13	11[illegible]	19	629	2674	2.66	T	14.37	8.05	0.00	4.01	T	[illegible]	[illegible]	90	81	[illegible]	84	[illegible]	[illegible]	6.9	7.9	46			178	[illegible]	[illegible]	50	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NORMALS, MEANS AND EXTREMES

State and Station	Elevation on ground (feet)	Temp. Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal
COLORADO							82	118	-60		
ALAMOSA	7536	35.6	-0.8	82.5	47.2	41.9	24	91	-50	1476	8529
COLORADO SPRINGS	6145	41.9	15.2	84.2	56.7	48.5	9	99	-21	1128	6423
DENVER	5283	42.1	14.8	88.4	57.4	49.5	10	100	-25	1132	6283
GRAND JUNCTION	4843	34.8	17.1	92.5	63.8	52.5	6	103	-13	1209	5641
PUEBLO	4684	45.3	14.7	92.1	60.8	52.7	5	104	-13	1085	5462
CONNECTICUT							82	105	-32		
BRIDGEPORT	7	37.4	22.9	82.6	64.8	51.5	4	100	- 3	1079	5617
HARTFORD	169	34.7	17.3	85.0	61.8	49.8	10	102	-26	1209	6172
NEW HAVEN 1969	6	37.1	22.0	80.5	63.2	50.2	25	100	- 8	1097	5897
DELAWARE							77	110	-17		
WILMINGTON	74	41.3	25.5	86.2	65.8	54.1	22	102	- 4	980	4930
DIST.OF COLUMBIA											
WASHINGTON NAT_ AP	10	44.3	29.5	87.0	69.3	57.0	9	101	3	871	4224
FLORIDA							80	109	- 2		
APALACHICOLA U	13	62.3	47.9	87.6	75.4	68.8	40	102	13	347	1308
DAYTONA BEACH	31	69.6	48.7	88.2	72.0	70.3	26	102	21	248	879
FORT MYERS	15	74.8	52.2	91.0	73.3	73.7	10	98	26	146	442
JACKSONVILLE	24	66.8	45.0	92.0	73.2	69.5	28	105	12	332	1239
KEY WEST INTL AP	4	73.7	65.4	87.4	79.1	76.8	17	95	46	40	108
LAKELAND U	214	71.2	52.2	90.5	72.6	72.3	29	101	20	195	661
MIAMI U 1961	8	74.4	62.6	86.8	76.4	75.3	49	95	27	57	173
MIAMI BEACH 1964	9	74.2	63.9	87.0	77.6	76.2	24	98	35	56	141
MIAMI INTL AP	7	75.8	57.9	88.8	74.7	75.1	5	96	34	74	214
ORLANDO	108	70.7	50.0	92.0	73.0	72.0	6	98	24	220	766
PENSACOLA U 1961	13	61.1	46.9	86.9	75.0	68.0	22	103	13	383	1435
PENSACOLA 1/	112	62.3	44.6	89.2	74.1	68.4	6	97	11	400	1463
TALLAHASSEE	55	65.1	42.7	90.5	72.0	68.0	9	100	10	375	1485
TAMPA	19	71.3	51.0	89.7	73.4	72.2	6	97	24	202	683
WEST PALM BEACH	15	75.5	58.3	90.8	74.3	75.3	5	96	31	87	253
GEORGIA							78	112	-17		
ATHENS	802	54.6	34.5	90.2	69.2	61.9	26	105	- 1	642	2929
ATLANTA	1010	52.0	37.3	87.0	70.7	61.4	9	98	- 3	639	2983
AUGUSTA	136	59.4	35.7	91.3	70.0	64.0	5	104	6	549	2397
COLUMBUS	385	59.0	36.6	91.5	70.6	64.4	24	104	3	552	2383
MACON	354	60.2	38.2	92.8	71.0	65.6	5	104	3	505	2136
ROME	637	52.8	31.3	90.6	67.4	60.4	23	106	- 5	710	3326
SAVANNAH	46	62.5	40.9	91.2	71.4	66.4	5	100	9	437	1819
THOMASVILLE U 1963	283	63.4	44.0	92.0	72.0	68.2	41	106	8	394	1529
HAWAII							65	100	18		
HILO	27	78.7	62.8	82.4	67.4	73.1	23	94	53		
HONOLULU U 1964	12					75.1	42	88	57		
HONOLULU	7	79.1	65.8	84.6	73.0	75.9	7	93	52		
KAHULUI	48	80.8	63.4	86.4	70.1	75.2	5	95	48		
LIHUE	103	78.2	63.5	83.1	72.0	74.5	19	90	50		
IDAHO							77	118	-60		
BOISE	2838	36.1	22.1	91.4	59.0	51.0	30	111	-17	1113	5809
IDA FALLS 42NW R1966	4790	26.5	0.2	89.0	49.2	41.7	16	103	-43	1600	8760
IDA FALLS 46W R 1966	4932	27.5	3.2	87.9	50.1	42.4	17	101	-40	1538	8475
LEWISTON	1413	37.7	23.7	89.8	57.8	51.6	23	115	-22	1063	5542
POCATELLO	4454	31.6	13.0	89.6	55.1	47.0	6	104	-19	1324	7033
ILLINOIS							80	117	-35		
CAIRO U	314	44.6	30.2	90.3	71.8	59.6	27	104	- 5	856	3821
CHICAGO MIDWAY	607	33.0	19.0	84.1	67.1	50.8	6	98	-16	1209	6155
MOLINE	582	31.6	13.6	88.0	63.2	50.1	10	100	-26	1314	6408
PEORIA	652	33.7	17.6	87.0	65.0	51.4	10	102	-20	1218	6025
ROCKFORD	724	30.2	13.7	86.3	62.1	48.6	6	99	-20	1333	6830
SPRINGFIELD	588	36.3	20.5	89.6	66.4	53.6	10	106	-22	1135	5429

State and Station	Precipitation (inches) Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 a m EST	1:00 p m EST	7:00 p m EST	July 7:00 a m EST	1:00 p m EST	7:00 p m EST
COLORADO					0.00	11.08									
ALAMOSA	1.07	0.17	6.56	3.50	T	1.82	4.2	33.5	15.8	76	60	58	84	39	37
COLORADO SPRINGS	2.37	0.24	13.19	8.00	T	3.09	4.4	38.6	18.0	56	37	45	72	38	43
DENVER	2.70	0.47	14.81	7.31	T	3.43	8.4	58.3	17.4	61	43	48	71	36	35
GRAND JUNCTION	1.07	0.42	8.29	3.48	0.00	1.57	7.6	26.5	9.1	78	65	65	49	30	23
PUEBLO	1.85	0.30	11.84	6.17	T	3.77	5.8	31.6	16.8	62	46	42	71	38	36
CONNECTICUT					0.00	12.12									
BRIDGEPORT	4.45	2.96	44.89	13.29	0.07	4.67	7.1	28.1	16.7	73	62	66	76	59	68
HARTFORD	4.01	2.94	42.92	21.87	0.35	12.12	11.6	56.3	15.0	72	57	64	80	51	62
NEW HAVEN 1969	4.62	3.19	46.02	10.95	0.12	5.55	9.3	37.[illegible]	17.2	76	63		81	66	
DELAWARE					0.00	7.83									
WILMINGTON	5.59	2.91	44.56	12.09	0.16	6.24	5.8	[illegible]	15.6	75	61	69	81	53	67
DIST.OF COLUMBIA															
WASHINGTON NAT_ AP	4.90	2.47	40.78	14.31	T	6.39	5.1	18.2	14.4	68	54	58	76	52	60
FLORIDA					0.00	38.70									
APALACHICOLA U	8.53	2.44	56.23	22.55	0.01	11.71	T	T	1.2	87	69	80	85	72	76
DAYTONA BEACH	7.00	1.95	49.90	19.89	T	9.29	T	T	T	89	60	79	89	66	80
FORT MYERS	9.08	1.20	53.34	16.60	0.00	10.85	0.0	0.0	0.0	89	59	75	87	61	74
JACKSONVILLE	7.68	1.69	53.36	19.36	0.04	10.17	T	0.1	1.5	87	56	73	87	58	75
KEY WEST INTL AP	6.73	1.53	39.99	21.57	0.00	8.89	0.0	0.0	0.0	83	69	78	76	66	72
LAKELAND U	8.30	1.59	51.37	15.67	0.00	10.12	T	T	T						
MIAMI U 1961	7.88	1.73	47.26	25.34	T	15.10	0.0	0.0	0.0						
MIAMI BEACH 1964	7.36	1.65	46.26	18.02	0.01	8.35	0.0	0.0	0.0						
MIAMI INTL AP	9.47	1.67	59.76	24.40	0.01	9.95	0.0	0.0	0.0	84	61	70	85	64	72
ORLANDO	8.00	1.57	51.37	19.57	T	9.67	T	T	T	88	57	70	91	60	75
PENSACOLA U 1961	7.59	3.84	61.60	18.80	T	9.16	T	0.2	2.1	86	64	79	85	64	74
PENSACOLA 1/	8.02	2.98	62.87	15.52	0.00	10.02	T	T	T	82	64	75	89	66	70
TALLAHASSEE	8.05	2.43	56.86	20.12	T	9.47	T	T	T	87	58	72	92	62	75
TAMPA	8.62	1.46	51.57	20.59	T	12.11	T	T	T	87	59	73	87	64	73
WEST PALM BEACH	9.66	2.35	61.70	24.86	0.04	15.23	0.0	0.0	0.0	81	59	73	85	65	76
GEORGIA					0.00	19.55									
ATHENS	5.10	2.86	48.53	14.98	T	9.93	0.7	1.8	5.0	81	58	65	91	60	70
ATLANTA	5.37	2.44	47.14	15.72	T	5.67	0.8	1.8	8.3	79	60	64	91	65	71
AUGUSTA	4.50	2.01	39.18	11.43	T	5.98	0.1	0.4	3.3	82	53	66	89	58	71
COLUMBUS	6.01	1.77	48.67	12.53	0.00	5.63	T	T	T	85	60	72	88	59	70
MACON	5.64	2.01	44.08	11.77	0.00	4.97	[illegible]	0.4	3.7	81	55	63	89	59	69
ROME	5.87	2.93	52.26	17.37	T	7.53	0.6	[illegible]	8.2	81	58	73	88	54	67
SAVANNAH	6.62	2.05	48.91	20.10	0.02	6.36	T	0.2	3.6	85	53	69	91	61	75
THOMASVILLE U 1963	6.81	2.08	51.01	18.83	T	9.00	T	T	2.0	85	60	70	85	60	78
HAWAII					0.00	24.00									
HILO	15.18	6.79	136.62	50.82	0.36	15.70	0.0	0.0	0.0	84	80	67	88	81	67
HONOLULU U 1964	3.86	0.62	23.96	18.70	0.06	17.41	0.0	0.0	0.0						
HONOLULU	3.76	0.33	21.89	20.79	T	17.07	0.0	0.0	0.0	79	79	63	71	67	53
KAHULUI	3.14	0.18	16.33	10.90	0.00	5.82	0.0	0.0	0.0	85	84	64	83	73	55
LIHUE	5.51	1.46	43.00	22.91	0.30	11.54	0.0	0.0	0.0	84	84	68	80	75	65
IDAHO					0.00	12.21									
BOISE	1.33	0.16	11.43	4.00	0.00	2.24	8.1	21.7	13.0	81	74	72	53	34	22
IDA FALLS 42NW R1966	1.24	0.33	7.02	5.04	0.00	1.78									
IDA FALLS 46W R 1966	1.10	0.26	7.57	4.42	0.00	1.73	6.4	26.7	8.5						
LEWISTON	1.73	0.47	13.24	4.80	T	1.73	7.8	19.0	12.8	80	75	72	60	36	23
POCATELLO	1.21	0.51	10.85	3.98	0.00	1.30	10.4	37.5	10.1	78	72	69	61	31	21
ILLINOIS					0.00	16.17									
CAIRO U	4.79	2.88	45.23	14.95	T	7.56	3.0	9.7	10.5	80	67		84	59	
CHICAGO MIDWAY	4.07	1.60	33.18	14.17	0.20	6.24	9.3	38.4	19.8	71	65	67	77	57	57
MOLINE	4.37	1.35	32.79	11.39	0.01	6.29	7.2	27.7	11.7	74	66	69	86	59	61
PEORIA	4.27	1.71	34.84	13.09	0.03	5.06	5.4	22.4	9.0	77	69	71	86	60	60
ROCKFORD	4.30	1.44	35.62	11.81	0.01	5.56	8.2	32.4	10.9	78	70	74	86	57	58
SPRINGFIELD	4.45	1.82	34.83	9.91	0.15	5.12	4.7	21.5	10.3	77	68	71	84	57	59

State and Station	Wind Speed (m p h) Mean speed January	Mean speed July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Min Zero and below
COLORADO															
ALAMOSA						149	139	77	67	12	44	15	1	227	47
COLORADO SPRINGS	10.0	9.6	60			128	120	117	87	11	60	22	15	160	7
DENVER	9.4	8.6	56	72	71	114	136	115	97	17	41	11	31	164	10
GRAND JUNCTION	5.9	7.3	66	59	77	140	109	116	71	9	37	8	59	136	6
PUEBLO	7.9	8.5	80	75	76	137	125	103	70	9	43	8	53	150	7
CONNECTICUT															
BRIDGEPORT	12.8	9.7	67			103	108	154	116	8	21	28	7	110	1
HARTFORD	9.9	7.9	53	56	[illegible]	84	108	173	125	14	22	32	18	138	7
NEW HAVEN 1969	8.3	6.3	57	55	68	100	109	156	128	11	27	28	3	113	1
DELAWARE															
WILMINGTON	9.8	7.6	58			97	110	158	116	6	30	40	19	104	*
DIST.OF COLUMBIA															
WASHINGTON NAT_ AP	10.2	8.3	78	50	62	104	105	156	111	5	29	13	38	82	0
FLORIDA															
APALACHICOLA U	8.4	6.6	67	58	63	133	113	119	106	*	70	25	18	4	0
DAYTONA BEACH	9.3	7.8	58			94	135	136	115	0	81	32	55	5	0
FORT MYERS	8.6	6.9	92			103	158	104	116	0	97	22	106	1	0
JACKSONVILLE	8.6	8.0	82	57	60	99	128	138	116	*	60	33	85	11	0
KEY WEST INTL AP	12.3	10.1	122	68	74	100	165	100	113	0	61	1	53	0	0
LAKELAND U	7.3	5.7		63	59	97	155	113	121	0	100	19	83	1	0
MIAMI U 1961			122	70	61	155	96	114							
MIAMI BEACH 1964	11.7	10.9	122	67	63	147	121	97	123	0			14	0	0
MIAMI INTL AP	9.4	7.8	74			77	170	118	128	0	77	7	39	0	0
ORLANDO	9.1	7.6	50			95	147	123	115	0	79	28	92	2	0
PENSACOLA U 1961	8.1	6.7	91	56	66				112	*	65		39	9	0
PENSACOLA 1/	8.7	6.5	59	48	57	101	117	147	117	0			39	16	0
TALLAHASSEE	8.3	6.0	58			99	133	133	117	0	81	48	90	35	0
TAMPA	9.1	7.6	67	67	61	97	143	125	109	0	87	24	72	3	0
WEST PALM BEACH	10.0	7.5	86			73	154	138	131	0	78	8	44	1	0
GEORGIA															
ATHENS	8.9	6.5	52			112	105	148	111	1	51	34	52	54	*
ATLANTA	10.7	7.4	70	48	62	111	109	145	115	1	50	29	20	62	*
AUGUSTA	6.8	5.8	62			108	104	153	104	*	54	24	60	68	0
COLUMBUS	7.5	5.4	52			113	100	152	110	0	59	19	75	47	0
MACON	8.4	7.1	70	55	64	114	104	147	112	*	56	23	68	63	0
ROME						105	117	143	122	1	61	26	61	82	*
SAVANNAH	8.8	7.5	66	56	65	105	116	144	111	*	64	37	54	47	0
THOMASVILLE U 1963	5.3	4.1		54	57	122	119	124	116	*	72	13	77	15	0
HAWAII															
HILO	7.8	7.2	46	45	42	30	123	212	282	0	8	0	1	0	0
HONOLULU U 1964									147	0			0	0	0
HONOLULU	9.9	13.4	67	64	75	94	169	102	101	0	8	0	35	0	0
KAHULUI	11.9	16.3	43	65	74	107	161	97	99	0	6	0	30	0	0
LIHUE	10.3	12.6	73	52	62	52	171	142	204	0	10	0	*	0	0
IDAHO															
BOISE	8.6	8.5	61	42	89	126	90	149	90	8	15	19	42	127	2
IDA FALLS 42NW R1966	4.7	8.0	50						66				30	219	41
IDA FALLS 46W R 1966	5.6	7.9	51						68	10	13	14	25	212	33
LEWISTON						93	76	196	102	6	16	21	37	97	3
POCATELLO	10.9	9.5	72	38	84	113	96	156	90	13	25	14	34	180	9
ILLINOIS															
CAIRO U	9.8	6.5	60	46	76	111	104	150	114	3	53	7	51	67	*
CHICAGO MIDWAY	11.4	8.2	60	43	69	93	106	166	120	12	37	14	18	119	6
MOLINE	10.6	7.4	77	47	71	102	100	163	110	9	47	20	21	138	17
PEORIA	11.2	8.1	75	45	69	101	100	164	109	8	48	20	17	133	11
ROCKFORD	9.9	8.0	54			96	104	165	112	11	41	24	11	145	14
SPRINGFIELD	13.1	8.4	75	45	73	111	93	161	112	7	50	17	27	123	9

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temp. Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal	Precip. Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours
INDIANA							83	116	-35							0.00	10.50
EVANSVILLE	381	42.7	25.6	90.3	67.2	57.0	9	104	-18	955	4435	4.31	2.57	41.45	13.50	0.01	6.05
FORT WAYNE	791	34.4	19.6	85.1	63.2	50.3	9	101	-18	1178	6205	4.17	2.09	35.31	9.72	0.14	4.60
INDIANAPOLIS	792	37.1	21.0	86.0	64.3	52.1	11	99	-18	1113	5699	4.62	2.28	39.25	12.69	0.17	4.00
SOUTH BEND	773	33.0	18.1	84.5	62.6	49.4	6	97	-13	1221	6439	3.62	1.88	35.70	9.75	0.02	4.70
IOWA							97	118	-47							0.00	12.99
BURLINGTON	692	32.7	16.1	87.6	65.6	51.2	72	111	-27	1259	6114	5.01	1.39	34.60	15.10	0.06	6.28
DES MOINES	938	28.5	11.5	87.3	65.2	49.2	9	100	-23	1398	6808	4.71	1.10	30.37	14.19	0.03	5.50
DUBUQUE	1056	27.8	11.1	83.7	61.5	46.6	4	97	-24	1420	7376	4.22	1.40	35.71	15.46	T	8.85
SIOUX CITY	1095	27.9	9.5	89.5	65.2	49.1	10	104	-26	1435	6951	4.33	0.74	24.77	9.69	T	4.28
WATERLOO	868	26.8	8.9	85.7	61.8	47.2	10	99	-34	1460	7320	4.83	0.92	31.48	12.60	T	9.31
KANSAS							83	121	-40							0.00	14.21
CONCORDIA U 1961	1375	37.6	18.6	91.2	68.7	54.5	77	116	-25	1144	5323	4.23	0.59	25.40	13.74	T	6.46
CONCORDIA	1470	37.3	17.6	92.1	68.4	54.1	8	108	-13	1163	5479	4.20	0.70	25.39	14.14	0.02	5.46
DODGE CITY	2582	42.4	19.7	92.8	67.5	55.4	6	107	-10	1051	4986	3.03	0.47	19.25	9.13	T	4.55
GOODLAND	3654	40.9	13.9	91.8	61.3	50.8	3	107	-12	1166	6141	2.67	0.39	16.50	8.09	0.00	2.95
TOPEKA	877	38.5	19.0	91.6	68.1	54.9	5	105	- 9	1122	5182	4.51	1.02	32.36	15.20	T	5.52
WICHITA	1321	41.6	22.3	92.4	69.4	57.1	17	113	-12	1023	4620	4.21	0.81	28.41	10.46	T	4.98
KENTUCKY							81	114	-34							0.00	10.40
COVINGTON	869	40.5	22.7	87.4	63.3	53.4	8	102	-19	1035	5265	3.89	2.26	38.02	12.18	0.18	5.21
LEXINGTON	966	42.8	26.1	88.1	66.5	55.6	6	98	-10	946	4683	4.94	2.28	44.73	16.65	0.24	5.88
LOUISVILLE	477	43.5	26.5	88.5	66.6	55.7	9	101	-20	930	4660	4.59	2.25	41.32	14.91	0.23	6.97
LOUISIANA							79	114	-16							0.00	22.00
ALEXANDRIA	92	60.7	39.9	94.8	72.6	66.4	10	104	5	471	1921	5.73	3.13	56.69	13.09	0.08	6.18
BATON ROUGE	64	63.5	42.3	92.0	73.4	68.1	11	102	10	409	1560	6.27	2.45	54.46	14.51	0.06	12.08
LAKE CHARLES	9	62.3	45.3	90.5	74.0	68.6	5	98	22	381	1459	7.29	3.06	56.04	17.36	T	14.10
NEW ORLEANS U 1961	9	63.5	48.3	90.3	75.3	70.4	47	102	17	341	1175	7.09	3.66	63.54	25.11	T	14.01
N.O. AUDUBON PK 1964	6	64.8	46.2	91.4	73.7	69.5	3	97	17	344	1254	8.12	3.15	62.96	10.15	0.03	4.03
NEW ORLEANS INTL AP	4	64.4	44.8	90.6	72.6	68.6	23	100	14	363	1385	6.72	2.84	53.90	19.09	0.00	9.86
SHREVEPORT	254	56.7	38.3	94.2	73.2	66.1	17	107	3	552	2184	4.94	2.28	46.28	12.39	0.00	7.17
MAINE							82	105	-48							0.00	7.72
CARIBOU	624	19.8	1.1	75.1	53.9	38.4	30	96	-41	1690	9767	4.07	2.02	36.31	8.45	0.12	6.23
PORTLAND	47	31.8	11.7	79.5	56.7	45.0	29	100	-39	1339	7511	4.37	2.42	42.85	12.27	0.26	7.71
MARYLAND							74	109	-40							0.00	14.75
BALTIMORE U 1964	14	44.1	30.4	87.4	70.7	57.6	94	107	- 7	859	4111	4.60	2.98	44.21	17.69	0.05	7.82
BALTIMORE INTL AP	148	44.2	25.3	87.2	66.4	55.2	19	102	- 7	936	4654	5.19	2.89	43.05	18.35	T	7.82
FREDERICK 1961	294	41.4	24.0	87.4	65.4	54.7	12	102	-11	1001	4854	4.03	2.58	40.23	11.26	0.15	5.56
MASSACHUSETTS							82	106	-34							0.00	11.14
BLUE HILL OBS	629	34.4	19.5	80.2	61.6	48.7	84	101	-21	1178	6368	4.54	3.27	47.50	18.78	0.06	9.93
BOSTON	15	36.8	23.0	81.9	65.4	51.4	5	98	- 4	1088	5634	4.22	2.88	42.77	17.09	0.35	8.40
NANTUCKET	43	39.2	26.8	74.3	61.7	49.5	4	90	2	992	5891	4.54	2.71	43.66	12.92	0.01	6.53
PITTSFIELD 1968	1170	30.5	13.1	79.2	56.4	44.9	29	95	-25	1339	7578	4.89	2.51	44.42	10.32	0.42	4.25
WORCESTER	986	31.2	16.8	79.0	60.5	46.8	14	94	-19	1271	6969	4.26	2.92	45.41	8.56	0.83	4.79
MICHIGAN							83	112	-51							0.00	9.91
ALPENA	689	28.9	10.4	80.4	51.4	42.1	11	98	-28	1404	8506	3.61	1.61	29.92	8.37	0.16	3.18
DETROIT CITY AP	619	33.0	20.7	83.9	64.8	50.1	36	105	-16	1181	6232	3.53	2.05	30.95	8.05	0.10	3.72
DETROIT METRO. AP	633	33.3	19.0	83.9	60.9	48.9	11	98	-13	1203	6516	3.54	1.92	30.80	7.70	0.15	3.71
DETROIT W R 1969	711	33.4	19.8	86.0	62.4	50.0	7	99	-13	1190	6258	3.48	1.94	30.67	8.71	0.25	4.78
ESCANABA U 1961	594	25.0	10.0	75.3	58.4	41.9	52	100	-31	1473	8657	3.22	1.37	28.08	9.93	0.07	5.05
FLINT	771	31.9	17.1	83.5	58.9	47.5	6	97	-22	1256	6885	3.39	1.70	30.14	8.68	0.07	6.04
GRAND RAPIDS	784	31.3	16.7	84.5	60.0	47.6	6	100	-16	1271	6998	3.46	1.75	31.19	8.21	0.14	2.66
HOUGHTON LAKE	1149	27.6	10.7	80.1	53.9	42.9	5	96	-24	1420	8342	3.12	1.29	28.34	6.67	0.32	2.59
LANSING	841	31.1	17.4	83.4	59.9	47.6	6	100	-24	1262	6909	3.73	1.95	31.18	7.94	0.17	4.35
MARQUETTE U	677	25.7	13.2	75.7	57.6	42.6	33	102	-21	1411	8393	3.46	1.65	31.61	10.20	0.21	4.65
MUSKEGON	625	32.3	19.7	81.9	60.6	48.2	10	99	-12	1209	6696	3.06	1.80	30.07	8.54	0.11	3.61
SAULT STE MARIE	721	23.1	8.4	75.6	53.5	40.6	29	98	-28	1525	9048	3.81	1.50	31.22	7.35	0.16	3.58
MINNESOTA							83	114	-59							0.00	10.75
DULUTH	1428	17.9	-0.6	77.1	53.9	37.9	9	95	-38	1745	10000	4.27	0.96	28.91	8.48	0.13	4.05
INTERNATIONAL FALLS	1179	14.2	-3.1	78.4	52.8	36.2	30	98	-46	1919	10606	3.87	0.71	24.69	11.26	0.10	4.87
MINNEAPOLIS	834	22.4	2.3	83.9	60.7	43.7	10	99	-32	1631	8382	4.00	0.70	24.78	8.03	T	4.12
ROCHESTER	1297	23.0	4.2	84.0	60.5	44.0	10	97	-31	1593	8295	4.46	0.80	28.46	8.34	0.04	3.28
ST CLOUD	1034	[illegible]	-0.2	83.1	58.9	42.0	30	103	-40	1702	8879	4.49	0.72	25.92	9.34	0.01	4.62

State and Station	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 a m EST	1:00 p m EST	7:00 p m EST	July 7:00 a m EST	1:00 p m EST	7:00 p m EST	Wind Speed (m p h) Mean speed January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days, Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Zero and below
INDIANA																								
EVANSVILLE	3.9	12.3	10.6	78	66	68	86	57	59	9.5	8.4	59	42	75	103	101	161	114	4	47	14	42	110	6
FORT WAYNE	6.6	29.8	13.6	80	71	75	83	55	57	11.4	8.0	65	40	71	80	106	179	130	9	42	19	15	136	11
INDIANAPOLIS	4.9	20.6	12.5	79	68	70	87	60	62	11.2	7.4	90	40	71	92	101	172	121	7	44	20	17	122	8
SOUTH BEND	15.5	64.0	15.6	79	72	74	81	57	59	11.9	8.3	63			76	102	187	139	22	43	23	11	128	6
IOWA																								
BURLINGTON	7.2	25.5	13.0	80	69	74	85	58	60	11.3	8.0	52	53	77	102	105	158	104	9	52	19	32	128	11
DES MOINES	8.3	31.9	19.8	81	74	74	83	60	58	11.8	9.1	76	51	71	103	97	165	105	10	50	18	17	140	17
DUBUQUE	8.7	40.5	15.5	77	69	74	87	62	65						92	99	174	111	13	45	28	6	153	20
SIOUX CITY	6.2	32.0	11.4	78	71	72	87	61	58	11.0	9.0	91	58	75	108	104	153	98	11	47	19	18	151	24
WATERLOO	6.6	29.1	12.2	79	71	74	88	61	62	10.8	8.1	54			95	105	165	94	9	42	23	13	159	28
KANSAS																								
CONCORDIA U 1961	4.5	21.4	17.2	78	63	68	67	47	48	7.7	7.0	65	60	78	142	126	97	86	7	45	10	48	118	6
CONCORDIA	3.2	18.6	13.2	82	67	69	63	53	50	12.0	11.4	67	58	72	135	95	135	90	6	63	18	45	132	6
DODGE CITY	3.9	18.1	7.4	77	57	58	78	47	42	14.0	13.2	78	68	77	137	105	123	77	6	54	23	61	124	3
GOODLAND	5.3	32.6	15.2	80	59	60	84	43	42	12.3	11.9	66			143	123	99	76	11	51	25	38	157	5
TOPEKA	5.4	20.0	9.3	76	65	66	84	62	61	10.7	9.1	81	54	67	114	98	153	94	6	59	14	25	124	4
WICHITA	4.0	14.3	13.0	79	63	66	80	51	46	12.8	11.3	66	58	73	125	98	142	83	4	56	17	62	112	7
KENTUCKY																								
COVINGTON	6.8	24.0	9.8	77	64	67	84	56	59	10.8	7.1	40			80	100	185	127	7	44	20	24	112	6
LEXINGTON	5.6	16.0	9.5	77	65	67	84	57	62	11.9	7.6	46			99	105	161	128	5	47	18	23	100	3
LOUISVILLE	5.5	18.0	13.0	77	54	54	87	59	60	9.6	6.6	61	40	67	98	103	164	122	5	45	10	27	98	2
LOUISIANA																								
ALEXANDRIA	0.2	0.7	7.3	88	65	72	96	62	70	6.9	4.7	46			105	110	150	99	*	64	40	73	49	0
BATON ROUGE	T	0.2	1.0	85	65	67	92	64	71	7.9	6.1	58			100	119	146	105	*	69	37	83	26	0
LAKE CHARLES	T	0.3	0.3	88	69	77	93	63	69	10.4	6.4	58			94	128	143	90	0	66	50	71	14	0
NEW ORLEANS U 1961	T	0.1	1.3	#85	#67	#73	#84	#63	#71	7.5	5.6	98	49	61	110	135	120	119	*	74	15	68	4	0
N.O. AUDUBON PK 1964	0.0	2.3	4.5	80	68	72	96	72	80	5.4	3.2	26	37	47	99	129	137	115	1	79	18	84	14	0
NEW ORLEANS INTL AP	T	0.2	2.7	86	67	73	91	66	71	9.6	8.4	69			112	122	131	112	*	68	32	68	12	0
SHREVEPORT	0.5	1.5	4.0	83	63	65	90	55	56	10.5	8.0	44	50	74	122	100	143	94	1	52	20	92	34	0
MAINE																								
CARIBOU	22.2	108.8	18.2	74	66	73	83	58	70	12.4	9.8				55	104	206	159	30	20	27	2	190	42
PORTLAND	18.9	73.7	21.5	78	63	72	80	59	75	9.2	7.6	76	55	65	109	101	155	126	18	18	53	5	162	15
MARYLAND																								
BALTIMORE U 1964	5.1	22.7	24.5	72	58	66	71	52	65	10.3	8.8	66	48	65	121	123	121	122	6	32	15	16	71	*
BALTIMORE INTL AP	5.7	25.1	15.5	72	57	63	81	52	64	10.3	8.4	80	52	65	111	112	142	111	9	27	30	32	103	1
FREDERICK 1961	6.2	22.0	16.0		64			57										123	6		9	28	119	1
MASSACHUSETTS																								
BLUE HILL OBS	15.7	61.0	28.2	76	62	69	81	57	74	17.4	13.0	92	45	57				135	16			5	132	4
BOSTON	12.5	42.0	19.4	67	57	62	73	56	65	14.6	11.5	65	53	65	100	106	159	128	11	19	23	9	100	1
NANTUCKET	8.7	34.8	20.1	79	67	75	87	76	91	14.7	12.0	73	42	60	86	93	186	125	8	20	99	1	108	0
PITTSFIELD 1968	19.0	78.0	17.0												57	127	181	152	14	28	45	3	163	14
WORCESTER	16.7	78.9	24.0	73	60	67	73	56	67	12.9	8.8	76			95	137	163	129	13	21	85	5	147	7
MICHIGAN																								
ALPENA	20.5	78.8	16.1	77	68	72	82	51	59	7.8	6.2	43	38	70	71	107	187	148	23	33	23	6	187	27
DETROIT CITY AP	8.0	31.6	10.0	79	69	74	75	51	55	11.9	8.2	77	32	70	80	108	177	131	11	32	11	15	125	2
DETROIT METRO. AP	7.8	34.7	10.3	78	70	73	82	52	57	11.1	8.3	52	39	66	78	108	179	130	12	33	24	12	141	6
DETROIT W R 1969	7.2	32.7	8.7	78	70	72	82	49	52	12.0	8.7	60			78	107	180	135	12	33	28	15	143	7
ESCANABA U 1961	13.5	55.7	14.5	78	70	74	80	65	69	10.2	9.0	68	41	66	101	106	155	129	18	33	19	*	163	20
FLINT	[illegible]	41.1	19.8	74	69	71	82	56	58	11.8	8.1	81			69	108	188	130	13	33	19	6	142	7
GRAND RAPIDS	23.0	77.0	12.6	82	74	78	80	54	55	11.3	8.3	58	35	65	71	101	193	141	26	36	28	12	150	7
HOUGHTON LAKE	[illegible]	[illegible]	9.3	84	74	80	84	54	56	10.3	7.3	40			75	95	195	149	25	38	32	3	178	24
LANSING	[illegible]	[illegible]	20.4	84	76	80	81	53	57	11.4	8.5	63	35	71	85	106	174	137	13	33	22	14	154	12
MARQUETTE U	[illegible]	[illegible]	16.1	75	68	72	76	63	58	8.9	7.1	54	33	67	68	[illegible]	[illegible]	158	41	28	17	5	160	11
MUSKEGON	[illegible]	[illegible]	20.1	81	76	78	82	58	58	12.3	8.2	44			82	88	195	141	30	37	24	3	158	5
SAULT STE MARIE	23.3	104.0	14.5	83	77	81	88	61	67	10.2	8.4	42	33	63	68	90	207	164	54	30	47	1	179	28
MINNESOTA																								
DULUTH	16.4	76.8	15.4	74	66	67	83	58	59	12.2	10.1	75	50	67	75	105	185	134	22	34	54	1	186	52
INTERNATIONAL FALLS	[illegible]	[illegible]	[illegible]	73	68	70	88	57	58	9.4	7.8	51			81	103	181	134	18	31	14	4	194	67
MINNEAPOLIS	9.0	44.4	16.2	75	68	69	84	57	56	10.5	9.3	92	50	69	101	101	163	112	13	36	[illegible]	13	160	35
ROCHESTER	7.8	[illegible]	[illegible]	77	71	75	80	61	61	13.8	9.9	62			95	96	174	114	12	44	45	5	165	35
ST CLOUD	7.9	[illegible]	[illegible]	76	68	71	87	55	56	8.2	7.0				96	102	167	108	13	36	20	11	177	44

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal	Precipitation (inches) Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours
MISSISSIPPI							81	115	-19							0.00	15.68
JACKSON	310	58.3	37.4	92.9	71.7	65.5	6	103	7	547	2203	5.74	2.04	50.82	11.88	0.00	6.97
MERIDIAN	290	59.4	36.8	92.6	70.3	64.8	5	103	6	543	2289	6.32	2.22	53.13	16.82	0.00	6.95
VICKSBURG U 1966	234	57.4	40.5	90.4	73.2	65.9	29	101	2	512	2041	5.73	2.04	49.50	16.58	T	9.97
MISSOURI							82	118	-40							0.00	18.18
COLUMBIA MUNI 1969	778	39.3	21.3	89.7	67.6	55.0	30	113	-18	1076	5046	4.70	1.71	36.96	13.30	0.09	4.37
KANSAS CITY	742	39.9	23.4	91.9	71.0	56.8	10	104	- 9	1032	4711	4.57	1.24	34.07	11.94	0.04	7.46
ST JOSEPH	811	37.2	17.1	91.0	67.8	53.8	6	102	-14	1172	5484	5.93	1.09	34.18	13.73	T	7.12
ST LOUIS	535	40.2	23.5	89.2	66.9	55.3	9	106	-11	1026	4900	4.29	1.97	35.31	8.65	0.25	3.29
SPRINGFIELD	1268	43.4	23.8	90.3	67.2	56.5	10	102	-10	973	4561	5.28	1.96	41.08	18.75	0.08	6.85
MONTANA							103	117	-70							0.00	10.10
BILLINGS	3567	33.2	13.1	88.5	60.8	47.5	11	105	-26	1296	7049	2.55	0.54	13.23	7.64	T	2.83
BUTTE 1961	5530	28.0	0.4	79.8	45.0	38.3	29	100	-52	1575	9760	2.28	0.55	12.69	5.40	T	2.02
GLASGOW	2284	19.6	-.1	85.3	56.1	41.4	5	102	-47	1711	8996	2.98	0.41	12.27	5.36	T	3.98
GREAT FALLS	3662	31.6	12.5	84.7	54.1	44.7	9	106	-43	1349	7750	2.90	0.60	14.07	8.13	T	3.20
HAVRE U 1961	2852	26.3	6.1	85.9	56.6	43.6	57	107	-57	1513	8213	2.98	0.39	12.31	7.09	T	2.94
HAVRE	2584	24.2	3.6	85.3	54.6	42.1	9	111	-52	1584	8700	2.73	0.43	11.89	4.72	T	2.34
HELENA	3828	28.8	8.4	84.4	52.3	43.4	6	105	-38	1438	8129	2.23	0.43	10.85	4.74	0.02	2.06
KALISPELL	2965	27.6	12.0	83.7	47.6	42.8	10	105	-35	1401	8191	2.21	0.96	15.42	4.72	T	2.35
MILES CITY	2629	27.4	5.6	90.2	60.4	45.8	32	110	-37	1504	7723	2.71	0.37	12.17	9.78	T	2.71
MISSOULA	3190	28.0	10.3	85.0	49.0	43.2	10	105	-30	1420	8125	1.91	0.72	12.83	4.19	T	1.82
NEBRASKA							94	118	-47							0.00	13.15
GRAND ISLAND	1841	34.1	11.0	90.7	63.7	50.1	9	106	-28	1314	6530	3.85	0.56	21.85	13.96	0.00	5.41
LINCOLN U	1150	34.0	16.2	92.3	67.9	52.8	5	105	-18	1237	5864	4.50	0.90	27.43	12.93	0.05	5.38
NORFOLK	1544	30.1	8.6	89.2	64.7	48.9	24	113	-26	1414	6979	4.26	0.73	23.95	12.22	T	4.23
NORTH PLATTE	2775	37.3	10.7	90.0	62.2	49.2	5	102	-25	1271	6684	3.25	0.40	18.27	8.01	T	3.80
OMAHA	977	31.7	12.9	89.7	67.3	51.5	6	107	-17	1324	6218	4.53	0.80	27.56	13.75	T	6.47
SCOTTSBLUFF	3957	38.7	11.9	89.2	60.1	48.7	5	103	-25	1231	6673	3.10	0.29	14.38	8.33	T	3.74
VALENTINE	2587	33.3	6.7	90.6	60.2	46.9	15	109	-29	1395	7425	3.11	0.34	17.30	8.96	T	3.19
NEVADA							81	122	-50							0.00	7.13
ELKO	5050	35.1	10.0	90.8	48.3	45.4	5	102	-14	1314	7433	1.16	0.30	9.05	3.35	0.00	1.85
ELY	6253	36.8	8.7	86.8	48.1	44.3	31	99	-27	1308	7733	0.95	0.49	8.33	3.53	0.00	1.54
LAS VEGAS	2162	54.2	32.0	103.5	75.8	65.7	10	114	8	688	2709	0.53	0.04	3.90	2.59	0.00	2.59
RENO	4404	44.6	16.2	89.4	45.9	48.4	6	103	- 4	1073	6332	1.19	0.17	7.15	5.25	0.00	2.37
WINNEMUCCA	4301	39.7	14.7	92.0	49.9	47.4	20	105	-24	1172	6761	1.05	0.15	8.63	2.86	0.00	1.79
NEW HAMPSHIRE							93	106#	-46							0.00	8.40
CONCORD	342	31.7	10.6	82.8	56.4	45.6	4	102	-23	1358	7383	3.75	2.48	38.80	10.10	0.41	4.47
MT WASHINGTON OBS	6262	14.7	2.2	54.9	43.3	27.0	37	71	-47	1820	13817	7.00	5.21	74.09	25.56	0.75	8.64
NEW JERSEY							85	110	-34							0.00	15.37
ATLANTIC CITY	64	42.9	26.6	83.8	66.3	54.1	5	106	- 8	936	4812	4.90	2.83	42.36	13.09	0.10	6.46
NEWARK	7	39.5	25.0	86.1	66.5	53.7	4	105	1	1014	5067	4.43	2.80	42.38	11.84	0.21	4.71
TRENTON U	56	40.0	26.2	85.2	66.7	53.9	37	106	-14	989	4980	4.77	2.59	41.28	14.10	0.05	4.85
NEW MEXICO							78	116	-50							0.00	11.28
ALBUQUERQUE	5311	46.4	23.5	91.2	65.8	56.6	10	103	- 7	930	4348	1.33	0.38	8.13	3.33	0.00	1.92
CLAYTON	4969	46.2	20.2	88.4	60.6	53.1	25	104	-21	986	5158	2.74	0.33	14.51	7.77	0.00	4.67
RATON 1968	6379	45.3	12.6	86.6	52.9	48.9	23	98	-31	1116	6228	2.63	0.26	14.75	11.93	0.00	5.60
ROSWELL	3617	55.1	20.6	95.4	61.7	58.5	9	109	-24	840	3793	1.82	0.34	11.62	5.64	0.00	3.37
SILVER CITY 1968	5373	52.6	26.4	90.3	63.9	58.2	7	102	- 9	791	3705	2.40	0.28	10.76	4.47	0.00	2.08
NEW YORK							80	108	-52							0.00	11.17
ALBANY	275	31.0	14.4	83.7	60.5	47.6	4	98	-26	1311	6875	3.58	2.20	35.08	8.96	0.20	4.08
BINGHAMTON	1590	30.1	17.4	78.3	58.5	45.8	18	96	-20	1277	7286	3.85	2.18	36.24	9.46	0.26	3.88
BINGHAMTON U 1968	858	34.2	18.9	83.1	60.4	48.8	77	103	-28	1190	6451	3.81	2.38	36.68	9.59	0.16	4.55
BUFFALO	705	30.8	18.2	80.1	59.4	46.7	9	94	-20	1256	7062	3.60	2.54	35.65	9.13	0.11	3.88
NEW YORK CENTRAL PK	132	39.5	26.9	85.3	68.2	54.5	101	106	-15	986	4871	4.44	2.84	42.37	16.85	0.02	11.17
NEW YORK KENNEDY	13	38.0	25.6	84.7	67.1	53.2	9	104	- 2	1029	5219	4.97	2.93	43.93	17.41	T	6.59
NEW YORK LA GUARDIA	11	39.6	27.5	84.8	68.8	54.7	8	107	- 2	973	4811	5.08	3.09	44.22	16.05	0.03	7.11
ROCHESTER	547	32.6	17.8	82.5	60.7	48.0	6	98	-11	1234	6748	3.01	2.38	31.50	9.70	0.22	3.13
SYRACUSE	410	31.5	16.5	82.4	62.0	48.0	6	97	-26	1271	6756	3.60	2.84	37.60	8.41	0.21	4.27

State and Station	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7 00 a m EST	1 00 p m EST	7 00 p m EST	July 7 00 a m EST	1 00 p m EST	7 00 p m EST	Wind Speed (m p h) Mean speed January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow sleet hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Zero and below
MISSISSIPPI																								
JACKSON	0.3	1.8	5.3	85	64	72	93	60	66	9.4	6.5	45	44	62	108	101	156	106	1	55	25	77	54	0
MERIDIAN	0.5	1.7	15.0	87	61	70	92	58	66	7.2	5.4	40			116	112	137	102	*	57	22	66	64	0
VICKSBURG U 1966	0.9	1.6	10.0	83	62	73	93	62	71	9.3	6.7	56	49	67	111	114	140	105	1	62	12	[illegible]	23	0
MISSOURI																								
COLUMBIA MUNI 1969	4.4	19.4	10.3	79	65	68	85	55	56	11.1	8.0	63	52	74	116	96	153	107	6	55	14	40	109	4
KANSAS CITY	5.8	20.1	12.8	75	61	62	80	59	55	9.9	8.8	72	52	76	117	103	145	99	6	5[illegible]	12	39	100	4
ST JOSEPH	5.7	19.6	11.3	77	67	69	86	62	59	10.9	7.9	60			125	99	141	95	6	56	19	37	124	5
ST LOUIS	4.3	17.4	11.2	79	61	66	85	58	56	10.2	7.6	60	51	71	103	104	159	105	6	43	9	35	107	4
SPRINGFIELD	2.7	13.7	12.5	77	58	63	87	59	59	12.5	9.2	66	49	70	116	99	150	106	5	58	19	36	107	3
MONTANA																								
BILLINGS	8.3	54.1	23.7	65	61	57	64	41	31	12.9	9.7	79	50	79	91	120	154	93	19	29	18	29	147	18
BUTTE 1961	7.1	51.0	13.0							6.9	8.0				79	107	179	105	19	41	6	4	228	43
GLASGOW	6.8	25.9	7.4	72	69	69	77	46	36	11.5	10.5	44			86	104	175	85	9	28	12	21	184	50
GREAT FALLS	9.5	55.2	11.0	67	63	63	66	38	29	15.9	10.3	82	51	81	86	104	175	99	19	27	13	20	150	29
HAVRE U 1961	7.3	37.4	22.9	82	71		74	38		8.8	7.2	70	49	78	121	124	120	90	13	25	5	22	172	38
HAVRE	7.9	34.4	16.2	73	68	70	72	38	27	10.4	9.2	71	52	84	90	96	179	84	12	21	7	26	183	45
HELENA	8.8	49.3	21.5	70	66	66	69	40	28	6.9	7.9	73	49	80	85	103	177	97	14	36	9	20	184	21
KALISPELL	19.2	66.4	15.4	82	82	77	83	42	32	7.3	6.8	40			76	82	207	131	22	25	36	16	194	16
MILES CITY	6.2	31.3	16.5	73	63	68	70	39	31	9.1	9.4				101	108	156	91	13	30	11	39	173	32
MISSOULA	13.2	48.6	11.2	84	81	77	77	43	29	5.2	6.7	72	29	81	73	83	209	123	16	25	28	22	191	11
NEBRASKA																								
GRAND ISLAND	5.8	28.4	12.0	79	65	68	86	55	51	11.6	10.8	57			125	100	140	87	9	51	17	38	151	17
LINCOLN U	6.0	28.0	19.0							9.8	9.4	64	58	74	115	104	146	97	8	49	8	29	128	8
NORFOLK	5.6	28.8	10.5	76	63	68	84	54	50						117	100	148	87	9	50	11	33	158	21
NORTH PLATTE	5.6	31.5	9.7	81	68	67	87	57	54	9.5	9.9	72	60	74	120	109	136	84	10	50	18	26	178	18
OMAHA	8.0	32.0	18.3	76	65	68	82	59	58	11.3	9.2	73	55	76	114	108	143	98	9	49	15	29	137	10
SCOTTSBLUFF	5.8	36.2	12.1	80	62	61	84	45	40	10.6	9.7	80			121	109	135	84	12	45	10	34	171	14
VALENTINE	3.7	22.7	9.0	81	68	66	84	50	42	10.1	10.1	72	66	77	121	104	140	78	8	45	5	38	177	26
NEVADA																								
ELKO	10.8	39.5	16.7	81	73	62	56	26	20	5.5	6.3	58			134	98	133	77	15	21	6	50	191	12
ELY	8.9	46.6	13.1	70	59	55	51	23	21	10.8	10.5	74	65	81	134	106	125	71	15	32	2	15	217	19
LAS VEGAS	0.9	1.2	5.0	53	38	28	29	19	15	6.9	9.9	54	78	86	214	85	66	24	1	15	1	133	42	0
RENO	6.7	25.3	16.9	71	64	48	67	30	19	6.1	6.5	80	65	92	166	93	106	48	9	13	8	50	188	1
WINNEMUCCA	6.4	25.1	9.9	78	66	58	44	21	14	7.6	8.3	66	44	89	139	86	140	66	9	15	4	51	193	7
NEW HAMPSHIRE																								
CONCORD	17.4	62.7	19.0	71	58	65	87	55	66	7.3	5.6	72	50	61	97	109	159	125	18	22	53	9	172	25
MT WASHINGTON OBS	31.5	212.0	49.3	82	83	82	91	87	90	46.0	24.9	231	33	31	52	77	236	205	61	16	309	0	243	64
NEW JERSEY																								
ATLANTIC CITY	5.0	17.8	14.4	77	58	71	85	57	73	12.4	9.3	60	54	59	105	104	156	112	5	25	45	20	121	2
NEWARK	7.0	29.9	26.0	71	57	62	72	53	61	11.4	9.8	82			99	114	152	122	8	25	21	20	93	0
TRENTON U	5.5	24.2	16.6							9.8	7.8	64	51	66	100	116	149	121	7	33		18	90	*
NEW MEXICO																								
ALBUQUERQUE	1.9	9.8	14.2	66	48	36	61	36	28	7.8	9.0	90	72	76	175	111	79	58	4	43	4	60	118	1
CLAYTON	3.2	18.6	12.7	63	41	47	77	41	42						165	99	101	67	6	54	11	37	142	3
RATON 1968	4.8	24.2	10.1		45			38							134	132	99	78	9	75	8	16	182	9
ROSWELL	2.9	11.5	15.3	70	46	37	73	40	35	8.4	9.4	75	79	77	178	102	85	50	4	40	9	104	127	2
SILVER CITY 1968	2.6	8.4	7.0		43	39		36	36						187	110	68	60	3	54	1	43	105	*
NEW YORK																								
ALBANY	15.7	63.9	18.3	78	64	74	78	55	62	9.8	7.3	71	45	64	73	112	180	133	16	28	23	9	157	15
BINGHAMTON	20.4	88.0	23.0	81	74	76	85	57	65	11.9	8.4	72	36	66	51	100	214	162	25	31	51	3	149	8
BINGHAMTON U 1968	12.8	52.2	21.0															151	15			9	133	7
BUFFALO	21.9	87.2	24.3	77	72	76	79	56	62	14.6	10.7	91	33	69	60	107	198	165	25	30	20	3	138	5
NEW YORK CENTRAL PK	7.6	29.9	26.4	68	60	61	75	56	63	10.9	7.7	70	50	65	107	125	133	121	8	18		16	82	1
NEW YORK KENNEDY	7.2	29.0	19.9	70	59	65	74	57	71	13.2	10.6	52			99	121	145	120	8	24	31	10	93	*
NEW YORK LA GUARDIA	6.6	29.7	22.8	64	57	58	70	51	59	14.3	10.3	70			95	117	153	120	8	23	14	14	79	*
ROCHESTER	21.0	82.8	18.7	72	66	71	79	51	58	11.6	7.9	73	36	70	65	110	190	152	26	29	13	10	136	5
SYRACUSE	27.0	107.5	24.5	76	67	74	77	54	61	10.9	8.5	63	34	67	68	103	194	167	32	29	9	7	140	10

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal	Precipitation (inches) Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours
NORTH CAROLINA							83	109	-26							0.00	22.22
ASHEVILLE U 1964	[illegible]	[illegible]	[illegible]	[illegible]	63.7	56.5	34	99	- 7	784	4042	4.31	2.22	37.88	13.75	T	6.78
ASHEVILLE	2140	47.5	27.7	[illegible]	61.3	54.7	5	96	- 7	849	4466	5.85	2.77	48.15	11.28	0.16	5.13
CAPE HATTERAS R	7	53.2	[illegible]	85.8	72.2	62.2	12	96	14	580	2612	6.42	2.99	54.47	14.63	0.45	8.11
CHARLOTTE	736	51.4	[illegible]	88.8	69.5	60.8	9	100	2	691	3191	4.88	2.53	43.38	10.89	T	4.84
GREENSBORO	897	49.6	29.8	87.7	66.9	58.2	6	100	3	784	3815	4.79	2.68	42.16	13.26	0.13	7.47
RALEIGH	434	[illegible]	31.3	88.1	67.6	59.5	5	98	3	725	3393	[illegible]	2.71	43.58	12.94	0.24	5.20
WILMINGTON	28	58.4	[illegible]	[illegible]	70.9	63.6	6	100	17	546	2347	7.68	2.85	51.29	[illegible]	0.17	8.24
WINSTON-SALEM 1964	[illegible]	[illegible]	31.5	[illegible]	67.6	59.1	10	100	1	753	3595	4.63	2.78	[illegible]	10.86	0.12	3.60
NORTH DAKOTA							78	121	-60							0.00	7.70
BISMARCK	1647	19.6	[illegible]	[illegible]	57.7	42.2	10	108	-43	1708	8851	3.40	0.36	15.15	8.29	T	3.25
DEVILS LAKE J 1961	[illegible]	[illegible]	[illegible]	81.7	[illegible]	[illegible]	[illegible]	[illegible]	-46	[illegible]	9940	3.18	0.40	17.61	[illegible]	T	4.82
FARGO	896	17.3	2.8	[illegible]	[illegible]	41.1	10	100	-35	[illegible]	9226	3.04	0.51	18.45	[illegible]	0.02	4.72
WILLISTON J 1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	46	[illegible]	[illegible]	1705	9068	3.59	0.46	14.66	7.88	T	[illegible]
WILLISTON	[illegible]	19.4	[illegible]	[illegible]	[illegible]	[illegible]	8	107	-41	1758	9243	3.31	0.48	13.70	7.38	T	5.03
OHIO							96	113	-39							0.00	9.37
AKRON	[illegible]	[illegible]	[illegible]	[illegible]	81.9	[illegible]	6	94	- 9	[illegible]	[illegible]	4.26	2.25	36.43	11.43	0.20	4.18
CINCINNATI 1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27			1021	5195	4.04	2.17	39.16			
CINCINNATI ABBE OBS	761	[illegible]	[illegible]	87.5	[illegible]	[illegible]	54	[illegible]	-17	970	4806	4.18	2.24	39.51	13.68	0.13	4.77
CLEVELAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9	98	-17	1135	6196	[illegible]	[illegible]	35.35	[illegible]	0.36	3.73
COLUMBUS	[illegible]	[illegible]	[illegible]	[illegible]	62.9	[illegible]	10	98	-15	[illegible]	5660	4.16	2.11	36.67	[illegible]	0.11	[illegible]
DAYTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]	-12	[illegible]	5622	4.10	2.23	36.04	10.89	[illegible]	4.30
MANSFIELD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	49.1	4	96	-10	1169	[illegible]	[illegible]	2.27	38.16	8.06	0.43	5.06
SANDUSKY J 1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	105	[illegible]	1122	5859	3.73	1.92	33.15	[illegible]	[illegible]	[illegible]
TOLEDO	[illegible]	[illegible]	18.4	[illegible]	[illegible]	[illegible]	14	98	-17	[illegible]	6494	3.79	[illegible]	30.50	8.47	0.27	4.39
YOUNGSTOWN	1178	34.4	20.2	[illegible]	59.3	48.8	26	100	-18	1169	6417	4.32	2.50	39.27	9.87	0.27	4.31
OKLAHOMA							78	120	-27							0.00	13.75
OKLAHOMA CITY	[illegible]	[illegible]	[illegible]	[illegible]	72.2	[illegible]	4	[illegible]	[illegible]	868	3725	[illegible]	[illegible]	30.82	10.78	T	4.82
TULSA	[illegible]	45.9	26.5	[illegible]	71.4	59.7	[illegible]	110	- 3	893	[illegible]	5.26	1.62	37.08	18.00	T	7.54
OREGON							[illegible]	119	-54							0.00	31.10
ASTORIA	8	46.5	[illegible]	[illegible]	52.5	[illegible]	[illegible]	[illegible]	11	753	[illegible]	[illegible]	[illegible]	50.44	[illegible]	0.01	[illegible]
BURNS J	4151	[illegible]	[illegible]	[illegible]	51.1	[illegible]	[illegible]	[illegible]	-26	1246	[illegible]	1.62	[illegible]	[illegible]	5.47	0.00	2.15
EUGENE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 4	803	4726	6.61	0.27	[illegible]	23.99	0.00	4.82
MEACHAM	4050	[illegible]	[illegible]	77.6	[illegible]	43.5	25	[illegible]	-23	[illegible]	7874	4.53	0.50	33.87	[illegible]	0.00	[illegible]
MEDFORD	[illegible]	[illegible]	[illegible]	[illegible]	55.7	52.6	9	[illegible]	0	918	[illegible]	[illegible]	0.18	19.78	11.72	0.00	[illegible]
PENDLETON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-22	1017	5127	1.49	0.22	[illegible]	[illegible]	0.00	1.49
PORTLAND U 1964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	107	[illegible]	[illegible]	[illegible]	7.42	[illegible]	[illegible]	17.45	0.00	[illegible]
PORTLAND	21	[illegible]	[illegible]	78.6	[illegible]	[illegible]	[illegible]	[illegible]	- 3	825	[illegible]	6.38	0.41	37.18	12.83	0.00	[illegible]
ROSEBURG 1964	[illegible]	[illegible]	[illegible]	[illegible]	51.8	[illegible]	21	[illegible]	[illegible]	[illegible]	4491	5.69	0.21	35.11	[illegible]	T	4.80
SALEM	[illegible]	[illegible]	[illegible]	81.7	50.4	52.4	8	104	8	822	4754	[illegible]	0.35	41.75	[illegible]	0.00	3.16
SEXTON SUMMIT R	[illegible]	39.3	[illegible]	[illegible]	51.6	[illegible]	25	100	- 2	958	6254	[illegible]	0.25	33.12	[illegible]	0.00	5.20
PACIFIC AREA																	
CANTON ISLAND [illegible]	8	88.4	77.5	[illegible]	[illegible]	83.5	[illegible]	98	70			[illegible]	[illegible]	[illegible]	[illegible]	T	5.56
ENIWETOK [illegible]	[illegible]	[illegible]	77.8	[illegible]	[illegible]	[illegible]	[illegible]	94	70			[illegible]	1.02	51.46	24.54	0.12	4.62
GUAM TAGUAC R	[illegible]	[illegible]	72.4	[illegible]	[illegible]	79.3	[illegible]	[illegible]	54			13.36	2.64	[illegible]	[illegible]	0.50	9.38
JOHNSTON ISLAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	79.3	[illegible]	[illegible]	62			[illegible]	0.64	[illegible]	15.80	0.11	9.51
KOROR R	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	69			15.76	7.13	[illegible]	[illegible]	[illegible]	11.57
KWAJALEIN ISLAND	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	69			17.13	2.15	94.76	[illegible]	0.18	5.68
MAJURO ISLAND	[illegible]	84.1	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	69			[illegible]	6.48	[illegible]	[illegible]	[illegible]	[illegible]
MARCUS ISLAND [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	55			7.19	[illegible]	42.57	[illegible]	[illegible]	5.66
PAGO PAGO AM SAMOA	12						[illegible]	92	62						32.66	[illegible]	9.01
PONAPE R	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	96	66			[illegible]	9.74	191.92	38.65	1.71	[illegible]
TRUK MOEN ISLAND	5	84.9	76.5	[illegible]	74.8	[illegible]	[illegible]	94	70			14.12	6.29	[illegible]	34.89	[illegible]	[illegible]
WAKE	11	81.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	64			[illegible]	1.14	36.86	[illegible]	0.06	[illegible]
YAP	44	[illegible]	75.6	87.6	[illegible]	[illegible]	[illegible]	[illegible]	69			14.70	4.64	121.50	34.71	1.08	10.45
PENNSYLVANIA							82	111	-42							0.00	34.50
ALLENTOWN	387	36.7	21.3	[illegible]	63.0	51.1	[illegible]	[illegible]	-12	1116	[illegible]	[illegible]	2.64	[illegible]	12.10	[illegible]	4.79
ERIE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	48.7	4	94	- 6	1169	[illegible]	3.67	2.32	[illegible]	[illegible]	0.58	[illegible]
HARRISBURG	[illegible]	[illegible]	[illegible]	[illegible]	65.3	[illegible]	[illegible]	[illegible]	- 8	1045	[illegible]	[illegible]	2.31	37.65	[illegible]	0.04	5.36
PHILADELPHIA	5	[illegible]	[illegible]	85.9	[illegible]	[illegible]	[illegible]	[illegible]	- 5	1014	[illegible]	[illegible]	[illegible]	42.48	[illegible]	[illegible]	5.45
PITTSBURGH GTR. AP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-18	1119	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.16	[illegible]
PITTSBURGH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	36.87	8.84	[illegible]	3.57
READING [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28	[illegible]	- 2	[illegible]	4945	[illegible]	2.64	41.43	[illegible]	[illegible]	6.08
W-B SCRANTN AVOCA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1156	6254	[illegible]	[illegible]	38.48	[illegible]	[illegible]	[illegible]
WILLIAMSPORT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	40.65	[illegible]	[illegible]	[illegible]

State and Station	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 a m EST	1:00 p m EST	7:00 p m EST	July 7:00 a m EST	1:00 p m EST	7:00 p m EST	Wind Speed (m p h) Mean speed January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Zero and below
NORTH CAROLINA																								
ASHEVILLE U 1964	[illegible]	12.2	[illegible]	81	59	66	87	57	[illegible]	9.4	5.6	52	48	60	105	124	136	128	3	50	47	13	84	*
ASHEVILLE	6.4	24.2	[illegible]	86	[illegible]	70	97	66	76	7.4	5.7	49	55	61	104	103	158	127	6	51	79	[illegible]	117	*
CAPE HATTERAS R	[illegible]	1.7	7.0	81	68	77	85	70	83	12.6	10.4	72	55	[illegible]	[illegible]	100	159	120	1	45	16	3	33	0
CHARLOTTE	[illegible]	[illegible]	12.0	79	55	61	89	58	[illegible]	7.9	6.5	59	57	[illegible]	[illegible]	104	146	110	2	42	24	36	76	0
GREENSBORO	3.4	6.8	[illegible]	[illegible]	[illegible]	64	91	[illegible]	73	[illegible]	[illegible]	63	[illegible]	[illegible]	[illegible]	110	143	[illegible]	2	47	31	30	89	0
RALEIGH	[illegible]	7.4	[illegible]	76	51	[illegible]	[illegible]	61	73	8.5	6.7	73	56	[illegible]	[illegible]	107	142	[illegible]	2	45	34	28	68	0
WILMINGTON	[illegible]	1.4	[illegible]	78	[illegible]	[illegible]	84	64	77	[illegible]	8.6	88	58	[illegible]	119	111	135	[illegible]	1	44	[illegible]	38	48	0
WINSTON-SALEM 1964	3.2	[illegible]	10.9	72	[illegible]	[illegible]	84	57	67	[illegible]	7.4				121	102	142	[illegible]	3	[illegible]	32	34	76	0
NORTH DAKOTA																								
BISMARCK	[illegible]	[illegible]	[illegible]	71	[illegible]	[illegible]	[illegible]	48	44	[illegible]	9.8	[illegible]	55	76	93	108	164	[illegible]	12	[illegible]	12	21	188	[illegible]
DEVILS LAKE J 1961	[illegible]	[illegible]	[illegible]	76	72	[illegible]	[illegible]	[illegible]	51	[illegible]	[illegible]	[illegible]	[illegible]	71	112	[illegible]	144	101	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FARGO	[illegible]	[illegible]	[illegible]	71	[illegible]	[illegible]	[illegible]	[illegible]	54	[illegible]	[illegible]	58	[illegible]	[illegible]	87	111	165	[illegible]	11	34	[illegible]	14	182	56
WILLISTON J 1961	5.5	[illegible]	[illegible]	74	[illegible]	[illegible]	77	45	41	6.8	[illegible]	[illegible]	52	[illegible]	122	116	[illegible]	89	[illegible]	27	[illegible]	18	178	[illegible]
WILLISTON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	71	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112	162	[illegible]	11	[illegible]	[illegible]	21	190	56
OHIO																								
AKRON	9.8	[illegible]	[illegible]	78	[illegible]	72	84	54	61	11.8	7.6	[illegible]			[illegible]	102	191	150	[illegible]	40	27	11	[illegible]	4
CINCINNATI 1961				82	[illegible]	74	84	52	[illegible]						108	115	[illegible]							
CINCINNATI ABBE OBS	[illegible]	[illegible]	[illegible]							8.3	5.2	49	42	[illegible]				[illegible]	6	50		[illegible]	[illegible]	2
CLEVELAND	[illegible]	[illegible]	[illegible]	76	[illegible]	71	[illegible]	[illegible]	61	12.4	8.8	[illegible]	[illegible]	[illegible]	[illegible]	101	191	154	18	[illegible]	[illegible]	9	[illegible]	[illegible]
COLUMBUS	6.8	[illegible]	[illegible]	76	67	[illegible]	84	[illegible]	[illegible]	10.1	[illegible]	[illegible]	[illegible]	67	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	42	18	17	[illegible]	5
DAYTON	[illegible]	[illegible]	[illegible]	74	[illegible]	[illegible]	[illegible]	54	[illegible]	[illegible]	8.1	78	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	41	[illegible]	[illegible]	117	4
MANSFIELD	[illegible]	[illegible]	[illegible]	76	[illegible]	71	[illegible]	57	64	13.0	[illegible]	44			75	104	186	136	14	38	[illegible]	6	128	5
SANDUSKY J 1961	6.2	[illegible]	[illegible]							10.1	[illegible]	75	35	75	[illegible]	[illegible]	[illegible]	137	[illegible]	[illegible]	[illegible]	19	[illegible]	2
TOLEDO	8.4	[illegible]	[illegible]	80	[illegible]	74	[illegible]	54	[illegible]	10.7	7.5	72	45	[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	15	145	8
YOUNGSTOWN	12.6	[illegible]	[illegible]	82	[illegible]	77	84	54	53	[illegible]	7.9	68			73	[illegible]	[illegible]	161	[illegible]	[illegible]	[illegible]	8	136	5
OKLAHOMA																								
OKLAHOMA CITY	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	81	[illegible]	48	[illegible]	[illegible]	[illegible]	58	76	[illegible]	[illegible]	126	82	3	51	18	62	[illegible]	[illegible]
TULSA	3.3	[illegible]	[illegible]	77	58	58	[illegible]	[illegible]	51	[illegible]	9.3	[illegible]	62	[illegible]	125	104	136	[illegible]	4	55	[illegible]	71	84	1
OREGON																								
ASTORIA	[illegible]	[illegible]	[illegible]	87	[illegible]	[illegible]	91	[illegible]	[illegible]	[illegible]	8.4	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	43	[illegible]	[illegible]	0
BURNS J	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.8				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	21	[illegible]	[illegible]
EUGENE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	88	[illegible]	[illegible]	6.2	8.0	[illegible]			[illegible]	[illegible]	[illegible]	137	5	5	[illegible]	14	54	*
MEACHAM	[illegible]	[illegible]	[illegible]		81	78		[illegible]	24			[illegible]			[illegible]	[illegible]	[illegible]	161	[illegible]	16	[illegible]	[illegible]	169	[illegible]
MEDFORD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	71	46	27	4.2	[illegible]	[illegible]			[illegible]	82	[illegible]	101	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	*
PENDLETON	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	54	34	22	8.3	9.7	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	6	11	[illegible]	33	[illegible]	[illegible]
PORTLAND U 1964	[illegible]	[illegible]	[illegible]															[illegible]	[illegible]			[illegible]	[illegible]	0
PORTLAND	[illegible]	8.4	[illegible]	86	[illegible]	[illegible]	84	[illegible]	46	10.1	7.4	[illegible]	24	[illegible]	65	72	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	*
ROSEBURG 1964	3.2	[illegible]	[illegible]		86	[illegible]		54	[illegible]	[illegible]	[illegible]	50	26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	5	[illegible]	[illegible]	[illegible]	*
SALEM	[illegible]	[illegible]	[illegible]	89	86	[illegible]	[illegible]	[illegible]	41	8.8	6.7	69			75	[illegible]	[illegible]	[illegible]	2	6	[illegible]	[illegible]	66	[illegible]
SEXTON SUMMIT R	7.4	[illegible]	[illegible]	83	[illegible]	78	[illegible]	61	41	12.8	11.8	[illegible]			128	[illegible]	170	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	*
PACIFIC AREA																								
CANTON ISLAND [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	144	[illegible]	0	4	0	[illegible]	[illegible]	0
ENIWETOK [illegible]	[illegible]	[illegible]	[illegible]	77	[illegible]	68	81	84	75	[illegible]	12.6							202	0	5	0	15	[illegible]	0
GUAM TAGUAC R	[illegible]	[illegible]	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	48	[illegible]	[illegible]	[illegible]	[illegible]	0	28	*	[illegible]	[illegible]	0
JOHNSTON ISLAND	[illegible]	[illegible]	[illegible]	74	74	[illegible]	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	4	0	[illegible]	[illegible]	0
KOROR R	[illegible]	[illegible]	[illegible]	88	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	0
KWAJALEIN ISLAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	264	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
MAJURO ISLAND	[illegible]	[illegible]	[illegible]	78	[illegible]	81	[illegible]	81	84	[illegible]	[illegible]	88	[illegible]	[illegible]	[illegible]	75	[illegible]	[illegible]	[illegible]	19	[illegible]	1	[illegible]	0
MARCUS ISLAND [illegible]	[illegible]	[illegible]	[illegible]	72	[illegible]	[illegible]	[illegible]	[illegible]	71	[illegible]	[illegible]	[illegible]	58	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	1	[illegible]	[illegible]	0
PAGO PAGO AM SAMOA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	134	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
PONAPE R	[illegible]	[illegible]	[illegible]	84	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
TRUK MOEN ISLAND	[illegible]	[illegible]	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
WAKE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
YAP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	262	0	[illegible]	0	[illegible]	[illegible]	0
PENNSYLVANIA																								
ALLENTOWN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ERIE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4
HARRISBURG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	68	48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PHILADELPHIA	[illegible]	[illegible]	[illegible]	73	[illegible]	[illegible]	79	[illegible]	61	[illegible]	8.1	73	50	62	[illegible]	114	[illegible]	118	6	[illegible]	27	17	108	*
PITTSBURGH GTR. AP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.7	7.5	[illegible]	[illegible]	65	[illegible]	104	[illegible]	[illegible]	14	[illegible]	17	[illegible]	[illegible]	[illegible]
PITTSBURGH	[illegible]	[illegible]	[illegible]										[illegible]	[illegible]				[illegible]	[illegible]			[illegible]	[illegible]	[illegible]
READING [illegible]	8.4	[illegible]	[illegible]	71			[illegible]			11.4	[illegible]	[illegible]	46	65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9	24	[illegible]	*
W-B SCRANTN AVOCA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43	63	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WILLIAMSPORT	[illegible]	[illegible]	[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NORMALS, MEANS AND EXTREMES

State and Station	Elevation on ground (feet)	Temperature (°F) Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal
RHODE ISLAND							82	102	-23		
BLOCK ISLAND	110	37.9	26.3	75.9	63.2	50.1	19	91	- 4	1020	5804
PROVIDENCE	51	37.3	21.0	81.4	62.7	50.1	6	97	- 5	1110	5954
SOUTH CAROLINA							85	111	-13		
CHARLESTON	40	61.2	38.3	89.2	72.0	65.2	27	103	8	487	2033
CHARLESTON U 1961	9	61.4	39.2	89.4	70.8	65.2	18	103	14	472	1973
COLUMBIA	213	58.2	35.6	92.5	70.7	64.0	3	106	9	570	2484
FLORENCE 1964	146	58.3	36.7	90.9	70.4	64.0	17	108	8	552	2387
GREENVILLE 1961	1018	51.6	35.0	87.9	68.8	61.0	2	98	8	673	3060
SPARTANBURG 1961	801	52.1	34.7	88.7	69.1	61.2	18	104	3	670	3044
GRNVLLE-SPRTNBRG	957	52.4	35.0	87.0	71.0	61.2	7	99	- 6	665	3044
SOUTH DAKOTA							80	120	-58		
ABERDEEN	1296	21.5	0.0	87.6	59.4	43.7	10	112	-39	1680	8473
HURON	1281	23.1	1.9	90.3	59.6	44.7	10	112	-39	1628	8223
RAPID CITY	3162	34.1	9.8	87.7	59.9	46.8	27	109	-27	1333	7345
SIOUX FALLS	1418	25.1	5.2	86.0	62.5	45.7	6	106	-30	1544	7839
TENNESSEE							87	113	-32		
BRISTOL	1507	46.8	29.7	86.4	65.4	56.8	8	95	-15	828	4143
CHATTANOOGA	665	49.9	33.4	90.0	71.4	61.2	30	106	-10	722	3254
KNOXVILLE	980	50.1	32.6	88.5	68.2	59.6	9	99	- 9	732	3494
MEMPHIS	258	50.6	32.4	91.1	71.5	61.5	28	106	-13	729	3232
NASHVILLE	590	48.8	30.9	90.7	69.6	60.0	4	103	- 6	778	3578
OAK RIDGE R	905	49.2	30.6	87.7	66.7	58.2	22	105	- 9	778	3817
OAK RIDGE AREA 1964	886	48.9	31.2	88.0	66.7	58.5	20	103	- 8	772	3742
TEXAS							89	120	-24		
ABILENE	1762	56.4	32.8	94.3	72.1	64.3	6	107	7	642	2624
AMARILLO	3604	49.8	23.5	94.2	67.0	58.7	9	104	- 9	877	3985
AUSTIN	597	60.3	40.5	95.1	73.9	68.3	9	105	12	468	1711
BROWNSVILLE	19	70.5	52.2	92.5	75.5	73.7	3	99	32	205	600
CORPUS CHRISTI	41	67.4	47.4	93.5	74.6	71.8	5	101	25	291	914
DALLAS	481	55.8	36.0	94.5	75.3	65.8	11	107	8	601	2363
DEL RIO e	1026	63.7	38.8	98.5	73.8	70.0	7	109	19	438	1504
EL PASO	3918	56.3	29.5	94.9	68.9	63.3	10	106	- 8	685	2700
FT. WORTH GTR. INTL	537	56.0	34.9	95.9	74.9	65.8	6	108	4	614	2405
GALVESTON 1961	7	60.4	48.2	88.7	77.9	70.1	11	97	18	362	1233
GALVESTON U	7	60.5	49.3	87.3	78.9	69.9	99	101	8	350	1235
HOUSTON J 1966	41	62.6	46.6	92.0	75.8	70.0	29	106	10	363	1278
HOUSTON HOBBY 1969	50	63.6	43.6	92.1	73.8	69.2	9	106	17	384	1396
LAREDO 1964	496	68.4	47.0	99.0	76.0	73.9	20	110	18	267	797
LUBBOCK	3254	53.0	25.4	92.4	66.5	59.7	23	107	-16	800	3578
MIDLAND	2851	57.1	30.9	94.5	71.2	64.3	6	107	2	651	2591
PORT ARTHUR	16	63.5	43.7	91.0	72.7	68.5	9	107	14	384	1447
SAN ANGELO	1903	59.4	34.3	96.9	72.7	66.4	10	111	6	567	2255
SAN ANTONIO INTL AP	788	62.3	41.6	94.0	73.9	68.7	28	106	0	428	1546
VICTORIA	104	64.8	46.0	91.7	74.6	70.2	9	107	16	344	1173
WACO	501	58.2	37.8	96.0	74.6	67.2	6	112	7	536	2030
WICHITA FALLS	994	53.9	31.6	97.9	73.3	64.5	10	113	- 5	698	2832
UTAH							79	116	-50		
MILFORD	5028	37.1	12.1	92.1	55.5	48.9	21	104	-28	1252	6497
SALT LAKE CITY	4220	36.8	17.5	94.1	59.6	50.9	10	107	-18	1172	6052
WENDOVER	4237	35.9	18.0	92.0	66.8	52.3	32	112	-19	1178	5778
VERMONT							82	105	-50		
BURLINGTON	332	25.4	6.9	81.9	56.0	43.2	5	98	-27	1513	8269
VIRGINIA							79	110	-29		
LYNCHBURG	916	46.2	29.0	86.6	65.9	56.7	6	99	0	849	4166
NORFOLK	22	50.2	32.2	87.9	69.6	59.7	21	103	8	738	3421
RICHMOND	164	48.3	29.0	89.4	66.7	58.1	40	104	-12	815	3865
ROANOKE	1149	47.0	29.1	88.0	65.2	56.9	5	100	3	834	4150

State and Station	Precipitation (inches) Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 a.m. EST	January 1:00 p.m. EST	January 7:00 p.m. EST	July 7:00 a.m. EST	July 1:00 p.m. EST	July 7:00 p.m. EST
RHODE ISLAND					0.00	12.13									
BLOCK ISLAND	4.07	2.56	40.45	11.51	T	8.52	5.5	22.9	16.9	73	65		87	72	
PROVIDENCE	4.14	2.76	42.13	11.89	0.39	6.63	[illegible]	43.9	16.3	69	56	62	76	56	67
SOUTH CAROLINA					0.00	13.25									
CHARLESTON	7.71	2.09	49.16	18.46	0.08	8.84	T	0.3	2.1	85	55	73	89	64	80
CHARLESTON U 1961	8.04	1.92	46.11	17.31	0.08	8.84	T	0.1	2.1	87	56	75	90	65	82
COLUMBIA	6.09	2.36	46.82	16.72	T	7.66	0.3	1.2	8.8	82	54	66	93	58	72
FLORENCE 1964	6.24	2.18	42.69	13.68	0.00	6.36	0.1	1.0	4.8	82	52	66	88	57	73
GREENVILLE 1961	4.81	3.00	47.65	10.10	0.52	5.79	0.5	4.1	6.4	70	41	50	85	56	[illegible]
SPARTANBURG 1961	4.70	2.97	46.66	10.33	0.13	6.85	0.8	3.6	7.1	73	44	51	89	56	70
GRNVLLE-SPRTNBRG	4.75	2.84	46.42	11.30	0.24	4.49	2.7	6.4	5.7	74	52	61	87	59	69
SOUTH DAKOTA					0.00	13.52									
ABERDEEN	3.76	0.61	19.14	8.88	0.00	4.02	7.1	35.1	14.3	72	68	71	83	53	50
HURON	3.14	0.48	17.33	8.30	T	5.48	6.3	38.1	17.5	75	68	71	87	53	50
RAPID CITY	3.08	0.30	14.71	7.35	T	4.01	5.1	36.6	16.3	69	60	64	72	46	41
SIOUX FALLS	4.35	0.62	25.16	7.94	T	4.32	[illegible]	41.6	26.0	77	66	71	84	54	51
TENNESSEE					0.00	11.00									
BRISTOL	5.55	2.15	41.06	9.73	0.07	3.65	4.9	16.1	16.2	80	60	65	92	61	68
CHATTANOOGA	5.64	3.02	51.96	13.68	0.20	5.40	1.7	4.2	8.9	82	62	68	89	57	64
KNOXVILLE	4.88	2.54	45.85	11.74	T	5.08	2.8	12.6	18.2	80	63	65	90	62	65
MEMPHIS	6.07	2.72	49.73	12.29	T	4.94	2.2	6.1	16.1	80	64	69	85	57	59
NASHVILLE	5.49	2.32	45.14	13.92	T	5.34	3.9	11.8	10.2	79	64	64	90	58	64
OAK RIDGE R	5.95	2.67	54.71	19.27	T	7.48	2.9	10.1	12.0						
OAK RIDGE AREA 1964	5.44	2.82	51.52	12.84	0.00	7.75									
TEXAS					0.00	38.20									
ABILENE	4.33	0.88	23.32	13.19	0.00	6.70	1.5	4.2	5.7	69	53	47	67	44	35
AMARILLO	3.37	0.62	19.67	10.73	0.00	6.75	3.6	13.7	12.2	69	47	42	73	42	38
AUSTIN	3.71	1.94	32.58	12.31	0.00	7.22	0.5	1.1	7.0	77	59	56	86	48	42
BROWNSVILLE	4.99	1.04	26.75	19.26	T	12.19	T	T	T	87	69	74	89	53	61
CORPUS CHRISTI	4.40	1.44	28.34	20.33	0.00	8.76	0.1	0.1	1.1	90	69	72	91	57	63
DALLAS	4.83	1.93	34.55	15.40	T	9.18	1.3	2.1	7.4	77	59	56	77	51	43
DEL RIO e	2.73	0.62	17.83	15.79	T	7.60	T	1.0	3.0	72	54	45	74	48	34
EL PASO	1.29	0.29	7.89	6.29	0.00	2.89	1.3	4.4	7.8	61	43	33	58	40	30
FT. WORTH GTR. INTL	4.59	1.68	31.33	12.64	0.02	5.91	1.8	3.1	12.1	79	60	59	79	49	43
GALVESTON 1961	5.82	3.14	47.98	25.06	T	11.34	T	0.2	2.0	84	73	78	82	69	71
GALVESTON U	5.09	2.59	41.81	26.01	0.00	14.35	T	0.2	15.4	85	77	80	81	70	73
HOUSTON J 1966	5.15	2.40	45.26	17.64	0.01	10.83	0.2	0.3	3.0						
HOUSTON HOBBY 1969	4.36	2.67	45.95	22.31	T	15.65	0.2	0.4	4.4	84	64	67	91	59	64
LAREDO 1964	2.86	0.62	18.63	8.62	0.00	5.55	0.1	0.1	2.0	81	58	53	83	44	39
LUBBOCK	3.18	0.54	18.08	8.85	0.00	5.70	1.7	8.9	12.1	72	49	48	76	47	39
MIDLAND	2.08	0.36	14.24	6.73	0.00	5.99	1.3	3.2	5.9	71	46	39	67	38	30
PORT ARTHUR	6.00	2.88	53.09	18.71	0.00	13.17	T	0.6	4.4	89	69	78	93	63	70
SAN ANGELO	3.20	0.78	18.63	9.20	0.00	6.03	0.8	2.8	5.8	72	49	44	73	41	34
SAN ANTONIO INTL AP	3.49	1.37	27.84	15.78	0.00	6.97	0.2	0.5	4.7	81	60	58	87	49	43
VICTORIA	4.23	2.32	36.20	14.52	T	8.57	T	T	T	85	63	67	91	55	59
WACO	4.57	1.68	32.08	15.00	0.00	7.18	1.0	1.7	7.0	81	63	61	73	44	38
WICHITA FALLS	4.60	1.12	26.20	12.03	0.00	5.61	1.9	5.8	5.9	79	55	54	76	42	38
UTAH					0.00	5.08									
MILFORD	1.03	0.43	8.00	2.60	0.00	1.24	9.2	42.3	16.3		66	60		24	20
SALT LAKE CITY	1.76	0.53	13.90	4.90	0.00	2.41	13.4	55.1	15.4	78	70	68	50	25	19
WENDOVER	0.66	0.29	4.67	3.01	0.00	1.33	2.3	7.4	8.5	68	61	57	31	21	14
VERMONT					0.00	8.77									
BURLINGTON	3.85	1.79	33.21	11.54	0.38	3.59	17.9	73.8	16.5	69	63	66	79	53	63
VIRGINIA					0.00	12.50									
LYNCHBURG	4.41	2.58	40.30	11.36	0.33	4.98	5.8	19.5	13.4	69	51	59	86	57	69
NORFOLK	5.97	2.74	44.94	12.83	0.36	11.40	3.4	7.5	11.4	76	60	69	82	60	72
RICHMOND	5.61	2.90	44.21	18.87	0.30	6.79	5.6	15.0	21.6	81	57	69	85	56	72
ROANOKE	4.63	2.70	41.23	9.12	0.18	6.41	7.8	26.4	17.4	67	51	56	80	54	61

State and Station	Wind Speed (m.p.h.) Mean speed January	Mean speed July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Zero and below
RHODE ISLAND															
BLOCK ISLAND						98	114	153	112	7	17	82	*	89	*
PROVIDENCE	11.8	9.7	90	57	59	109	101	155	124	11	22	26	8	126	2
SOUTH CAROLINA															
CHARLESTON	9.3	8.0	69	56	62	101	113	151	115	*	57	29	48	37	0
CHARLESTON U 1961	9.9	8.3		65	80	96	116	153	121	*	60	31	48	31	0
COLUMBIA	7.0	6.7	60	59	64	125	104	136	109	*	52	25	54	74	0
FLORENCE 1964	8.2	7.2				121	107	137	110	*	53	29	71	46	0
GREENVILLE 1961	9.4	7.7	70	58	63	107	104	154	116	1	50	23	48	54	0
SPARTANBURG 1961	8.6	6.8				127	87	151	114	1	47	23	48	52	0
GRNVLLE-SPRTNBRG	7.4	6.2	52	54	57	124	95	146	112	3	41	31	31	71	*
SOUTH DAKOTA															
ABERDEEN	12.1	9.3	58			97	103	165	86	12	36	17	22	185	47
HURON	11.9	10.9	77	54	77	103	109	153	93	12	42	15	28	175	41
RAPID CITY	10.5	9.9	66	54	71	111	112	142	95	12	44	15	32	167	20
SIOUX FALLS	11.0	9.6	70			104	106	155	93	11	44	21	24	173	35
TENNESSEE															
BRISTOL	6.4	4.1	50			92	110	163	132	5	46	42	15	103	2
CHATTANOOGA	7.2	5.1	82	42	62	108	108	149	120	2	56	36	53	75	*
KNOXVILLE	8.2	6.3	73	38	59	97	111	157	126	4	48	30	22	78	*
MEMPHIS	10.7	7.6	56	48	73	117	101	147	103	2	50	11	66	60	*
NASHVILLE	9.0	6.2	73	40	65	104	108	153	118	4	55	16	41	86	1
OAK RIDGE R	4.8	3.9	59			112	90	163	126	3	53	34	33	82	*
OAK RIDGE AREA 1964	5.7	3.8							119				35	79	*
TEXAS															
ABILENE	12.2	10.8	73	62	78	151	92	122	65	2	41	7	94	53	0
AMARILLO	13.2	12.4	84	69	77	161	103	101	67	4	49	25	69	106	2
AUSTIN	9.9	8.7	57	48	78	116	119	130	81	*	40	23	107	24	0
BROWNSVILLE	11.9	11.9	69	45	81	99	136	130	72	0	24	26	106	1	0
CORPUS CHRISTI	11.9	11.7	72	47	83	106	119	140	75	*	31	28	86	8	0
DALLAS	10.6	10.1	65	50	77	141	92	132	80	1	41	8	94	37	0
DEL RIO e	8.4	11.1	52			116	108	141	56	*	36	15	123	19	0
EL PASO	9.4	9.2	70	77	79	195	97	73	44	1	36	2	103	63	*
FT. WORTH GTR. INTL	11.9	10.2	73			143	91	131	79	1	45	11	87	44	0
GALVESTON 1961	13.0	11.3				111	118	136	90	*	52	32	32	2	0
GALVESTON U	11.6	9.8	100	49	72				96	*			12	4	0
HOUSTON J 1966									104	*			91	7	0
HOUSTON HOBBY 1969	11.9	8.8	54	47	74	87	126	152	103	*	59	42	95	13	0
LAREDO 1964	9.6	14.8				130	116	119	58	*	31	14	174	6	0
LUBBOCK	13.1	12.0	70			164	104	97	60	3	44	15	83	100	1
MIDLAND	9.6	9.9	67			166	97	102	50	2	35	15	97	70	0
PORT ARTHUR	11.5	8.0	73	43	66	89	131	145	103	*	62	41	88	18	0
SAN ANGELO	10.3	9.6	75			159	98	108	56	1	36	7	120	54	0
SAN ANTONIO INTL AP	9.1	9.1	74	48	77	113	116	136	79	*	36	23	116	21	*
VICTORIA	10.8	9.2	99			82	127	156	82	0	44	37	105	12	0
WACO	12.6	11.4	69			134	99	132	76	1	46	13	105	31	0
WICHITA FALLS	11.2	10.7	60			155	93	117	69	2	48	12	105	67	*
UTAH															
MILFORD						154	99	112	62	14	32	7	59	179	13
SALT LAKE CITY	7.9	9.3	71	47	83	132	103	130	87	17	35	11	60	141	3
WENDOVER						154	94	117	47	3	29	5	51	128	1
VERMONT															
BURLINGTON	9.7	7.8	72	41	65	61	103	201	149	21	25	16	4	167	27
VIRGINIA															
LYNCHBURG	8.8	6.8	56	50	62	113	106	146	119	6	41	40	21	100	*
NORFOLK	11.7	8.7	78	58	65	109	106	150	115	2	37	24	31	56	0
RICHMOND	8.1	6.9	68	52	66	104	106	155	113	4	37	29	43	86	1
ROANOKE	9.9	6.7	58			104	116	145	120	8	39	26	21	97	0

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal	Precipitation (inches) Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours
WASHINGTON							123	119	-48							0.00	32.27			
OLYMPIA	195	45.[illegible]	[illegible]	77.7	48.0	[illegible]	17	104	3	834	5236	9.05	0.76	52.37	19.84	0.00	4.93	9.4	18.9	13.7
QUILLAYUTE	179	[illegible]	[illegible]	[illegible]	49.[illegible]	47.2	3	92	7	826	5749	16.81	2.08	103.59	24.86	0.40	8.32	[illegible]	[illegible]	8.2
SEATTLE-TACOMA	400	43.8	[illegible]	75.6	54.1	51.1	13	99	6	828	5149	6.29	0.81	38.94	12.92	T	3.41	7.6	15.8	21.4
SEATTLE 1964	14	45.6	[illegible]	[illegible]	56.[illegible]	[illegible]	31	100	11	738	4424	5.44	0.63	34.10	10.93	T	3.31	4.[illegible]	8.1	11.5
SPOKANE	2356	31.4	[illegible]	85.6	[illegible]	47.8	10	108	-25	1231	6655	2.44	0.38	17.19	5.71	T	2.07	19.6	54.6	13.0
STAMPEDE PASS	3958	27.9	[illegible]	[illegible]	[illegible]	39.5	26	90	-21	1287	7283	16.19	1.46	92.19	30.42	0.19	7.94	78.[illegible]	429.3	36.2
TATOOSH ISLAND 1966	[illegible]	45.2	38.8	[illegible]	51.5	49.3	63	88	14	713	5719	12.16	1.98	77.69	22.57	0.04	5.91	[illegible]	7.7	12.[illegible]
WALLA WALLA	947	[illegible]	27.4	[illegible]	62.7	54.[illegible]	55	113	-16	786	4805	1.89	0.21	15.50	4.52	0.00	2.02	8.[illegible]	[illegible]	[illegible]
YAKIMA	[illegible]	36.5	18.[illegible]	88.[illegible]	53.1	49.8	23	108	-25	1163	5941	1.19	0.13	7.86	4.19	0.00	1.40	[illegible]	24.2	14.0
WEST INDIES							69	103	40											
SAN JUAN 1964	47	[illegible]	[illegible]	84.[illegible]	76.[illegible]	78.3	66	96	62			7.16	2.07	60.36	16.88	0.09	10.59	[illegible]	[illegible]	0.0
SAN JUAN	[illegible]	81.3	67.4	87.[illegible]	73.[illegible]	78.1	15	94	60			7.13	2.20	64.21	14.99	0.50	5.08	[illegible]	[illegible]	[illegible]
SWAN ISLAND	23	81.6	[illegible]	87.[illegible]	77.6	81.[illegible]	[illegible]	92	64			[illegible]	0.63	51.61	[illegible]	T	10.77	0.[illegible]	0.0	0.0
WEST VIRGINIA							79	112	-37							0.00	19.00			
BECKLEY	[illegible]	41.1	26.[illegible]	[illegible]	61.[illegible]	51.8	6	90	-9	973	5390	5.09	2.71	46.79	8.27	0.14	5.34	15.3	[illegible]	13.8
CHARLESTON	[illegible]	[illegible]	27.9	[illegible]	64.[illegible]	[illegible]	22	10[illegible]	-12	880	4476	5.67	2.58	44.43	13.54	0.09	5.60	8.2	28.4	15.1
ELKINS	[illegible]	[illegible]	[illegible]	82.[illegible]	[illegible]	[illegible]	25	[illegible]	-21	1008	5675	5.49	2.75	45.92	9.30	0.31	[illegible]	13.2	69.[illegible]	17.8
HUNTINGTON	[illegible]	[illegible]	[illegible]	[illegible]	64.3	[illegible]	9	100	-15	880	4446	4.50	1.85	39.53	8.57	T	4.27	7.2	[illegible]	8.2
PARKERSBURG	[illegible]	42.9	[illegible]	[illegible]	[illegible]	[illegible]	81	106	-27	942	4754	4.27	2.05	38.77	12.05	0.07	4.81	6.[illegible]	24.[illegible]	18.3
WISCONSIN							79	114	-54							0.00	11.72			
GREEN BAY	[illegible]	[illegible]	8.5	[illegible]	[illegible]	44.3	9	97	-29	1494	8029	3.36	1.08	25.83	8.47	T	3.68	9.2	39.6	[illegible]
LA CROSSE	[illegible]	[illegible]	7.4	[illegible]	[illegible]	46.3	5	99	[illegible]	1504	7589	4.20	1.05	31.16	10.52	0.02	3.94	8.7	41.2	15.7
MADISON	858	[illegible]	9.1	[illegible]	60.[illegible]	45.[illegible]	10	98	[illegible]	1473	7863	3.95	1.13	30.16	10.93	0.06	5.25	8.9	37.7	10.8
MILWAUKEE	672	28.3	12.9	[illegible]	58.4	45.1	10	98	-24	1376	[illegible]	3.64	1.40	29.51	9.87	0.05	5.28	[illegible]	43.4	16.7
WYOMING							[illegible]	114	-63							0.01	5.50			
CASPER	5338	32.8	[illegible]	87.[illegible]	56.3	46.0	5	99	[illegible]	1290	7410	2.03	0.49	11.80	3.93	T	2.49	8.7	58.2	14.6
CHEYENNE	6126	[illegible]	[illegible]	[illegible]	54.8	45.9	10	96	[illegible]	1228	7278	[illegible]	0.49	15.06	5.39	T	2.68	[illegible]	51.6	16.5
LANDER	[illegible]	[illegible]	7.7	85.8	55.6	44.4	23	101	-37	[illegible]	7870	2.65	0.42	13.58	6.88	T	3.56	[illegible]	[illegible]	13.1
SHERIDAN	3964	[illegible]	9.5	87.1	55.5	45.[illegible]	5	103	-29	1355	7683	2.57	0.62	15.91	9.54	0.02	3.84	9.7	66.8	26.7

State and Station	Relative humidity (percent) January 7 00 a m EST	January 1 00 p m EST	January 7 00 p m EST	July 7 00 a m EST	July 1 00 p m EST	July 7 00 p m EST	Wind Speed (m p h) Mean speed January	Mean speed July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Min Zero and below
WASHINGTON																					
OLYMPIA	91	87	82	90	64	48	7.9	6.0	60			52	87	226	163	6	5	92	6	83	0
QUILLAYUTE	94	92	88	96	73	63	8.4	6.4	[illegible]	16	[illegible]	45	72	248	217	7	10	43	1	59	0
SEATTLE-TACOMA	82	80	76	85	67	49	10.4	8.7	55	16	68	53	83	229	161	5	8	51	3	32	0
SEATTLE 1964									65	28	63	71	93	201	152	3	6		2	15	0
SPOKANE	83	81	76	60	36	24	8.4	7.9	56	26	82	89	86	190	115	18	11	49	20	139	4
STAMPEDE PASS	94	93	92	87	67	55						66	57	242	206	85	7	252	*	188	3
TATOOSH ISLAND 1966	84	82	82	94	89	87	20.7	10.1	94	26	47	58	76	231	147	3	5	59	0	8	0
WALLA WALLA		76			54		5.1	5.4	67	24	86	118	87	160	106	7	11	14	36	65	2
YAKIMA	84	77	71	69	35	25	5.9	7.7	48			111	88	166	68	8	8	19	32	149	4
WEST INDIES																					
SAN JUAN 1964															2[illegible]9	0	49	0	10	0	0
SAN JUAN	85	66	77	82	69	8[illegible]	8.7	9.6	80	66	65	54	208	103	205	0	40	0	31	0	0
SWAN ISLAND												76	161	126	153	0			14	0	0
WEST VIRGINIA																					
BECKLEY	79	[illegible]	[illegible]	89	60	72	11.0	6.9	53			75	91	194	155	18	46	39	1	120	3
CHARLESTON	77	62	66	90	61	66	7.7	5.1	55			62	115	188	147	9	42	110	13	101	1
ELKINS	62	64	72	97	55	72	7.3	4.3	55			53	106	204	164	23	44	81	2	143	6
HUNTINGTON	79	63	64	90	57	65	7.2	4.9	47			72	113	180	131	8	41	56	19	108	3
PARKERSBURG	82	66	74	80	52	67	7.2	5.1	66	31	62	109	103	153	142	7	44	12	23	98	2
WISCONSIN																					
GREEN BAY	[illegible]	72	74	87	58	60	11.3	8.2	73	44	64	94	102	169	118	13	37	28	5	163	28
LA CROSSE	75	66	71	88	57	57	9.2	7.9	63			95	97	173	107	11	41	23	16	153	28
MADISON	77	68	72	89	58	60	[illegible]	8.1	77	[illegible]	70	92	[illegible]	[illegible]	115	12	40	13	6	168	25
MILWAUKEE	76	68	74	83	62	64	12.8	9.9	73	44	70	96	102	[illegible]	120	13	37	27	8	149	16
WYOMING																					
CASPER	64	55	[illegible]	[illegible]	32	26	16.3	10.0	81			113	107	145	91	22	[illegible]	[illegible]	[illegible]	188	18
CHEYENNE	[illegible]	43	46	[illegible]	14	18	14.7	10.3	[illegible]	62	69	[illegible]	127	[illegible]	99	17	41	24	13	171	11
LANDER	[illegible]	58	[illegible]	[illegible]	34	18	6.3	7.6	[illegible]	68	78	[illegible]	[illegible]	[illegible]	70	[illegible]	32	[illegible]	20	186	20
SHERIDAN	67	58	61	72	40	35	7.7	7.2	84	57	76	98	114	[illegible]	107	[illegible]	36	6	18	196	24

Data from airport or from airport and urban site records combined.
U indicates Urban, R indicates Rural sites.
Data in this table are based on records through 1969 except as indicated in notes.
Date after station name indicates last year included in summarization data.
Normal values are based on the period, 1931-1960 and are means adjusted to represent observations taken at the present standard location.
Degree days are based on a daily average of 65 F.
For detailed periods of record see ANNUAL LOCAL CLIMATOLOGICAL DATA, 1969.
Fastest mile is the fastest speed, in miles per hour, of any mile of wind movement recorded on an automatic recording wind instrument.
Refer to the Annual Climatological Data Table for stations reporting the fastest one-minute wind speed instead of fastest mile.

Clear Day averages 0-3 tenths sky cover, Partly Cloudy 4-7 tenths and Cloudy 8-10 tenths.
Heavy Fog includes data formerly referred to as "Dense" or "Thick". The upper visibility limit for heavy fog is 1/4 mile.
* Less than one-half.
B Number of days Maximum 70° or above (Alaskan stations).
\+ Relative humidity means for period of record through 1960.
: Mt. Washington excluded.
ø Estimated amounts during typhoon.
1/ Means and extremes are from post office location through 1962.
2/ Based on records from Urban office through January 1943 airport through June 1964.

c Relative Humidity readings 8 a.m. and Noon local time.
e Reopened 1963.
T Trace, an amount too small to measure.
x Sun below horizon continuously Nov. [illegible] - Jan. [illegible].
y Sun below horizon continuously Nov. [illegible] - Jan. [illegible].
(x and y)-Yearly totals for period sun above horizon.
m Record for 1949-1951, 1958-1962.
r Resumed 1965.

ELEVATIONS – STATION PRESSURES

State and station	Ft	Mtrs
ALABAMA		
Birmingham	630	192
Huntsville	644	196
Mobile	221	67
Montgomery	202	62
ALASKA		
Anchorage	132	40
Annette	110	34
Barrow	13	4
Barter Island	50	15
Bethel	150	46
Bettles	672	205
Big Delta	1274	389
Cold Bay	103	31
Fairbanks	454	138
Gulkana	1579	481
Homer	73	22
Iliamna	160	49
Juneau	24	7
King Salmon	49	15
Kotzebue	16	5
McGrath	338	103
Nome	22	7
St. Paul Island	28	9
Shemya	102	31
Summit	2405	733
Talkeetna	356	180
Unalakleet	21	6
Yakutat	31	9
ARIZONA		
Flagstaff	7018	2139
Phoenix	1107	337
Tucson	2555	779
Winslow	4883	1488
Yuma	206	63
ARKANSAS		
Fort Smith	463	141
Little Rock	265	81
CALIFORNIA		
Bakersfield	492	150
Bishop	4145	1263
Blue Canyon	5283	1610
Eureka (U)	60	18
Fresno	327	100
Long Beach	40	12
Los Angeles	104	32
Mt Shasta (R)	3587	1093
Oakland	7	2
Red Bluff	353	108
Sacramento	25	8
Sandberg (R)	4523	1379
San Diego	28	9
San Francisco (U)	155	47
San Francisco	18	5
Santa Maria	238	73
Stockton	27	8
COLORADO		
Alamosa	7541	2298
Colorado Springs	6170	1881
Denver	5332	1625
Grand Junction	4839	1475
Pueblo	4720	1439
CONNECTICUT		
Bridgeport	17	5
Hartford	179	55
DELAWARE		
Wilmington	80	24
DISTRICT OF COLUMBIA		
Wash. Nat'l AP	65	20
FLORIDA		
Apalachicola (U)	35	11
Daytona Beach	41	12
Fort Myers	12	4
Jacksonville	31	9
Key West	21	6
Lakeland (U)	236	72
Miami	12	4
Orlando	119	36
Pensacola	118	36
Tallahassee	68	21
Tampa	11	3
West Palm Beach	21	6
GEORGIA		
Athens	811	247
Atlanta	1034	315
Augusta	148	45
Columbus	394	120
Macon	362	110
Rome	643	196
Savannah	51	16
HAWAII		
Hilo	36	11
Honolulu	[illegible]	5
Kahului	67	20
Lihue	148	45
IDAHO		
Boise	2858	871
Lewiston	1436	438
Pocatello	4478	1365
ILLINOIS		
Cairo (U)	357	109
Chicago (O'Hare)	674	205
Chicago (Midway)	623	190
Moline	594	181
Peoria	662	202
Rockford	743	226
Springfield	613	187
INDIANA		
Evansville	388	118
Fort Wayne	828	252
Indianapolis	808	246
South Bend	773	236
IOWA		
Burlington	702	214
Des Moines	963	294
Dubuque	1080	329
Sioux City	1103	336
Waterloo	878	268
KANSAS		
Concordia	1484	452
Dodge City	2592	790
Goodland	3688	1124
Topeka	885	270
Wichita	1340	408
KENTUCKY		
Covington	877	267
Lexington	989	301
Louisville	488	149
LOUISIANA		
Alexandria	118	36
Baton Rouge	76	23
Lake Charles	32	10
New Orleans	30	9
Shreveport	259	79
MAINE		
Caribou	628	191
Portland	63	19
MARYLAND		
Baltimore	155	47
MASSACHUSETTS		
Boston	29	9
Nantucket	12	4
Worcester	1017	310
MICHIGAN		
Alpena	693	211
Detroit (City AP)	626	191
Detroit (M. Wayne Co.)	664	202
Flint	766	233
Grand Rapids	803	245
Houghton Lake	1160	354
Lansing	874	266
Marquette (U)	734	224
Muskegon	633	193
Sault Ste. Marie	724	221
MINNESOTA		
Duluth	1417	432
International Falls	1183	361
Minneapolis	838	255
Rochester	1320	402
St. Cloud	1043	318
MISSISSIPPI		
Jackson	331	101
Meridian	310	94
MISSOURI		
Columbia	898	274
Kansas City	750	229
St. Joseph	817	249
St. Louis (Lambert)	564	172
Springfield	1270	387
MONTANA		
Billings	3570	1088
Glasgow	2298	700
Great Falls	3657	1115
Havre	2599	792
Helena	3898	1188
Kalispell	2973	906
Miles City	2634	803
Missoula	3189	972
NEBRASKA		
Grand Island	1856	566
Lincoln (U)	1189	362
Norfolk	1551	473
North Platte	2787	849
Omaha (Eppley AP)	982	299
Scottsbluff	3958	1206
Valentine	2598	792
NEVADA		
Elko	5077	1547
Ely	6262	1909
Las Vegas	2180	664
Reno	4400	1341
Winnemucca	4339	1323
NEW HAMPSHIRE		
Concord	346	105
NEW JERSEY		
Atlantic City (Exp. Cntr.)	67	20
Newark	30	9
Trenton (U)	190	58
NEW MEXICO		
Albuquerque	5314	1620
Clayton	4972	1515
Roswell	3619	1103
NEW YORK		
Albany	292	89
Binghamton	1638	499
Buffalo	706	215
New York Central Park	87	27
New York (Kennedy AP)	22	7
New York (LaGuardia)	52	16
Rochester	555	169
Syracuse	408	124
NORTH CAROLINA		
Asheville	2170	661
Cape Hatteras (R)	11	3
Charlotte	769	234
Greensboro	886	270
Raleigh	441	134
Wilmington	38	12
NORTH DAKOTA		
Bismarck	1660	506
Fargo	899	274
Williston	1905	581
OHIO		
Akron	1236	377
Cleveland	805	245
Columbus	833	254
Dayton	1003	306
Mansfield	1312	400
Toledo	692	211
Youngstown	1186	361
OKLAHOMA		
Oklahoma City	1304	397
Tulsa	676	206
OREGON		
Astoria	22	7
Burns (U)	4170	1271
Eugene	373	114
Meacham	4056	1236
Medford	1329	405
Pendleton	1495	456
Portland	39	12
Salem	201	61
Sexton Summit (R)	3841	1171
PACIFIC AREA		
Johnston Island	17	5
Koror (R)	109	33
Kwajalein	26	8
Majuro, Marshall Islands	10	3
Pago Pago	10	3
Ponape (R)	151	46
Taguac, Guam (R)	365	111
Truk (Moen Island)	8	2
Wake Island	12	4
Yap (R)	56	17
PENNSYLVANIA		
Allentown	385	117
Erie	737	225
Harrisburg	351	107
Philadelphia	28	9
Pittsburgh	1225	373
Scranton	948	289
Williamsport	525	160
RHODE ISLAND		
Block Island	118	36
Providence	62	19
SOUTH CAROLINA		
Charleston (U)	48	15
Charleston	48	15
Columbia	225	69
Grnvl-Spartanburg	971	296
SOUTH DAKOTA		
Aberdeen	1300	396
Huron	1289	393
Rapid City	3168	966
Sioux Falls	1427	435
TENNESSEE		
Bristol	1525	465
Chattanooga	688	210
Knoxville	980	299
Memphis	284	87
Nashville	605	184
Oak Ridge (R)	914	279
TEXAS		
Abilene	1753	534
Amarillo	3604	1099
Austin	621	189
Brownsville	20	6
Corpus Christi	44	13
Dallas	488	149
Del Rio	1027	313
El Paso	3916	1194
Fort Worth	576	176
Galveston (U)	54	16
Houston	108	33
Lubbock	3241	988
Midland	2862	872
Port Arthur	22	7
San Angelo	1908	582
San Antonio	794	242
Victoria	117	36
Waco	508	155
Wichita Falls	1030	314
UTAH		
Milford	5033	1534
Salt Lake City	4227	1288
Wendover	4239	1292
VERMONT		
Burlington	340	104
VIRGINIA		
Lynchburg	937	286
Norfolk	30	9
Richmond	164	50
Roanoke	1176	358
Wallops Island	13	4
WASHINGTON		
Olympia	200	61
Seattle-Tacoma	450	137
Spokane	2365	721
Stampede Pass (R)	3967	1209
Walla Walla (U)	991	302
Yakima	1066	325
Quillayute	205	62
WEST INDIES		
San Juan, P. R.	62	19
Swan Island	35	11
WEST VIRGINIA		
Beckley	2514	766
Charleston	951	290
Elkins	2006	611
Huntington	838	255
Parkersburg (U)	637	194
WISCONSIN		
Green Bay	702	214
La Crosse	672	205
Madison	866	264
Milwaukee	693	211
WYOMING		
Casper	5290	1612
Cheyenne	6141	1872
Lander	5558	1694
Sheridan	3968	1209

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
These are the elevations of the barometer (in feet and meters above mean sea level) to which station pressure values pertain in the "Climatological Data" table in the monthly publication CLIMATOLOGICAL DATA NATIONAL SUMMARY.

GENERAL SUMMARY OF TORNADOES, 1969

Esther K. Grabill
Environmental Data Service
Environmental Science Services Administration
Washington, D. C.

A total of 604 tornadoes was reported in the United States in 1969. These occurred on 155 days, causing 66 deaths and millions of dollars of property damage. Only 8 of the 50 states escaped these devastating storms in 1969: Alaska, Connecticut, Delaware, Hawaii, Nevada, New Jersey, Oregon, and Rhode Island. More than 85% or 517 of the total tornadoes occurred in the 5-month period April through August. Although tornadoes were reported in every month of the year, the peak of 144 occurred in May. Some of the worst outbreaks are described briefly in the following paragraphs.

The year's first tornado on January 23 cut a 120-mile path from Jefferson through Copiah, Simpson, Smith, Scott, and Newton Counties in Mississippi, killing 32 persons and injuring 241. Total devastation existed where the tornado struck. Property damage was estimated at $2 million.

On April 18, a tornado touched down in at least nine areas extending from the southwest corner of Georgia to near the coast. The distance from the first reported damage in Seminole County to Fleming in Liberty County is almost 250 miles, one of the longest tracks of any Georgia tornado. About 30 persons were injured, and 19 mobile homes and 60 to 70 farm buildings were demolished. Tremendous timber losses were reported in the Douglas area. Damages were estimated at $2 million. Three tornadoes struck in Matagorda County, Texas, on the 11th of April, all within about 40 minutes. The most destructive of these destroyed or heavily damaged 178 houses on either side of Carney Creek, 6 miles south of Sargent. Twelve persons were injured. Another Texas tornado on the 27th hit the Villa Caseta Mobile Home Park, 1 mile northwest of Plano; 42 persons required hospitalization. Of the 72 homes in the park, 30 were completely destroyed and many of the others received major damage.

On May 8 a tornado hit and skipped over a 3-mile residential area south of Dayton, Ohio, and continued for another 15 miles to Cedarville. It injured 28 persons and caused an estimated $3 million property damage. A total of 13 homes was demolished, 63 suffered major damage, and 101 sustained minor damage. The tornado at Butler County, Ohio, on the 10th caused an estimated $1 million property damage.

On June 21, a tornado moving east-southeastward first touched down in the southwest part of Salina, Kans., causing an estimated $10 million damage. Major damage occurred to 104 homes; 571 others were slightly damaged, and 7 business structures were destroyed. A tornado on the 22d moved from Doe Run to Libertyville, Mo., killing 4 persons and injuring 14. A total of 22 homes were completely destroyed and 90 damaged; numerous barns, outbuildings, power and telephone lines were leveled. In the Perkins-Ripley, Okla., area, a tornado on the 23d damaged or destroyed 13 homes, killed some livestock, and uprooted numerous trees; damage was estimated at one-half million dollars. A tornado in northern Clark County, Wis., on the 26th of June, injured 2 persons and damage 10 farms; at Taylor County Airport, 7 planes and 1 hangar were severely damaged; additional damage and 2 injuries occurred near Pelican Lake and Crandon; major damage occurred on 5 farms at Skanawan and Harrison. The tree and wire damage was termed the worst by utilities in northern resort areas. One of the most destructive tornadoes hit New York State on the 20th and demolished or heavily damaged homes, trailer homes, barns, silos, and a number of miscellaneous buildings in the communities of Clymer, Sherman, Bemus Point, Jamestown, Conewango Valley, Conewango, and Little Valley.

On July 4 a tornado moved eastward from the southeast corner of Washtenaw County through southern Wayne County, Mich., in a 15-mile path of destruction. Total losses were estimated at $2 million.

The 3 most damaging of 12 Minnesota tornadoes that occurred on August 6 are the following: The "Backus" tornado destroyed 13 farmsteads and 11 homes, hospitalized 4 persons, and caused numerous minor injuries. Damage to property, timber, and utilities was estimated at $850,000. In the "Outing" tornado 12 persons were killed; damage to property, utilities, and timber was estimated at $2,150,000. The "Floodwood" tornado killed 39 head of livestock and damaged property and public utilities at an estimated $845,000. A tornado in the Cincinnati, Ohio, area on the 9th killed 4 persons, injured 247, and left approximately 1,500 persons homeless. Within the tornado's path, 27 homes were demolished, 200 were heavily damaged, and 2,300 others had minor damage; 25 businesses and 100 mobile homes also were damaged or destroyed. Total damage was estimated at $10 to $12 million in Hamilton County and $200,000 in Clermont County.

A tornado on October 12 in the Texas Greater Dallas Metropolitan area injured 3 persons. Property damage was estimated at $600,000, of which about $400,000 was in Garland.

The most damaging tornado to strike any area in Washington occurred on December 12 in the southern Puget Sound area. Buildings and garages were damaged or destroyed, and powerlines were downed. The most extensive damage occurred near the Green River in the Kent Valley.

Although Puerto Rico has not had a tornado since 1962, 2 were reported in 1969.

The tables, figures, and tornado tracks on the following pages include additional information to supplement the above summary.

TABLE 1. TORNADO SUMMARY 1969

STATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
ALA.													
Number				[illegible]	[illegible]	1	2	1				1	12
Days				[illegible]	2	[illegible]	[illegible]	[illegible]				1	8
Deaths				[illegible]	[illegible]	[illegible]	[illegible]						2
Injuries				[illegible]	[illegible]	[illegible]	[illegible]	0				0	15
ALASKA													
(None)													
ARIZ.													
Number		[illegible]					1	2					4
Days		[illegible]					1	[illegible]					4
Deaths		[illegible]					0	0					0
Injuries		[illegible]					[illegible]	0					2
ARK.													
Number								1		1			2
Days								1		1			2
Deaths										[illegible]			[illegible]
Injuries								0		[illegible]			1
CALIF.													
Number													1
Days										[illegible]			1
Deaths										0			0
Injuries										0			0
COLO.													
Number					3	1	4	2					[illegible]
Days					[illegible]	1	[illegible]	[illegible]					8
Deaths					0	[illegible]	[illegible]	[illegible]					[illegible]
Injuries						0	0	[illegible]					0
CONN.													
(None)													
DEL.													
(None)													
D. C.													
(None)													
FLA.													
Number		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	14	58
Days		[illegible]		1	7	[illegible]	[illegible]	[illegible]	1	3	2	3	37
Deaths		[illegible]		[illegible]		[illegible]	0		0	0	0	0	0
Injuries		[illegible]		[illegible]	[illegible]	0	2	[illegible]	[illegible]	0	3	[illegible]	10
GA.													
Number				[illegible]	4		[illegible]	1	[illegible]			1	12
Days		[illegible]		1	3		3	[illegible]	[illegible]			1	11
Deaths				0	[illegible]		[illegible]	[illegible]	[illegible]			0	0
Injuries				30	[illegible]		2	0	0			7	39
HAWAII													
(None)													
IDAHO													
Number						1							1
Days						1							1
Deaths						[illegible]							0
Injuries						0							0
ILL.													
Number					1	2	[illegible]	1	[illegible]	[illegible]			10
Days					1	[illegible]	2	1	1	1			8
Deaths					0	0	0	0	0	[illegible]			0
Injuries					[illegible]	0	0	0	[illegible]	4			4
IND.													
Number				[illegible]	5	2		6	3				19
Days				2	1	1		2	2				8
Deaths				[illegible]	[illegible]	0		0	0				0
Injuries				0	18	[illegible]		6	0				21
IOWA													
Number				[illegible]		18	5	[illegible]	1				28
Days				1		7	2	1	1				12
Deaths				[illegible]		[illegible]	0	0	0				0
Injuries				[illegible]		[illegible]	0	0	0				0
KANS.													
Number				1	6	[illegible]	4			1			17
Days				[illegible]	5	5	2			1			14
Deaths				0	0	[illegible]	0			0			0
Injuries				1	0	72	2			0			75
KY.													
Number					[illegible]		1						5
Days	[illegible]				2		1						4
Deaths	0				[illegible]		0						0
Injuries	[illegible]				15		[illegible]						15
LA.													
Number			[illegible]	1	1		4			1		5	18
Days			[illegible]	[illegible]	1		2			1		4	12
Deaths			[illegible]		[illegible]		0			0		1	1
Injuries			[illegible]	1	0		1			0		16	18
MAINE													
Number								1					1
Days								1					1
Deaths								0					0
Injuries								0					0
MD.													
Number							2						2
Days							2						2
Deaths							0						0
Injuries							1						1
MASS.													
Number					1								1
Days					1								1
Deaths					0								0
Injuries					0								0
MICH.													
Number				2		2	4						8
Days				2		2	3						7
Deaths				0		0	0						0
Injuries				0		0	61						61
MINN.													
Number					1	1	7	12	3				26
Days					1	1	3	1	1				7
Deaths					0	0	0	15	0				15
Injuries					0	5	3	106	0				114
MISS.													
Number	1		1	9	7	4	2					1	25
Days	1		1	2	2	3	2					1	12
Deaths	32		0	0	0	0	0					0	32
Injuries	241		0	19	1	1	0					0	262
MO.													
Number				5		12	2	1		2			22
Days				3		4	2	1		1			11
Deaths				0		6	0	0		0			6
Injuries				2		47	0	0		0			49
MONT.													
Number							1		1				2
Days							1		1				2
Deaths							0		0				0
Injuries							0		0				0
NEBR.													
Number					3	8	7	2					20
Days					3	4	5	2					14
Deaths					0	1	0	0					1
Injuries					0	0	0	0					0
NEV.													
(None)													
N. H.													
Number						1		1					2
Days						1		1					2
Deaths						0		0					0
Injuries						0		0					0
N. J.													
(None)													
N. MEX.													
Number				2	5	3							10
Days				2	4	3							9
Deaths				0	0	0							0
Injuries				2	0	0							2
N. Y.													
Number					1	3	3						7
Days					1	8	3						6
Deaths					0	0	0						0
Injuries					1	0	0						1
N. C.													
Number				5				1		3			9
Days				2				1		1			4
Deaths				0				0		0			0
Injuries				2				0		0			2
N. DAK.													
Number						1		6					7
Days						1		4					5
Deaths						0		0					0
Injuries						1		0					1
OHIO													
Number			1	1	8	2	4	1					17
Days			1	1	3	2	2	1					10
Deaths			0	0	1	0	0	4					5
Injuries			0	0	75	0	41	247					363
OKLA.													
Number				10	5	13	1		1	1			31
Days				3	5	8	1		1	1			19
Deaths				0	0	0	0		0	0			0
Injuries				2	0	0	0		0	0			2
OREG.													
(None)													
PA.													
Number							1				1		2
Days							1				1		2
Deaths							0				0		0
Injuries							0				0		0

TABLE 1. TORNADO SUMMARY 1969 (CONTINUED)

STATE	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
[illegible]													
S. C.													
Number				[illegible]	[illegible]			[illegible]		[illegible]			[illegible]
Days				[illegible]	[illegible]			[illegible]		[illegible]			[illegible]
Deaths				[illegible]	[illegible]			[illegible]		[illegible]			[illegible]
Injuries				[illegible]	[illegible]			0					[illegible]
S. DAK.													
Number						[illegible]	18	[illegible]					[illegible]
Days						[illegible]	[illegible]	[illegible]					[illegible]
Deaths						[illegible]	[illegible]	[illegible]					[illegible]
Injuries						[illegible]	0	1					[illegible]
TENN.													
Number	1					1							[illegible]
Days	1					[illegible]							[illegible]
Deaths	0					[illegible]							[illegible]
Injuries	[illegible]					[illegible]							[illegible]
TEX													
Number		1	1	16	[illegible]	[illegible]			[illegible]	8	1		[illegible]
Days		1	1	[illegible]	14	[illegible]	[illegible]	[illegible]	4	3	1		[illegible]
Deaths		0	[illegible]	0	3	[illegible]			[illegible]	[illegible]			[illegible]
Injuries		[illegible]	1	[illegible]	2	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]
UTAH													
Number					[illegible]								[illegible]
Days					1								[illegible]
Deaths					[illegible]								[illegible]
Injuries					0								[illegible]
VT.													
Number					1								1
Days					1								1
Deaths					[illegible]								[illegible]
Injuries					1								1
VA													
Number			[illegible]			2	[illegible]	[illegible]					[illegible]
Days			1			2	[illegible]	[illegible]					[illegible]
Deaths			1			[illegible]	[illegible]	[illegible]					[illegible]
Injuries			[illegible]			[illegible]	[illegible]	[illegible]					[illegible]
WASH													
Number												[illegible]	[illegible]
Days												[illegible]	[illegible]
Deaths												[illegible]	[illegible]
Injuries												[illegible]	[illegible]
W. VA.													
Number				[illegible]			1	[illegible]					[illegible]
Days				[illegible]			[illegible]	[illegible]					[illegible]
Deaths							[illegible]	[illegible]					[illegible]
Injuries				1			[illegible]	[illegible]					[illegible]
[illegible]													
Number					[illegible]	[illegible]	[illegible]						[illegible]
Days					2	[illegible]	[illegible]	1					[illegible]
Deaths					[illegible]	[illegible]	[illegible]						[illegible]
Injuries					[illegible]	[illegible]	4	146					[illegible]
WYO.													
Number					[illegible]	2							[illegible]
Days					1	2	1						[illegible]
Deaths					0	[illegible]	[illegible]						[illegible]
Injuries						[illegible]	[illegible]						[illegible]
[illegible]													
Number					[illegible]					[illegible]			[illegible]
Days					1					[illegible]			[illegible]
Deaths										[illegible]			[illegible]
Injuries					[illegible]					[illegible]			[illegible]
TOTAL													
Number	3	[illegible]	[illegible]	[illegible]	144	136	99	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Days *	1	[illegible]	2	[illegible]	[illegible]	[illegible]	27	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]
Deaths	32	[illegible]	1	[illegible]	[illegible]		0		[illegible]				
Injuries	[illegible]	[illegible]	4	[illegible]	114	[illegible]	[illegible]	512		[illegible]	[illegible]	[illegible]	[illegible]

* Corrected for [illegible] tornadoes
* Tornado Days for [illegible] as a whole

TABLE 2 -- NUMBER OF TORNADOES, TORNADO DAYS, AND DEATHS BY MONTHS, 1953-69

Year	January Number	January Days	January Deaths	February Number	February Days	February Deaths	March Number	March Days	March Deaths	April Number	April Days	April Deaths	May Number	May Days	May Deaths	June Number	June Days	June Deaths	July Number	July Days	July Deaths
1953	14	6	0	17	3	3	40	10	24	45	16	34	99	21	162	114	24	244	40	19	0
1954	2	1	0	19	9	2	69	13	10	117	22	3	97	22	8	101	26	5	46	23	0
1955	2	2	0	4	3	0	41	15	4	101	18	7	150	26	103	148	28	2	50	21	5
1956	2	2	0	47	12	8	31	7	1	87	15	67	88	24	4	66	21	0	101	26	1
1957	17	3	13	5	3	0	39	7	1	216	21	29	226	26	87	148	25	14	54	19	0
1958	12	7	0	20	5	13	15	10	0	78	19	4	69	21	0	128	27	42	119	30	1
1959	15	2	3	19	5	21	42	11	9	30	12	1	225	28	8	73	25	2	62	24	0
1960	9	4	0	28	10	0	27	10	0	70	20	7	200	26	34	123	27	3	48	22	1
1961	1	1	0	31	8	0	121	17	7	73	19	3	135	25	23	101	23	2	77	27	0
1962	11	3	1	25	7	0	37	9	17	41	8	1	201	22	3	173	29	0	75	26	0
1963	14	5	1	6	3	0	49	12	8	82	14	16	69	21	1	93	23	0	62	26	0
1964	14	3	10	2	2	0	36	11	6	161	23	15	135	20	16	144	24	0	61	23	0
1965	21	11	0	29	4	0	33	9	2	130	20	264	271	25	19	149	28	6	86	26	0
1966	1	1	0	23	5	0	10	6	58	81	20	12	98	17	0	124	28	21	92	27	8
1967	40	4	7	8	5	0	40	14	3	146	18	73	112	25	3	205	28	8	88	25	1
1968	5	3	0	7	3	0	28	8	0	104	15	40	146	26	72	137	27	11	54	22	2
1969	3	1	32	5	5	0	8	2	1	67	15	2	144	25	4	136	28	7	99	27	0
TOTAL	183	59	67	295	92	47	666	171	151	1629	295	578	2465	400	547	2163	441	367	1214	413	19
MEAN	11	3	4	17	5	3	39	10	9	96	17	34	145	24	32	127	26	22	71	24	1

TABLE 2 -- NUMBER OF TORNADOES, TORNADO DAYS, AND DEATHS BY MONTHS, 1953-69-Continued

Year	August Number	August Days	August Deaths	September Number	September Days	September Deaths	October Number	October Days	October Deaths	November Number	November Days	November Deaths	December Number	December Days	December Deaths	Annual Number	Annual Days	Annual Deaths
1953	26	15	0	5	4	0	6	4	0	11	6	0	20	8	49	437	136	516
1954	46	21	1	20	10	3	15	8	2	2	2	0	16	3	1	549	159	35
1955	34	18	0	16	8	2	23	7	1	20	4	1	3	2	0	593	153	125
1956	43	20	2	19	10	0	30	8	0	8	6	0	10	4	0	532	155	83
1957	26	14	0	17	10	2	17	11	2	61	11	25	38	4	18	864	154	191
1958	45	20	1	24	14	1	9	6	4	45	6	0	1	1	0	565	166	66
1959	37	18	0	54	15	14	19	10	0	11	4	0	2	2	0	589	156	58
1960	48	23	1	21	13	0	18	10	1	25	6	0	1	1	0	618	172	47
1961	25	16	0	53	16	15	13	5	0	36	7	1	16	5	0	682	169	51
1962	49	21	6	27	11	0	12	10	0	5	4	0	2	2	0	658	152	28
1963	27	13	2	33	13	3	14	5	0	12	6	0	0	0	0	461	141	31
1964	79	23	2	24	10	0	24	4	22	15	8	0	18	5	2	713	156	73
1965	60	23	2	63	21	0	15	4	0	35	6	5	7	4	0	899	181	298
1966	58	21	0	23	13	0	29	6	6	20	3	0	11	3	0	570	150	103
1967	29	16	2	139	16	5	34	7	4	8	5	0	63	10	10	912	173	116
1968	69	23	2	24	14	0	14	9	0	41	12	3	32	9	1	661	171	131
1969	68	21	15	20	11	4	26	10	0	5	3	0	23	7	1	604	155	66
TOTAL	769	326	36	582	209	49	318	124	42	360	99	35	263	70	82	10907	2699	2018
MEAN	45	19	2	34	12	3	19	7	2	21	6	2	15	4	5	642	159	119

AVERAGE NUMBER OF TORNADOES AND TORNADO DAYS EACH MONTH IN THE UNITED STATES
(Based on 10,907 Tornadoes That Occurred from 1953 to 1969)

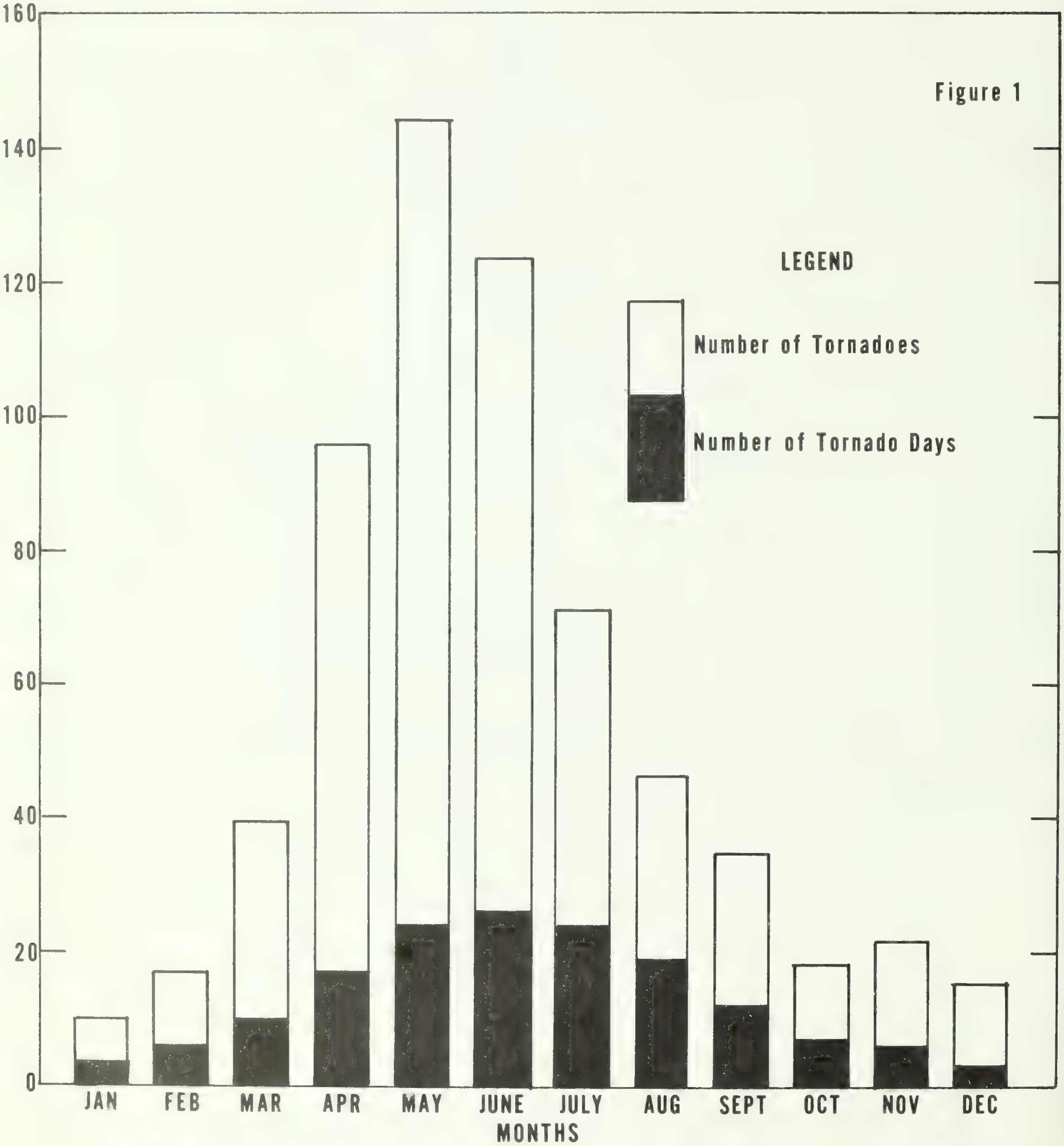


TABLE 3 -- NUMBER OF TORNADOES, TORNADO DAYS, AND RESULTING LOSSES BY YEARS, 1916-69

Year	Number tornadoes	Number tornado days	Total Deaths	Most deaths in a single tornado	Total property losses †	Number of tornadoes causing losses † in		
						category 5	category 6	category 7 & over
1916	90	36	150	30	6	7	1	0
1917	121	38	509	101	7	21	9	0
1918	81	45	135	36	7	20	5	0
1919	64	35	206	59	7	10	2	0
1920	87	50	498	87	7	14	10	0
1921	105	55	202	61	7	22	3	0
1922	108	64	135	16	7	27	5	0
1923	102	59	109	23	6	21	1	0
1924	130	57	376	85	7	26	11	1
1925	119	65	794	689	7	34	2	1
1926	111	57	144	23	6	28	0	0
1927	163	62	540	92	7	42	9	1
1928	203	79	92	14	7	40	7	0
1929	197	74	274	40	7	48	4	0
1930	192	72	179	41	7	38	6	0
1931	94	57	36	6	6	14	1	0
1932	151	67	394	37	7	23	1	1
1933	258	96	362	34	7	46	9	0
1934	147	77	47	6	6	10	3	0
1935	180	77	70	11	6	29	0	0
1936	151	71	552	216	7	17	5	1
1937	147	75	29	5	6	24	0	0
1938	213	76	183	32	7	29	6	0
1939	152	75	87	27	7	21	3	0
1940	124	62	65	18	7	13	2	0
1941	118	57	53	25	6	24	1	0
1942	167	66	384	65	7	42	10	0
1943	152	61	58	5	7	28	8	0
1944	169	68	275	100	7	50	9	0
1945	121	66	210	69	7	21	10	1
1946	106	65	78	15	7	29	7	0
1947	165	78	313	169	7	46	7	1
1948	183	68	140	33	7	62	11	2
1949	249	80	212	58	7	54	13	0
1950	199	88	70	18	7	47	9	0
1951	272	113	34	6	7	35	11	2
1952	236	98	230	57	7	53	19	0
1953	437	136	516	116	8	63	18	7
1954	549	159	35	6	7	63	8	1
1955	593	153	125	80	7	74	13	1
1956	532	155	83	25	7	83	24	1
1957	864	154	191	44	8	129	26	3
1958	565	166	66	19	7	70	8	1
1959	589	156	58	21	7	70	4	1
1960	618	172	47	16	7	65	11	1
1961	682	169	51	16	7	103	21	1
1962	658	152	28	17	7	51	10	0
1963	461	141	31	5	7	77	15	1
1964	713	156	73	22	7	113	17	5
1965	899	181	298	44	8	126	30	11
1966	570	150	103	58	8	79	13	4
1967	912	173	116	33	8	125	33	8
1968	661	171	131	34	8	82	26	6
1969	604	155	66	32	8	98	16	3
Means 1953-69	642	159	119	--	-	87	17	3

NOTE:--The above estimated losses are based on values at time of occurrence.

†Storm damages in categories:
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 and over.

TABLE 4 -- NUMBER OF FUNNEL CLOUDS IN 1969

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
Ala.				2	1	4	2	2					11
Alaska							4						4
Ariz.							1		1				2
Ark.					3								3
Calif.	3	2	2							1	3		11
Colo.				1	7	11	4	1	1				25
Conn.													0
Del.													0
D. C.													0
Fla.	2	8	3	13	33	48	46	59	41	15	2	2	272
Ga.							3	3					6
Hawaii					1						3	1	5
Idaho						1							1
Ill.				2	3	26	22	7	1				61
Ind.				6	10	14	8	3	2				43
Iowa					1	114	70	10	2				197
Kans.				9	21	14	6		1				51
Ky.					1	7	2	1					11
La.					2		15	5	1			1	24
Maine													0
Md.													0
Mass.													0
Mich.				1		5	8						14
Minn.					7		10						17
Miss.			1	10	9	8	1	2				2	33
Mo.				1	9	32	13	1					56
Mont.													0
Nebr.					9	19	5	1					34
Nev.					2	1							3
N. H.													0
N. J.							1	3					4
N. Mex.				1	13	3	1	2	4				24
N. Y.									1				1
N. C.						1							1
N. Dak.					3	2	5	4					14
Ohio				2		1	13	4	1				21
Okla.				19	9	28		2	8				66
Oreg.	1				2	1							4
Pa.													0
P. R.									1				1
R. I.													0
S. C.				3									3
S. Dak.					4	7	11	3					25
Tenn.					1	2							3
Tex.			1	17	55	17	12	32	12	2		3	151
Utah								1					1
Vt.													0
Va.													0
Wash.													0
W. Va.													0
Wis.							5	4					9
Wyo.						2	2						4
TOTAL	6	10	7	87	206	368	270	150	77	18	8	9	1216

TABLE 5 -- NUMBER OF TORNADOES, TORNADO DAYS, AND DEATHS, 1953-1969

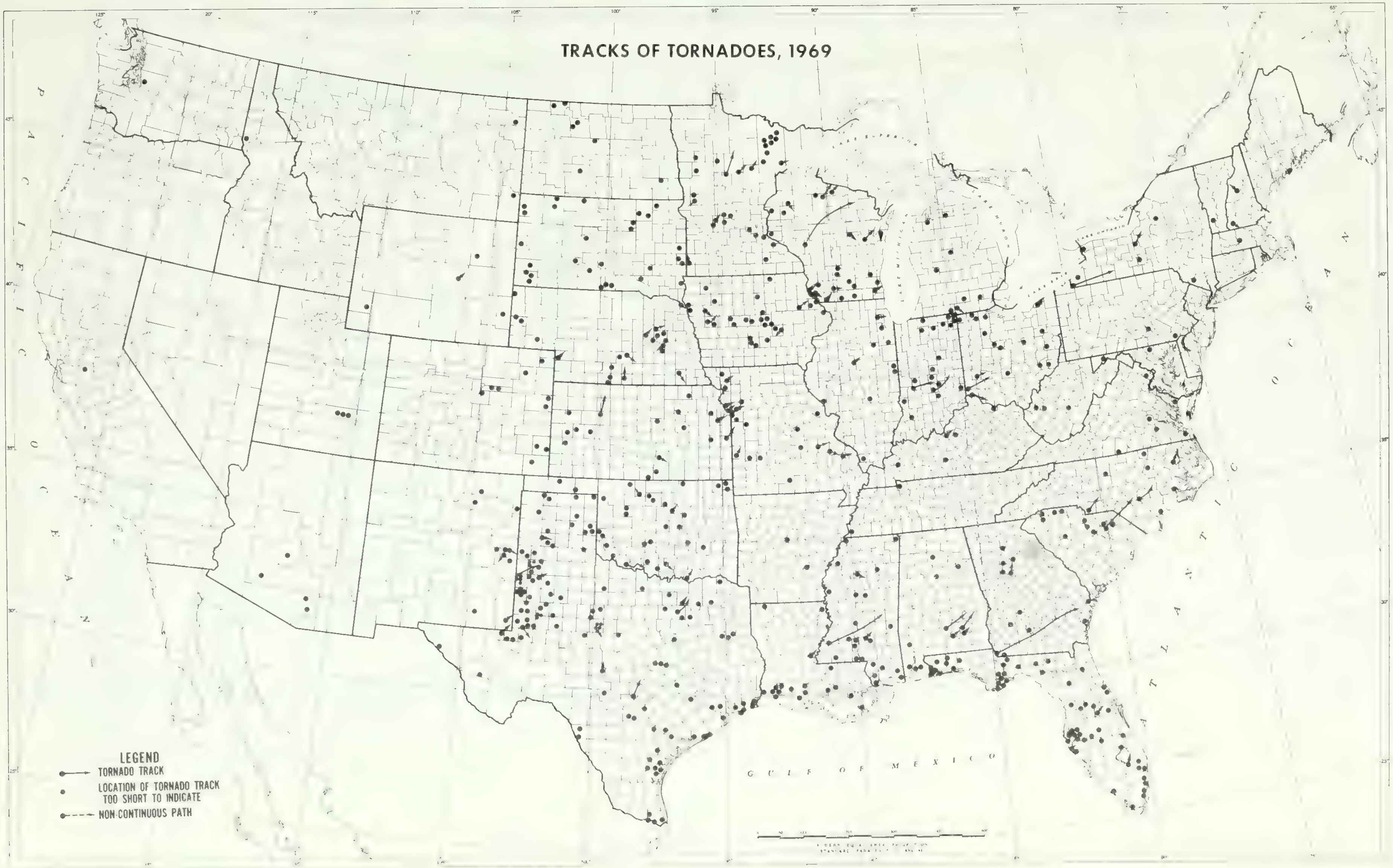
	Tornadoes		Tornado Days		Deaths	
State	Total	Average	Total	Average	Total	Average
Ala.	268	16	153	9	81	5
Alaska	1	0	1	0	0	0
Ariz.	47	3	42	2	2	0
Ark.	276	16	153	9	90	5
Calif.	42	2	33	2	0	0
Colo.	242	14	172	10	3	0
Conn.	21	1	19	1	1	0
Del.	13	1	12	1	0	0
D.C.	0	0	0	0	0	0
Fla.	435	26	312	18	40	2
Ga.	300	18	194	11	39	2
Hawaii	4	0	4	0	0	0
Idaho	22	1	21	1	0	0
Ill.	371	22	187	11	108	6
Ind.	377	22	181	11	146	9
Iowa	428	25	197	12	35	2
Kans.	876	52	391	22	131	8
Ky.	93	5	66	4	16	1
La.	269	16	171	10	60	4
Maine	48	3	43	3	1	0
Md.	33	2	29	2	1	0
Mass.	73	4	52	3	92	5
Mich.	198	12	116	7	218	13
Minn.	285	17	165	10	67	4
Miss.	284	17	166	10	169	10
Mo.	496	29	234	14	98	6
Mont.	57	3	50	3	0	0

*Corrected for boundary-crossing tornadoes.

	Tornadoes		Tornado Days		Deaths	
State	Total	Average	Total	Average	Total	Average
Nebr.	571	33	287	7	40	2
Nev.	7	0	6	0	0	0
N.H.	41	2	35	2	0	0
N.J.	20	1	18	1	0	0
N.Mex.	149	9	110	6	2	0
N.Y.	40	2	39	2	0	0
N.C.	129	8	97	6	7	0
N.Dak.	224	13	138	8	19	1
Ohio	180	11	109	6	100	6
Okla.	1042	61	422	25	121	7
Oreg.	12	1	11	1	0	0
Pa.	90	5	74	4	3	0
R.I.	0	0	0	0	0	0
S.C.	170	10	114	7	8	0
S.Dak.	353	21	190	11	6	0
Tenn.	128	8	80	5	8	0
Tex.	1758	103	754	44	234	14
Utah	24	1	19	1	0	0
Vt.	20	1	16	1	0	0
Va.	73	4	57	3	13	1
Wash.	13	1	12	1	0	0
W.Va.	24	1	22	1	0	0
Wis.	276	16	157	9	48	3
Wyo.	104	6	88	5	1	0
P.R.	3	0	3	0	0	0
U.S.	*10907	642	†2699	159	2018	119

†Tornado Days for Country as a whole.

TRACKS OF TORNADOES, 1969



HAILSTORM LOSSES FOR PAST YEARS

Year	Property (exclusive of crops) *	Crops *	Total *	Year	Property (exclusive of crops) *	Crops *	Total *
1933	-	-	7	1952	7	7	7
1934	-	-	7	1953	7	7	7
1935	-	-	7	1954	7	8	8
1936	6	7	7	1955	7	7	8
1937	6	7	7	1956	7	8	8
1938	6	7	7	1957	7	8	8
1939	5	6	6	1958	[illegible]	8	8
1940	6	7	7	1959	6	7	7
1941	6	7	7	1960	7	8	8
1942	6	7	7	1961	8	8	8
1943	6	7	7	1962	9	8	[illegible]
1944	7	7	8	1963	8	8	8
1945	6	7	7	1964	8	8	8
1946	7	7	7	1965	8	8	8
1947	6	8	8	1966	8	8	8
1948	7	8	8	1967	8	8	8
1949	7	7	7	1968	8	8	8
1950	7	7	7	1969	8	8	8
1951	7	7	8				

* Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than $50	4 $5,000 to $50,000	7 $5,000,000 to $50,000,000
2 $50 to $500	5 $50,000 to $500,000	8 $50,000,000 to $500,000,000
3 $500 to $5,000	6 $500,000 to $5,000,000	9 $500,000,000 to $5,000,000,000.

NOTE.--The above estimated losses are based on values at time of occurrence.

WINDSTORM LOSSES FOR PAST YEARS

(Windstorms other than tornadoes)

Year	Total loss of life	Total property loss †	Year	Total loss of life	Total property loss †
1916	65	7	1944	448	8
1917	25	6	1945	85	7
1918	79	7	1946	70	7
1919	344	7	1947	117	8
1920	42	6	1948	52	8
1921	65	7	1949	102	8
1922	133	7	1950	210	8
1923	68	7	1951	289	8
1924	78	7	1952	137	8
1925	88	7	1953	118	8
1926	357	8	1954	292	9
1927	64	7	1955	301	8
1928	1,947	8	1956	196	8
1929	46	7	1957	553	8
1930	49	7	1958	129	8
1931	17	7	1959	145	7
1932	306	7	1960	85	8
1933	156	8	1961	64	8
1934	109	7	1962	134	9
1935	461	7	1963	54	9
1936	121	7	1964	64	9
1937	43	7	1965	107	9
1938	630	8	1966	74	8
1939	60	6	1967	48	8
1940	251	7	1968	49	8
1941	43	7	1969	194	9
1942	68	7		Total 9,893	
1943	61	7			

* Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than $50	4 $5,000 to $50,000	7 $5,000,000 to $50,000,000
2 $50 to $500	5 $50,000 to $500,000	8 $50,000,000 to $500,000,000
3 $500 to $5,000	6 $500,000 to $5,000,000	9 $500,000,000 to $5,000,000,000.

NOTE.--The above estimated losses are based on values at time of occurrence.

NORTH ATLANTIC TROPICAL CYCLONES, 1969

Richard M. DeAngelis
Environmental Data Service
Environmental Science Services Administration
Washington, D. C.

A late July start in the hurricane season did not result in a below average year; on the contrary a total of 13 tropical cyclones, 10 of which reached hurricane strength, was much above the latest 30-year average of 9.3 tropical cyclones, 5.7 of which reach hurricane strength. This was the most active season since 1953 when 14 tropical cyclones developed, and six of them reached hurricane strength. Nine hurricanes formed in August, September, and October, a figure which had not been attained since the 1955 season. Hurricane Martha was the latest forming hurricane since Alice formed on the next to the last day of the year in 1954. She was also the first tropical cyclone to hit Panama. Loss of life, attributed directly or indirectly to tropical cyclones, was the highest in the United States since 1957. The 256 deaths were all attributed to Camille; this high total was due largely to the disastrous Virginia floods which accounted for nearly half of the total. There were 68 persons missing in addition to the deaths. Outside of the United States, three persons died in Cuba during Camille; Francelia caused about 100 deaths with $4.7 million damage in Guatemala due to floods; Martha caused five deaths in Costa Rica. Camille was also responsible for most of the damage in the United States with a $1.42 billion total--equaling the record set by hurricane Betsy in 1965.

The tracks of 1969 tropical cyclones are shown in the accompanying chart.

TROPICAL STORM ANNA, JULY 23-AUGUST 5

The first tropical storm of the season had its beginnings west of Senegal, Africa, on July 23 and became an organized depression late on the 24th. The christening took place near 11°N., 36°W., when Anna reached tropical storm strength.

Maximum winds reached 50 kt. on the 28th near 13° N., 40° W., and a peak of 60 kt. on the 30th near 15° N., 51° W. Minimum pressure during this period fell to a low of only 1002 mb. Anna's west-northwesterly movement began to change toward the northwest, and she started to lose her identity. From the 31st to the 1st of August she ambled along in a dissipating depression stage. Then on the 1st she regained her impetus as she turned northward. By late on the 2d, about 120 mi. east of Cape Hatteras, Anna became a tropical storm again. The storm finished recurving and headed toward the North Atlantic shipping lanes. On the 4th the SUFFREN, near 42° N., 32° W., or just southeast of Anna's center, encountered gale-force winds, while 12 hr. later the WESTDALE was rocked by 45-kt. winds from the now extratropical storm. Early on the 5th Anna was absorbed by a 990-mb. extratropical cyclone near 46° N., 30° W.

HURRICANE BLANCHE, AUGUST 6-13

Blanche became a tropical depression on the 10th, a hurricane on the 11th, and turned extratropical on the 12th. Her initial impulse can be traced back to the 6th, some 1,000 mi. east of the Windward Islands. It wasn't until she reached 28° N., 72° W., on the 10th, that she acquired the characteristics of a tropical depression. Things developed quickly from that point. A vessel reported 40-kt. winds and a 1006-mb. pressure, and Blanche was upgraded to a tropical storm on the 11th as she headed north-northeastward. Reconnaissance aircraft found a hurricane later in the day as the central pressure fell to 997 mb. near 36° N., 70° W. Winds reached a peak early on the 12th when the LUOSSA was shackled by 80-kt. winds. From this the lowest central pressure was estimated at 992 mb. Blanche turned toward the northeast and came within 60 mi. of Nova Scotia before turning extratropical later in the day. As an extratropical storm she brushed Cape Race, Newfoundland, with 30- to 40-kt. winds before becoming part of a large low-pressure system in the northern North Atlantic.

HURRICANE CAMILLE, AUGUST 5-22

Camille was spawned by a tropical wave that had moved off the African coast on the 5th of August. This inverted "V" cloud pattern travelled westward and was recognized as a tropical disturbance on the 9th, about 480 mi. east of the northern Leeward Islands. The following day the disturbance, still showing no circulation, moved through the Leewards causing rains throughout the Islands. Then each succeeding day, satellite pictures revealed increased curvature and banding. On the 14th reconnaissance aircraft flew into the disturbance, which they found south of Cuba. The pentration disclosed a 999-mb. pressure center and 55-m.p.h. surface winds -- tropical storm Camille was christened.

The storm moved northwestward at 9 m.p.h.; pressure fell to 991 mb. late on the 14th, and to 964 mb. with 100-kt. winds the following day. At this time Camille was a full-blown hurricane located 60 mi. southeast of Cape San Antonio, Cuba. Havana's weather radar tracked the hurricane across the western tip of Cuba on the evening of the 15th. Camille generated 92-m.p.h. winds at Guane, and spread 10-in. rains over the western sections of the Island. Three persons were reported killed.

Once into the Gulf of Mexico, the small, powerful hurricane intensifed rapidly; by the early afternoon of the 16th central pressure had dropped to 908 mb. The severe storm plodded north-northwestward at 14 m.p.h. A hurricane watch had been put in effect from Biloxi, Miss., to St. Marks, Fla. By late afternoon an Air Force reconnaissance team measured a 905-mb. pressure and recorded flight level (700 mb.) winds of 160 m.p.h.

Early on the 17th, with Camille 250 mi. south of Mobile and hurricane warnings extending westward to New Orleans, Mississippi coastal residents were boarding up homes and businesses and heading inland. As the day wore on inland moving traffic increased as did the hurricane threat to low-lying areas. Radio and television stations carried ESSA warnings every few minutes, while Police and Civil Defense officials went into isolated areas to urge people to evacuate.

One last reconnaissance flight was made early Sunday afternoon (17th), and Air Force pilot Marvin A. Little and his crew estimated maximum surface winds at more than 175 kt. near the center. Due to engine trouble this was the last penetration made. Hurricane force winds extended out to 60 mi.; Camille was a small but extremely intense hurricane located less than 100 mi. from the mouth of the Mississippi River. The storm was at its peak and was under surveillance of the New Orleans radar.

As Camille brushed southeastern Louisiana easterly winds ahead of the center and northerly winds to its

west pushed a massive storm surge through the marshes of this area. Because of the shape of bays and inlets, surge heights varied at different locations; water levels reached 9 ft. above m.s.l. near the mouth of the Mississippi, at Garden Island. In several places from the Empire Canal southward to Buras, Boothville, and Venice the surge poured over both the east and west bank Mississippi River levees and was trapped by the back levee, leaving the built-up areas between the levees severely flooded.

The center of Camille made landfall on the now nearly-deserted Mississippi coast at about 10:30 p.m., c.s.t. on the 17th; she passed over Clermont Harbor, Waveland, and Bay St. Louis. There were no records of winds near the center and estimates ranged up to 175 kt. The storm surge reached a devastating 24.2 ft. above m.s.l. at Pass Christian and was near 10 ft. above m.s.l. as far east as the Mississippi-Alabama border. At the west end of the Bay St. Louis Bridge there was a pressure report of 26.85 in. (909.3 mb.).

Camille weakened as she moved northward through Mississippi, passing close to Columbia, Prentis, Jackson, Canton, and Greenwood. Jackson's winds gusted to 67 m.p.h. as the storm center passed 10 mi. to the east. The radar at Jackson, which had picked up Camille's eye in the Gulf, followed the identifiable circulation to southern Quitman County. The storm was only identifiable as a depression when it reached the northern Mississippi border.

The depression stages of Camille were tracked northeastward through western Tennessee, east-northeastward through central Kentucky, and eastward through extreme southern West Virginia and southern Virginia. Late on the 19th, a combination of factors interacted to produce several areas of concentrated, torrential rainfall that caused devastating flash floods and landslides along the eastern slopes of the Blue Ridge Mountains and record flooding along the James River system.

The remnants of Camille's dying circulation moved into an area already occupied by a large, moist maritime-tropical air mass, with some existing rain areas. To the northwest of the area of maximum rainfall a narrow valley surrounded by steep ridges suggested that orographic effects on the cyclonic flow aided in producing the heavy precipitation. Thunderstorm activity ahead of a slowly approaching cold front may also have accentuated the heavy rain. In combination these meteorological factors (and perhaps others not yet ascertained) produced torrential rains which rank with other record rainfalls throughout the world. Several amounts of more than 25 in. were found on post examination, and amounts in excess of 4 in. fell over an area 30-40 mi. wide and 120 mi. long -- most of it occurring in a period of 8 hrs.

Camille regained tropical storm intensity when she moved into the North Atlantic. However, on the 22d, she was absorbed by a cold front about 175 mi. southeast of Cape Race, Newfoundland.

The highest actual measurement on a wind instrument was found on an Easterline Angus wind speed recorder which had been left running on a Trans-world Drilling Co. rig located east of Boothville (Maine Pass Block 29). The recorder had been switched to double scale before evacuation and recorded an extreme gust of 172 m.p.h. before the paper jammed and the trace was lost. An Air National Guard Weather Flight stationed at Gulfport Municipal Airport, estimated sustained winds in excess of 100 m.p.h. and gusts of 150-175 m.p.h. Other less reliable reports from the Gulfport-Bay St. Louis area indicated winds of 150-200 m.p.h. At Boothville, La., 107-m.p.h. gusts were recorded before a power failure; at Pilottown, La., the SS CRISTOBAL estimated winds at 160 m.p.h.

Winds at Biloxi (Keesler AFB) were measured at 81 m.p.h. with gusts to 129 m.p.h. late on the 17th. At Ingalls Shipyard in Pascagoula the highest sustained wind reached 81 m.p.h. while a local radio station reported 104-m.p.h. winds before power failure.

West of the storm center hurricane force winds reached only the eastern edge of New Orleans; brief gusts of 50-75 kt. extended over most of the city. Eastern sections of St. Tammany and Washington Parishes were swept by intense winds estimated up to 160 m.p.h. in gusts at Slidell and up to 130 m.p.h. in gusts at Bogalusa and Angie.

Hurricane force winds were confined close to the storm's center as it moved inland. These winds extended from east of New Orleans to Pascagoula, while gusts of hurricane force winds extended along the coast from New Orleans to just west of Mobile Bay and inland to just south of Jackson.

Camille's lowest pressure of 905 mb. (26.73 in.) was second only to that of the Labor Day Hurricane of 1935, in which a 26.35-in. (892 mb.) pressure was recorded in the Florida Keys. This stands as the lowest pressure in the North Atlantic; the world record low pressure was recorded in typhoon Ida on September 24, 1958 -- 877 mb. (25.90 in.).

The 908-mb. pressure recorded on the afternoon of August 16 marked the lowest ever recorded by reconnaissance aircraft in the North Atlantic; however, this was soon broken by the 905-mb. reading later in the day.

The lowest land pressure was observed by Mr. Charles A. Breath, Jr. of Bay St. Louis, in his home a few blocks from the west end of Bay St. Louis Bridge. He made the reading of 26.85 in. on his aneroid barometer as the eastern edge of Camille's eye passed overhead. His barometer was later checked and found to be accurate by the New Orleans Weather Bureau Office. Other low pressures included a 27.80-in. reading at Garden Island, La., and a 27.90 in. at St. Stanislaus School in Bay St. Louis.

The storm surge generated by Camille flooded coastal areas from lower Plaquemines Parish in Louisiana to Perido Pass, Ala. Flooding was most severe in the Pass Christian - Long Beach, Miss., area where tides up to 24.2 ft. above m.s.l. were measured. In the St. Louis Bay maximum tides ran 18 ft. above m.s.l., while in the Back Bay of Biloxi they were about 15 ft. above m.s.l.

A chart of the storm surge measurements and flooded areas is shown. This chart is based on a series of 15 maps of scale 1 in. to 2,000 ft. extending from near the mouth of the Pearl River to Bayou La Batre, Ala., and indicates in detail the areas flooded and surge measurements. These maps are available from the U. S. Geological Survey, Washington, D. C. 20242. Additional information for this summary was obtained from the Mobile District Corps of Engineers.

The Louisiana storm surge that swept from Empire southward, flooded Boothville with 15 ft. (above m.s.l.) of water. Water levels reached 9 ft. near the mouth of the Mississippi, at Garden Island. The tidal surge also flooded some parts of lower St. Bernard Parish and eastern sections of Orleans Parish. Tide heights reach-

ed 7.97 ft. above m.s.l. at Alluvial City, 8.73 ft. at Chef Menteur Pass, 11.06 ft. at Shell Beach, and 9.00 ft. at the Rigolets. Tides on Lake Pontchartrain reached 4.0 ft. above m.s.l. at Mandeville, 4.6 ft. at Frenier, 5.2 ft. at Slidell, and 5.5 ft. at Madisonville.

A serious drought had plagued Mississippi, Tennessee, and Kentucky for many weeks preceding hurricane Camille. Soil moisture was much below normal, pasture conditions were poor, and crops were suffering; Camille's rains relieved the drought in some areas and eased it in western Tennessee, where it had been severe. Rainfall amounts of 3-5 in. fell over western Tennessee and southern West Virginia. In some sections the rains were a few weeks too late to prevent serious loss of crops, some grains were badly damaged, and most farmers were feeding cattle their winter supply of hay. A detailed breakdown of hourly and daily precipitation amounts at numerous stations may be found for every state, in the EDS publication Hourly Precipitation Data, Daily Totals, available at the National Weather Records Center, Asheville, N. C.

As the weak and seemingly innocuous low pressure center associated with Camille crossed the Blue Ridge Mountains into southwestern Virginia, rainfall reached catastrophic proportions in that area. Results of a bucket survey conducted by the Weather Bureau showed that 12-14 in. totals were common in Nelson County and the southern part of Albemarle County. The poststorm survey showed a 27-in. total near Massies Mill and an unconfirmed report of 31 in. near Tye River, Va. Figure 2 shows the storm rainfall analysis as made by the Office of Hydrology's Hydrometeorological Branch.

The 27-in. rainfall total in Nelson County, Va., which fell within about 8 hrs., represents one of the all-time meteorological anomalies in the United States. A study made by the Weather Bureau in 1956 for the Corps of Engineers concluded that the probable maximum rainfall possible in this area was 28 in. in 6 hours and 31 in. in 12 hrs. The previous record rainfall in Virginia was 8.4 in. in 12 hrs. at Big Meadows on the Skyline Drive, associated with a hurricane in 1942. For purposes of comparison, this catastrophic rainfall from Camille may be compared with the following records:

12 in. in 42 min. at Holt, Mo., in 1947
19 in. in 2 hrs., 10 min., at Rockport, W. Va., in 1889
22 in. in 2 hrs., 45 min. at D'Hanis, Tex., in 1935
31 in. in 4 hrs., 30 min., at Smethport, Pa., in 1942
34 in. in 12 hrs. at Smethport, Pa., in 1942

The Virginia part of Camille was one of nature's rare events. It is estimated that the maximum rainfall associated with this storm has a return period well in excess of 1,000 yrs. Another measure of the rarity of this rainfall is that the maximum amount of 31 in. (unconfirmed) approaches the probable maximum rainfall that meteorologists have computed to be theoretically possible in Virginia at this time of the year. The U. S. Geological Survey estimates that the return period of the crest discharge for the James River at Cartersville, Va., is 200 yrs. Even longer return periods are estimated for crest discharges at upstream stations.

The torrential rains associated with the remnants of hurricane Camille caused one of the worst flood disasters to strike the State of Virginia.

Extensive severe flash flooding occurred in the following counties: Albemarle, Alleghany, Amherst, Bath, Botetourt, Buckingham, Cumberland, Fluvanna, Goochland, Nelson, Orange, Powhattan, and Rockbridge. Hardest hit by the flash flooding were the Tye River and Rockfish River Basins, which lie mostly within Nelson County. Flash flooding also reached disaster proportions in Rockbridge, Amherst, Albemarle, and Fluvanna Counties. Devastating and extreme flash flooding occurred in the Maury and Hardware Basins and in portions of the Rivanna Basin.

Most of the residents of the mountain hollows, hamlets, and towns were asleep during the fatal hours of the storm. Rapidly rising streams and landslides caused by the unprecedented rainfall destroyed homes as the occupants slept. Large trees were uprooted and hurled down the mountain. They acted as battering rams, crashing through houses, overturning automobiles, sparing nothing in their paths. Entire families were swept away in the raging waters. Whole sections of the mountainside slid down in the form of mud, heaping tons of silt on houses and their inhabitants. Many houses at higher elevations were damaged by mountain water runoff.

The Virginia Civil Defense Headquarters estimated the total flood damages in Virginia at $140 million. The total number of deaths in Virginia by drowning and mudslides was placed at 110 with an additional 41 persons missing and presumed dead. The State was declared a disaster area by the President. One million dollars in federal aid was made available immediately for repair and replacement of roads, bridges, and other public facilities.

The remnants of Camille, as it moved through extreme southern West Virginia, produced 3 to nearly 5 in. of rain over the southern counties of that State. Nicholas, Greenbrier, and Summers Counties were hardest hit with flash flooding along the Greenbrier, Meadow, and Cherry Rivers. The Greenbrier River at Alderson, W. Va., crested at 17.1 ft. early on the 20th; 3.1 ft. above flood stage. High water from Spring Creek, a small tributary entering the Greenbrier near Renick, W. Va., resulted in the deaths of two elderly women. Total damage in West Virginia was estimated at $750,000.

DEATHS AND DAMAGES

Hurricane Camille ranks high as one of the most destructive killer storms ever to hit the U. S. Total damage has been estimated at $1.42 billion with 256 deaths and 68 additional persons missing -- this includes the Gulf Coast and the Virginias. In round figures the damage equals the destruction caused by hurricane Betsy, in a much more concentrated area, in September of 1965. Betsy and Camille stand together as the two most destructive storms to ever ravage the U. S.

While most of Betsy's damage was incurred by Louisiana, Camille spent most of her wrath in Mississippi; the total figure there is estimated at $950 million; Louisiana suffered $350 million mostly in lower Plaquemines Parish.

The total U. S. deaths figure was 256, with three persons reported dead in Cuba. The U. S. figure is the highest in a hurricane since 390 persons died during hurricane Audrey, which moved over western Louisiana in June 1957; most of these deaths, like those in Camille, were drownings.

A detailed summary of Hurricane Camille appears in the August ESSA's Climatological Data, National Summary, Vol. 20, No. 8, 1969.

TROPICAL CYCLONE DATA
HURRICANE CAMILLE, AUGUST 5-22, 1969

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #	Time+	Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time	Gusts	Time				
MISSISSIPPI											
Bay St. Louis (west end of bridge)	17	26.85									Lowest measured pressure at surface.
(St. Stanislaus School)	17	27.90	2250*								
Bra[illegible] (Civil Defense)	18			E 70	0600	E 80	0600			2.3	
Columbia (James Thornhill)	18	[illegible]	0208	NE 120	0200	[illegible]	0208			4.85	Wind instrument disabled as speed reached 120 and gust to 135 m.p.h.; gusts estimated to 140 m.p.h.
Columbus AFB	18	29.58	1155	[illegible]	1744	[illegible]	1429			2.40	
Greenwood Airport (FAA)	18	29.13	1155	NE 25	0657	[illegible]	1225			1.98	
Jackson	18	28.93	0656			NNE 67				2.23	
Keesler AFB	17	28.94	2315	110°/81	2255	100°/129	2155				
M[illegible] (FAA)	18	28.68	0100	340°/28	0200	340°/51	0100			1.28	
Ocean Springs (Gulf Coast Res. Lab.)	18							15	0100		
Pascagoula (Ingalls Ship-building Corp.)	17	29.26	2245			ESE 81	2245	[illegible]	18/0015	5.50	
Picayune (Miss. Test Facility)	17	28.06	2315							10.06	
Poplarville (Civil Defense)	18									5.25	
Saucier (U.S. Forest Service)	18									7.01	
Wiggins (4 mi SE) (Harson Growers Inc.)	18									6.34	
LOUISIANA											
Baton Rouge (WBO)	18	29.44	0055	NW 23		25				0.14	
Bogalusa	18	28.63	0030			NNW 100				4.10	Anemometer failed at 100 m.p.h.
Boothville (WBO)	17	28.34	1840			107		15.0			Power failure made wind equipment inoperative after gusts reached 107 m.p.h.
Callender Field (NAS)	17	29.15	2058-2158	NW 50		NW 61				2.60	
Garden Island	17	27.80	1655					9.0			
Grand Isle (USCG)	17	29.21	1830	45		65				2.80	
Huey Long Bridge	17			56		73					
Lakefront Airport				NW 87		[illegible]					
Moisant (WBO)	17	29.23	2202	NNW 42		59				1.00	
New Orleans (WBFO)	17	29.14	2115	N 52		N 85				[illegible]	
Pilottown (SS CRISTOBAL)	17	28.04	1800								
Port Sulphur	17	28.98	1900	60		NW 90		2.6			
Slidell	17	28.56	2240					5.2		5.03	
ALABAMA											
Mobile	17	29.44	2156	SE 44		SE 74		7.4		6.05	
FLORIDA											
Pensacola NAS (Sherman Field)	17	29.58	1755			SE 71				3.55	

* Estimated.
+ CST
\# above mean sea level

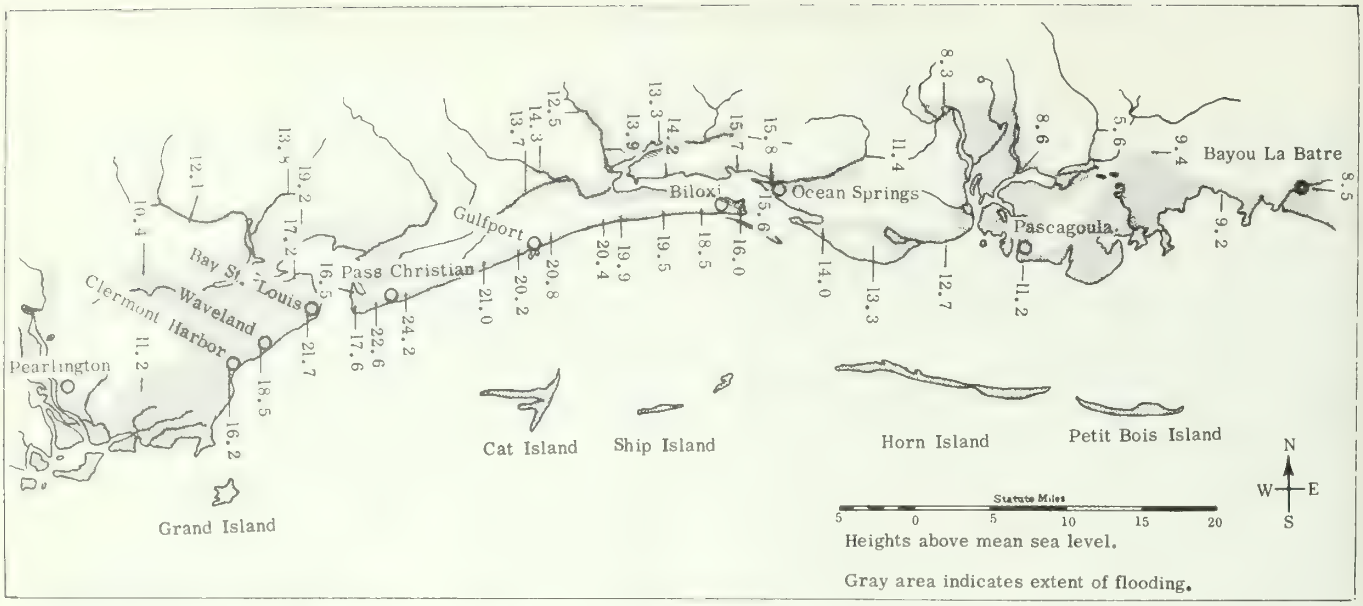
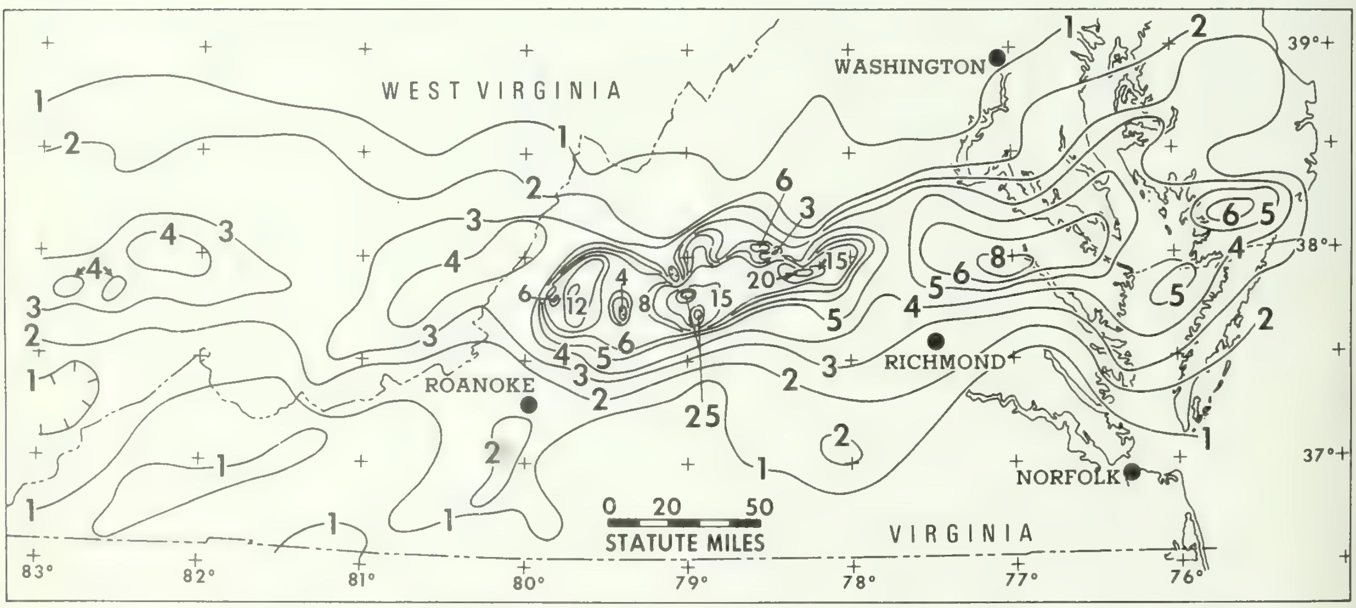


Figure 1. Storm surge measurements and flooded areas as determined by the U.S. Geological Survey are summarized in this chart.

Figure 2.



CAMILLE RAINFALL (IN.)
AUG. 19TH NOON TO AUG. 20TH MIDNIGHT 1969

HURRICANE DEBBIE, AUGUST 13-25

A tropical wave intensified and became tropical storm Debbie at 1200 on the 15th. The storm intensified slowly as she moved west-northwestward for the next 36 hrs. Debbie then turned toward the northwest, decreasing the threat of her 70-kt. winds in the Leeward Islands. Her winds increased to 90 kt. as she followed this northwesterly course for the next two days. Debbie turned toward the west-northwest again late on the 19th. Moving at a forward speed of 13 kt., the hurricane crossed the 25th parallel early on the 20th. She was at peak strength at this time; central pressure had dropped to 950 mb. with winds around 110 kt. Gale-force winds extended out 200 mi. to the north and 100 mi. to the south of the center.

Debbie began to recurve on the 20th and was heading northeastward before reaching the 65th meridian. She was generating 95-kt. winds around a 964-mb. center as she passed about 225 mi. east of Bermuda early on the 22d. Twelve hours earlier the B. A. PEERLESS, near 30° N., 62° W., encountered 70-kt. southeasterly winds and a 1003-mb. pressure. Winds near the center were as high as 90 kt. as Debbie moved northward on the 24th. However, winds dropped below hurricane force late on the 24th as Debbie passed about 50 mi. east of St. Johns, Newfoundland, sweeping that city with 55-kt. gusts. By the 25th the 988-mb. cyclone was extratropical and located off southeastern Greenland; winds remained at 45 kt. until the storm crossed Iceland on the 27th.

TROPICAL STORM EVE, AUGUST 24-27

Tropical storm Eve formed about 130 mi. east of St. Augustine, Fla., on the evening of the 24th. The following afternoon she reached tropical storm strength and later in the day reached a peak when pressure dropped to 995 mb. and winds reached 50 kt. Eve was moving toward the east-northeast at about 8 kt. Eve was never very well organized, and it didn't take much to turn her extratropical. Late on the 26th near 32° N., 72° W., enough cold air had entered the circulation, and Eve was an extratropical trough of low pressure with occasional squalls reaching 35 kt.

HURRICANE FRANCELIA, AUGUST 19-SEPTEMBER 4

Satellite pictures received on the morning of the 27th showed a tropical disturbance with a rather large mass of cloudiness near 11.5° N., 54.0° W., or 400 mi. east-southeast of Barbados. Maximum winds were estimated at 25-30 kt. The disturbance was moving west-northwestward at about 13 kt. Although Barbados reported a wind gust of 37 kt. at 1200 on the 28th, a Navy reconnaissance aircraft found only a wavelike formation accompanied by considerable weather but no evidence of a closed circulation. The wave passed over the Windward Islands late that day.

Once over the eastern Caribbean the wave weakened, and bulletins on it were dropped for over 1 day. Then at 1200 on the 30th, the KORDUN near 12.5° N., 70.0° W., sent a report of a south-southeasterly wind of 35 kt. and a 1008-mb. pressure. The disturbance had developed into a depression about 12 hrs. earlier, and this depression was intensifying. By 1900 on the 30th, Francelia was born; she was lacing the Barhona Peninsula of Haiti, 250 mi. to the north, with squalls.

Francelia continued toward the west-northwest, but never did get well organized until late on the 1st when she became a hurricane. Earlier on the 31st, reports from passing vessels indicated that Francelia was in a disorganized state with a rather broad area of low pressure and possibly several small centers. By late on the 1st, however, winds were up to 75-80 kt.; the eye of the storm passed over Swan Island about 2145. The ESSA Weather Bureau observers on Swan Island were successful in launching a radiosonde into the eye of Francelia. The relative calm of the eye lasted for 1 hr. -- long enough for the men to make this very important observation. Only four previous ascents have been made in hurricanes. These were in Inez (1966) at Boca Chico, Fla.; two at the Tampa, Fla., Weather Bureau (1944, 1946); and in Arlene (1963) as the center passed over Bermuda. Swan Island reported a lowest pressure of 994 mb. and wind gusts to 60 kt. There were no injuries.

Francelia took a turn toward the west-southwest on the 2d, aiming her fury at southern British Honduras. By 2000 that day, top winds were 100 kt. and the minimum pressure was 973 mb.; by 0100 on the 3d, gale-force winds had been reported from Tela, Honduras. The hurricane came to a virtual standstill about 30 mi. east of Punta Gorda, British Honduras, early on the 3d. The RIO COBRE near the center of the storm was hit by wind gusts of 85-90 kt. at 1500 that day. Francelia started drifting westward about midday on the 3d, and by 2200 her eye was over Punta Gorda. That city fought winds of 95 kt. in the southeast wall cloud; the lowest pressure recorded was 991 mb.

As the 4th opened, Francelia was breaking up over the mountains and hills northwest of Punta Gorda, but torrential rains were plaguing British Honduras and Guatemala. Residents along rivers, streams, and gorges were warned to exercise a sharp vigil for high water and flash flooding caused by rains of 10-20 in. The northern coast of Honduras was already suffering from severe flooding, and the railroad and highways between Puerto Cortez and Tegucigalpa were washed out. The Macal River in southern British Honduras ran 20 ft. above normal. The Guatemalan ports of Matios de Galvez and Puerto Barrios reported flooding, particularly in the Customs Warehouses, due to the heavy rains of the hurricane. About 100 persons died of flooding in Guatemala, while damage was estimated at $4.7 million.

HURRICANE GERDA, AUGUST 21-SEPTEMBER 10

A tropical disturbance, which was traced back to Mali, Africa, spawned a tropical depression in the central Bahamas on the 5th. Climatology indicates that tropical cyclones in this area have a better than 50 percent chance of reaching the U. S. mainland. The next day this depression moved inland near Palm Beach bringing the central east coast of Florida rain but little wind. After moving across Lake Okeechobee, the storm turned toward the northeast and headed back to sea, where it began to slowly intensify.

On the 8th, the tanker ESSO MIAMI reported a 35-kt. wind a short distance east of the storm's center. Then a Navy reconnaissance crew reported a 1000-mb. central pressure with 45- to 50-kt. winds north and east of the center; it was evident that tropical storm Gerda -- seventh tropical cyclone of the season -- had formed. She was again in an area favorable for striking the U. S. mainland.

As Gerda moved northeastward, coastal areas were alerted; however, she remained more than 100 mi. off the Georgia-South Carolina coast. Charleston's winds reached only 17 kt.

Later on the 8th, about 210 mi. south-southwest of Cape Hatteras, Gerda reached full hurricane strength. The ship THORSOY reported a 50-kt. wind a short distance east of Gerda's center. Her forward speed accelerated, and late that evening she moved rapidly past Cape Hatteras. While winds close to the storm's center were about 80 kt., winds at the Cape, some 60 mi. to the west, were 24 kt. with gusts to 31 kt. Gerda's forward speed was now around 35 kt., and she continued northeastward.

By the afternoon of the 9th, Gerda was some 60 mi. east of Cape Cod and generating winds of about 85 kt. around a 980-mb. pressure center. Nantucket recorded a 50-kt. gust as the hurricane passed to the east. As Gerda moved toward the coasts of Maine and New Brunswick at 43 kt., she continued to intensify. The Nantucket Lightship and reconnaissance reports indicated top winds of 125 kt. and a central pressure of 979 mb.

It was in the evening when Gerda moved over Eastport, Me., and northward into New Brunswick; a few hours earlier on the 9th she had been off the Virginia Capes. The following morning Gerda merged with a frontal system and became extratropical as she moved into Quebec.

The coastal areas of the United States were barely affected by Gerda, and there was only minor damage in the areas where Gerda made landfall.

HURRICANE HOLLY, SEPTEMBER 9-21

Hurricane Holly was a good example of a storm deveooping in a favorable tropical environment and then degenerating all the way to an easterly wave after entering an unfavorable environment in tropical latitudes at both the surface and at upper levels. She reached depression status near 12° N., 47° W., around midday on the 14th, and pursued a northwesterly course for the next 2 days. By 2200 on the 14th, she was declared a tropical storm with top winds of about 40 kt.; 18 hrs. later she ripened into a minimal hurricane. Shortly after this Holly reached her lowest pressure (992 mb.) and her highest winds (65 kt.). The hurricane moved to near 16° N., 51° W., by late on the 16th; it was then evident that she had turned to a more west-northwesterly track.

Holly was struggling against a hostile environment. She was moving into an area of relatively cool temperatures east of the Antilles, and a good outflow mechanism in the upper portion of the atmosphere was absent. By late on the 17th she was again a tropical storm near 17° N., 53° W., with highest winds of only 45 kt. Holly continued to weaken on the 18th as she turned to the west-southwest. By 1600 that day she was given depression status; by 2200 Holly was only a tropical wave with maximum winds of 30 kt. This wave moved through the Leeward Islands on the night of the 19th and the morning of the 20th. St. Barthelemy Island reported the highest wind (26 kt.) observed on the Islands. The wave was last detected near longitude 66° W. early on the 21st.

HURRICANE INGA, SEPTEMBER 20-OCTOBER 14

Inga was first detected as a depression on the 20th near 16° N., 47° W. She reached tropical storm intensity early on the 21st, but was downgraded again on the 23d near 18° N., 56° W. As a depression, Inga moved west-northwestward until the 25th when she turned toward the north. It wasn't until the 28th that her circulation was able to regain tropical storm intensity near 24° N., 64° W.

Late on the 29th near 26° N., 65° W., Inga reached hurricane strength and turned northeastward. She moved to 230 mi. southeast of Bermuda where she slowed and began a clockwise loop on October 1. At this time maximum winds were 70 kt. around a 987-mb. pressure. The hurricane continued to intensify as she looped and went into a recurvature pattern on the 3d. Inga then headed northeastward on the 4th passing 150 mi. southeast of Bermuda this time. The following day she reached peak intensity when her central pressure dropped to 965 mb., and maximum winds reached 90 kt.

Inga was prevented from continuing her northeastward trek by a large HIGH to her north; consequently, she turned southward once again on the 8th. The storm was now starting to weaken as pressure rose to 985 mb., and winds were of minimal hurricane strength. On the 10th Inga was reduced to a tropical storm before crossing the 30th parallel on her unusual southward journey. However, cold air was beginning to intrude into Inga's weakening circulation. The storm turned toward the east on the 12th and became extratropical on the 14th, near a position she had passed once on the 30th and again on the 3d.

Inga's 25-day life makes her the longest lived recorded hurricane.

TROPICAL STORM JENNY, OCTOBER 1-6

Jenny reached minimal tropical storm strength for a few hours on the 2d, just prior to reaching the southwest Florida coast -- maximum winds reached 35 kt. and pressures dropped to 1001 mb. Some gusts to 48 kt. were reported as Jenny moved ashore near Naples.

Jenny had originated north of Panama and became a depression north of Swan Island on the 1st.

As a depression over Florida, Jenny moved north-northwestward until she reached Cape Kennedy on the 3d. Then half off the coast, she slowed and began to meander westward. This weak, ill-defined depression dumped 3 to 4 in. of rain over the Florida peninsula before moving into the Gulf of Mexico, off St. Petersburg, late on the 4th. She continued westward for the next 2 days before dissipating in the northwestern Gulf of Mexico.

HURRICANE KARA, OCTOBER 7-19

When Kara was discovered as a tropical depression east of the Bahamas on the 7th, it was no surprise since these waters have bred early October storms in the past. The depression moved through the eastern Bahamas, turned northward, and became a tropical storm on the 9th -- the first "K" storm since 1955. At this time Kara was near 28° N., 73° W. She began to slow down and turn toward the north-northwest on the 11th.

Early on the 12th Kara was drifting near 30° N., 71° W., and her winds were causing rough seas from northeast Florida to Cape Hatteras.

Kara's track became irregular for the next 2 days in an area where irregularity is common for October storms. She moved southwestward; then on the 13th and 14th she turned a small counterclockwise loop and finally headed east-northeastward. During this period Kara was intensifying slowly. Her central pressure remained at 998 mb. from the 10th through the 13th, and then dropped to 990 mb. by noon on the 14th when winds reached 55 kt. Later in the day pressure fell to 989 mb., winds reached 60 kt., and gales extended out to 160 mi. in all directions. The center was located about 250 mi. east-southeast of the Georgia coast. Early the next day Kara reached hurricane strength about 250 mi. south-southeast of Cape Hatteras. She was then accelerating on an east-northeasterly course. Kara's central pressure dropped to 984 mb. as she continued to generate 65-kt. winds close to her center. Pressures started rising on the 16th and then reversed this trend, and on the 17th Kara reached peak intensity; winds roared at 80 kt. around a 978-mb. central pressure. Kara was now moving east-northeastward at 35 kt. On the 18th the storm was deemed extratropical as she passed some 400 mi. north of the Azores.

HURRICANE LAURIE, OCTOBER 17-27

In late October, many tropical cyclones originate in the southwestern Caribbean and Gulf of Honduras. Laurie fitted this pattern when she was discovered as a tropical depression just off the northern Honduran coast on the 17th. The depression moved northwestward, entering the Yucatan Peninsula, south of Cozumel Island, on the 18th. Laurie reached tropical storm strength as she moved ashore. She moved off the coast just north of Merida. Once over the warm Gulf waters Laurie began to grow in size and intensity; and she rapidly became a threat to the U. S. Gulf Coast.

Laurie became a hurricane on the morning of the 20th about 300 mi. south of New Orleans. Gales extended 160 mi. to the north and 50 mi. to the southwest of the center. Laurie was moving northward at about 6 kt., and was in an area where about 85 percent of all tropical cyclones reach the U. S. coast. However, several blocking HIGHS from the north prevented Laurie from her statistical rendevous.

Late on the 20th, the hurricane reached its peak when pressure fell to 973 mb. and winds increased to 95 kt. It was at this point that Laurie changed her direction and began drifting slowly eastward; things looked gloomy for the west coast of Florida. Then Laurie turned southward and remained at sea. On the morning of the 22d, two vessels moved through the eye of the storm confirming its position and the central pressure which was now 985 mb.

Laurie was downgraded to a tropical storm near 25° N., 86° W., late on the 22d. At this time the storm was nearly stationary and in the process of turning westward. The storm moved westward and completed a clockwise loop late on the 24th; in the process she fell to depression stage as cold air was being injected into her system from the north. On the 25th the weak depression turned southward into the Bay of Campeche and the following day limped ashore just north of Villahermosa, Mexico. Laurie was the first hurricane in the Gulf of Mexico not to generate at least gale force winds along a coastline.

HURRICANE MARTHA, NOVEMBER 21-25

Martha developed from a large area of showers that had persisted over the southwestern Caribbean for several days. On the 21st a portion of the area became an organized tropical depression near San Andres Island. When the depression reached tropical storm strength the following afternoon, she became the latest tropical storm or hurricane to develop since hurricane Alice formed on December 30, 1954.

Martha rapidly reached hurricane strength and by 2000 EST on the 22d she was generating 74-kt. winds around a 986-mb. pressure. Martha became the latest hurricane to develop in the southwest Caribbean over the past century; the only other storm in this area during the latter half of November developed on Nov. 15, 1933. At the time Martha reached hurricane strength she was about 120 mi. northwest of Colon in the Canal Zone and was stationary. The following day the hurricane began drifting southwestward. Gales were occurring along the coast from Puerto Limon, Costa Rica, to the Gulf of Mosquitos along the Panama coast. She weakened as she drifted southward toward Panama, and became a tropical storm again late on the afternoon of the 23d.

Slowly the storm moved into the Gulf of Mosquitos and her heavy rains spilled inland. Then on the 24th Martha became the first tropical cyclone, in a 99-yr. period of record, to move into Panama when she crossed the coastline midway between Almirante and Colon. Torrential rains from the storm were measured at 13 in. by the United Fruit Company in Almirante with heavier rains to the southeast. Martha broke up slowly on the 24th. Rain-swollen rivers and streams caused numerous floods throughout the area. These floods were responsible for five deaths in Costa Rica.

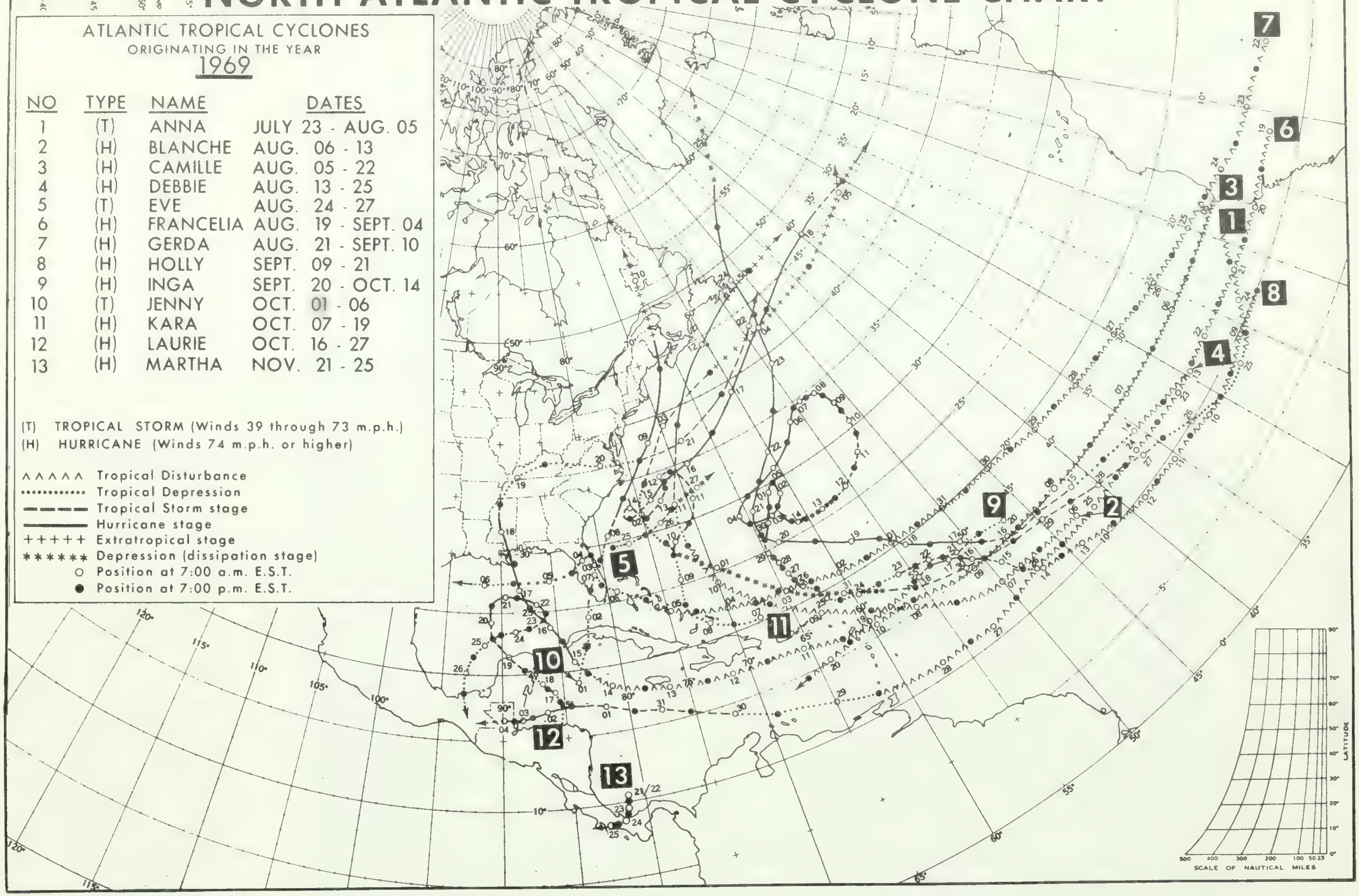
U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
NORTH ATLANTIC TROPICAL CYCLONE CHART

ATLANTIC TROPICAL CYCLONES
ORIGINATING IN THE YEAR
1969

NO	TYPE	NAME	DATES
1	(T)	ANNA	JULY 23 - AUG. 05
2	(H)	BLANCHE	AUG. 06 - 13
3	(H)	CAMILLE	AUG. 05 - 22
4	(H)	DEBBIE	AUG. 13 - 25
5	(T)	EVE	AUG. 24 - 27
6	(H)	FRANCELIA	AUG. 19 - SEPT. 04
7	(H)	GERDA	AUG. 21 - SEPT. 10
8	(H)	HOLLY	SEPT. 09 - 21
9	(H)	INGA	SEPT. 20 - OCT. 14
10	(T)	JENNY	OCT. 01 - 06
11	(H)	KARA	OCT. 07 - 19
12	(H)	LAURIE	OCT. 16 - 27
13	(H)	MARTHA	NOV. 21 - 25

(T) TROPICAL STORM (Winds 39 through 73 m.p.h.)
(H) HURRICANE (Winds 74 m.p.h. or higher)

∧∧∧∧∧ Tropical Disturbance
············ Tropical Depression
— — — — Tropical Storm stage
———— Hurricane stage
+++++ Extratropical stage
****** Depression (dissipation stage)
○ Position at 7:00 a.m. E.S.T.
● Position at 7:00 p.m. E.S.T.



Summary North Atlantic Tropical Cyclones, 1969

Storm Name	Intensity	Date	Coast Lines Crossed	Highest Wind Speed (kt)	Lowest Pressure (mb)	Damage	Deaths
1. Anna	Tropical Storm	July 23-Aug. 5	None	60	1002		
2. Blanche	Hurricane	Aug. 6-13	None	80	992		
3. Camille	Hurricane	Aug. 5-22	Cuba, Mississippi	175	905	$1.42 billion	256 U.S., 3 Cuba
4. Debbie	Hurricane	Aug. 13-25	None	110	950		
5. Eve	Tropical Storm	Aug. 24-27	None	50	995		
6. Francelia	Hurricane	Aug. 19-Sept. 4	British Honduras, Guatemala	100	973	$4.7 million	100 Guatemala
7. Gerda	Hurricane	Aug. 21-Sept. 10	Florida, Maine	125	979		
8. Holly	Hurricane	Sept. 9-21	None	75	984		
9. Inga	Hurricane	Sept. 20-Oct. 14	None	90	964		
10. Jenny	Tropical Storm	Oct. 1-6	Florida	35	1001		
11. Kara	Hurricane	Oct. 7-19	None	80	978		
12. Laurie	Hurricane	Oct. 17-27	Yucatan, Mexico	95	973		
13. Martha	Hurricane	Nov. 21-25	Panama	80	980	$30 million	5 Costa Rica

NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

TOTAL NUMBER OF TROPICAL CYCLONES, LOSS OF LIFE AND DAMAGE

	Total Number Tropical Cyclones*		Total Number Hurricanes		Loss of Life		Damage by Categories**	
Year	All Areas	Reaching U.S. Coast	All Areas	Reaching U.S. Coast	Total All Areas	United States	Total All Areas	United States
1886	10	7	8	6				
1887	17	4	10	3				
1888	10	6	5	3				
1889	9	1	5	2				
1890	1	0	1	0				
	47	21	29	14				
1891	11	4	8	2				
1892	9	3	4	0				
1893	12	7	10	6				
1894	6	3	5	2				
1895	6	4	2	1				
	44	21	29	11				
1896	6	4	6	4				
1897	5	4	2	1				
1898	9	6	4	3				
1899	6	4	5	3				
1900	7	3	3	1		6,000		7
	33	21	20	12				
1901	10	6	3	2		10		6
1902	5	3	3	1		#		#
1903	9	2	8	2		9		6
1904	5	3	2	2		#		6
1905	5	2	1	0		#		#
	34	16	17	7				
1906	11	6	6	4		285		7
1907	4	3	0	0		#		#
1908	8	2	5	1		#		#
1909	10	7	4	3		404		7
1910	4	2	3	2		13		6
	37	20	18	10				
1911	4	2	3	2		17		6
1912	6	4	4	2		12		6
1913	4	3	3	2		#		#
1914	1	1	0	0		#		#
1915	5	4	4	3		600		8
	20	14	14	9				
1916	14	8	11	6		107		7
1917	3	1	2	1		5		5
1918	5	2	3	1		34		6
1919	3	2	1	1		287		7
1920	4	3	4	2		2		6
	29	16	21	11				
1921	6	2	4	2		5		6
1922	4	1	2	0		0		#
1923	7	4	3	2		0		4
1924	8	3	5	2		2		3
1925	2	2	1	1		6		3
	27	12	15	7				
1926	11	4	8	4		269		8
1927	7	1	4	0		0		#
1928	6	3	4	2		1,836		7
1929	3	2	3	2		3		6
1930	2	1	2	0		0		2
	29	11	21	8				
1931	9	2	2	0		0		#
1932	11	5	6	2		0		#
1933	21	7	9	5		63		7
1934	11	5	6	3		17		6
1935	6	2	5	2		414		7
	58	21	28	12				
1936	16	7	7	3		9		6
1937	9	4	3	0		0		4
1938	8	4	3	2		600		8
1939	5	3	3	1		3		3
1940	8	3	4	2		51		6
	46	21	20	8				
1941	6	4	4	2		10		7
1942	10	3	4	2	17	8	7	7
1943	10	4	5	1	19	16	7	7
1944	11	4	7	3	1,076	64	8	8
1945	11	5	5	3	29	7	8	8
	48	20	25	11				
1946	6	4	3	1	5	0	7	7
1947	9	7	5	3	72	53	8	8
1948	9	4	6	3	24	3	7	7
1949	13	3	7	2	4	4	8	8
1950	13	4	11	3	27	19	7	7
	50	22	32	12				
1951	10	1	8	0	244	0	7	6
1952	7	2	6	1	16	3	6	6
1953	14	6	6	2	3	2	7	7
1954	11	4	8	3	720+	193	9	9
1955	12	5	9	3	1,518+	218	9	9
	54	18	37	9				
1956	8	2	4	1	76	21	8	7
1957	8	5	3	1	475	395	8	8
1958	10	1	7	0	49	2	7	7
1959	11	7	7	3	57	24	7	7
1960	7	5	4	2	185	65	8	8
	44	20	25	7				
1961	11	3	8	2	345	46	8	8
1962	5	1	3	0	4	4	6	6
1963	9	1	7	1	7,218+	11	9	7
1964	12	6	6	4	266	49	9	9
1965	6	2	4	1	76	75	9	9
	43	13	28	8				
1966	11	2	7	2	1,040	54	8	7
1967	8	2	6	2	68	18	8	8
1968	7	3	4	2	11	9	7	7
1969	13	3	10	2	364	256	9	9
Total	682	297	406	164				
Median	8	3	4	2				

NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS—CONT'D

Frequency of Tropical Cyclones (Including Hurricanes) by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1886				1	2	2	2			10
1887		1		2	2	3	6	1	2	17
1888			1	1	2	2	1	3		10
1889		1	1		[illegible]	5	1			[illegible]
1890					1					[illegible]
1891				[illegible]	2	3	4	1		11
1892			1		1	4	3			9
1893			[illegible]	1	5	3	[illegible]	1		12
1894					2	1	3			6
1895					2	1	3			6
1896				1	1	2	2			6
1897					1	2	2			[illegible]
1898					2	5	2			[illegible]
1899				1	2	1	2			6
1900					1	3	3			[illegible]
1901			1	2	[illegible]	3	2			10
1902			2			1	1	1		[illegible]
1903				1	[illegible]	4	2	[illegible]		9
1904			1			[illegible]	3			[illegible]
1905						3	2			[illegible]
1906			2		1	[illegible]	[illegible]	1		11
1907			1			2	1			4
1908	Mar. [illegible]			1	1	3	2			8
1909			2	2	2	2	1	1		10
1910					[illegible]	[illegible]	1			[illegible]
1911					2	[illegible]	1			[illegible]
1912			1	1		1	2	1		6
1913			1		1	1	1			[illegible]
1914						1				[illegible]
1915				1	[illegible]	[illegible]				[illegible]
1916			1	2		[illegible]	[illegible]	1		14
1917					2	1				[illegible]
1918						2				[illegible]
1919				1		1		1		3
1920						4				[illegible]
1921			1			3	2			6
1922			1			1	2			4
1923					1	1	[illegible]			7
1924			[illegible]		[illegible]	2	2	1		8
1925						1		1		2
1926				1	2	[illegible]	2	1		[illegible]
1927					1	3	[illegible]			[illegible]
1928					[illegible]	[illegible]	1			[illegible]
1929			1			1	1			3
1930					[illegible]					2
1931			1	1	[illegible]	[illegible]	1	1		9
1932		1			[illegible]	[illegible]	3	1		11
1933		1	1	[illegible]	[illegible]	5	[illegible]	[illegible]		21
1934		1	1	1	2	2	3	1		11
1935					3	1	[illegible]			6
1936			[illegible]	2	6	4	1			16
1937				1	2	6				[illegible]
1938					[illegible]	1	3	1		8
1939			[illegible]		1	1	2			[illegible]
1940		1			[illegible]	[illegible]	2			8
1941						[illegible]	2			6
1942					[illegible]	[illegible]	[illegible]	1		10
1943				1	2	4	[illegible]			10
1944				3	2	[illegible]	2			11
1945			1	1	[illegible]	[illegible]	2			11
1946			1	1	1	1	2			6
1947				1	2	3	[illegible]			9
1948		1		1	2	[illegible]	1	1		9
1949					[illegible]	7	2	1		13
1950					4	[illegible]	6			13
1951		1			3	4	2			10
1952	(Feb.) 1				2	2	2			7
1953		[illegible]			3	4	4	1	1	14
1954			1	1	2	[illegible]	1	1	1	11
1955				[illegible]	4	5	2			12
1956			[illegible]	1	1	[illegible]	1			8
1957			2		1	[illegible]	1			8
1958			1		[illegible]	[illegible]	1			10
1959		1	2	2	1	3	[illegible]			11
1960			1	2	1	3				7
1961				1		6	2	[illegible]		11
1962					2	[illegible]	1			5
1963				1	[illegible]	5	2			[illegible]
1964			1	1	[illegible]	[illegible]	1	1		12
1965			1		2	[illegible]	1			[illegible]
1966			1	[illegible]	[illegible]	[illegible]		[illegible]		11
1967					1	4	3			8
1968			[illegible]		1	[illegible]	1			[illegible]
1969				[illegible]	[illegible]	[illegible]	3	1		[illegible]
	Mar Feb									
Totals	1 1	[illegible]	46	[illegible]	153	[illegible]	155	[illegible]	[illegible]	[illegible]

Frequency of Tropical Cyclones Reaching Hurricane Intensity by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1886			[illegible]	1	[illegible]	[illegible]	[illegible]			[illegible]
1887				[illegible]	2	[illegible]	2	1	1	[illegible]
1888			[illegible]		2		1	[illegible]		[illegible]
1889		1			1	3				[illegible]
1890					1					1
1891				[illegible]	2	3	2			[illegible]
1892					1	2	1			[illegible]
1893			1	1	5	3				10
1894					1	1	3			5
1895					1		1			2
1896				1	1	2	2			6
1897					1	1				2
1898					2	2				4
1899				1	[illegible]	1	1			5
1900					1	2				3
1901				1	2					3
1902			1			1	1			3
1903				1	1	3	2	1		8
1904						1	1			2
1905							1			1
1906			1		1	2	2			6
1907										0
1908	Mar. 1			1		2	1			5
1909				1	1	1	1			4
1910						2	1			3
1911					2	1				3
1912						1	2	1		4
1913			1		[illegible]	1				3
1914										[illegible]
1915					2	2				4
1916			[illegible]	2	3	[illegible]	2	1		11
1917					1	1				2
1918					2	1				3
1919						1				[illegible]
1920						4				4
1921			1			2	1			4
1922						1	1			2
1923					[illegible]	1	1			3
1924					2	1	1	1		[illegible]
1925								1		1
1926				[illegible]	2	4	1			[illegible]
1927					1	3				4
1928					2	1	1			4
1929			[illegible]			1	1			3
1930					2					[illegible]
1931						2				2
1932					[illegible]	1	1	1		6
1933			1	[illegible]	[illegible]	3	1			[illegible]
1934			1	1	1	1	1	[illegible]		6
1935					[illegible]	1	[illegible]			5
1936			1	1	3	2				7
1937						3				3
1938					2	1				3
1939					1		2			3
1940					[illegible]	1				4
1941						[illegible]	1			4
1942*					[illegible]			1		4
1943				1	1	2	1			5
1944				2	1	3	1			7
1945			1		1	1	2			5
1946				1		1	[illegible]			[illegible]
1947					2	1	2			[illegible]
1948					1	3	1	1		6
1949					[illegible]	4	1			7
1950					4	[illegible]	[illegible]			11
1951		1			2	[illegible]	2			8
1952					2	2	2			6
1953					[illegible]	3	1			6
1954			1		[illegible]	3	1		1	[illegible]
1955					3	[illegible]	1			[illegible]
1956				[illegible]	1	[illegible]	1			[illegible]
1957			1			2				3
1958					[illegible]	3	1			[illegible]
1959			1	2		[illegible]	1			7
1960				1	[illegible]	2				[illegible]
1961				1		[illegible]	1	[illegible]		[illegible]
1962					1	1	1			[illegible]
1963				1	1	[illegible]	1			[illegible]
1964					[illegible]	3	1			[illegible]
1965					2	1	1			[illegible]
1966			1	[illegible]	1	1		1		[illegible]
1967					1	3	[illegible]			[illegible]
1968			2		[illegible]		1			[illegible]
1969					[illegible]	[illegible]	[illegible]	1		[illegible]
	Mar.									
Totals	1	[illegible]	[illegible]	[illegible]	[illegible]	148	[illegible]	[illegible]	[illegible]	[illegible]

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC, 1969

Arthur F. Gustafson
Weather Bureau
Environmental Science Services Administration
San Francisco, California

Four hurricanes developed over the eastern North Pacific Ocean during the 1969 season. The strongest wind reported by a surface vessel was 58 kt. in Doreen, but inference from satellite pictures suggests 85-kt. winds were generated in Bernice. Six tropical storms with winds of 34 to 63 kt. formed during the season; the seasonal distribution of tropical cyclones is shown in the accompanying table.

The season began with a short-lived tropical depression (May 30-31) and another (June 4-8) before tropical storm Ava developed on July 1. The season continued until October 11 when hurricane Jennifer swept inland north of Mazatlan.

A total of 131 tropical storm and hurricane advisories and an additional 87 bulletins for tropical depressions were issued during the season.

Again in 1969, the satellite proved to be the most useful tool available in tracking storms. Three satellites were in operation during the season. They passed over the area during the early morning hours, during midmorning, and during midafternoon. A stationary satellite over the Equator near 150° W provided data for research but was not used for operational forecasts.

Merchant shipping provided much information at 1800 and 0000, but 0600 and 1200 observations were very sparse. This paucity of information and the lack of late day and night satellite pictures made it possible to lose storms overnight. Several times storms were relocated after 1600 or 1800 satellite pictures were received. In at least one case, a captain altered course on receipt of a 1500 advisory only to have the storm relocated a few hours later. This required him to pass through, instead of around, the storm.

U. S. Air Force and U. S. Navy reconnaissance was accomplished whenever a storm was within aircraft range, or a total of 28 times. For the first time since World War II, aircraft were permitted to re-stage from Acapulco. This greatly increased the reconnaissance range. An aircraft would locate the storm one day and fly on to Acapulco, remaining overnight. It would then leave the following morning, locate the storm, and return to Point Mugu. This proved valuable because the same crew would see the storm two days running and could make relative estimates of its intensity.

Damage was reported only in the case of hurricane Jennifer, and that only near Mazatlan. The La Paz-Mazatlan ferry was swamped in the Mazatlan Harbor, as were 12 shrimp boats. More than 30 other shrimp boats were reported lost in smaller harbors along the coast. At least one person was killed and 15 were injured. Extensive property damage extended along a 100-mi. section of the coast.

TROPICAL STORM AVA, JULY 1-7

A bright cloud mass in satellite pictures on June 30 off the coast of Guatemala developed a closed circulation between 1200 and 1800 on July 1. The depression moved west-northwestward at 15 kt. and developed to tropical storm intensity about 150 mi. south-southeast of Acapulco. It developed 40-kt. winds by 0200 of the 2d.

Winds increased to 55 kt. as the storm continued on a 280°-290° heading at an average speed of 12 kt. through the 4th. At 0000 on the 5th the storm began curving northwestward while weakening, and then slowed down to 5-6 kt. 150 mi. south of Socorro Island. Further weakening and slowing took place on the 6th as the storm headed northward. It degenerated to a depression 60 mi. west of Socorro Island at 0000 on the 7th. Advisories were discontinued when the depression lost its identity near 20° N., 112° W., at 1800 on the 7th.

HURRICANE BERNICE, JULY 8-16

A tropical depression formed in an area of showers and squalls about 400 mi. southwest of Acapulco between the 8th and 9th as indicated by ship reports and later verified by satellite pictures. From its point of development, or through a process of redevelopment, the center of activity moved southwestward to near 11° N., 106° W., at 0000 on the 10th. It then began moving northwestward at 8 kt. The disturbance was identified as a tropical storm with maximum winds of 40 kt. at 1800 on the 10th. The storm continued on about a 300° heading with winds increasing to hurricane intensity at 1800 on the 12th near 14° N., 112° W.

Hurricane winds continued through the night of the 13th with highest speeds of 85 kt. indicated by satellite pictures at 2110 on the 12th. At 1733 on the 14th, satellite pictures indicated that weakening had begun and Bernice was downgraded to a tropical storm near 18.5° N., 123.0° W.

Further downgrading to a westerly moving depression took place at 0000 on the 16th. Twenty-four hours later no further trace of the disturbance remained.

TROPICAL STORM CLAUDIA, JULY 21-23

A tropical depression was identified in a satellite picture at 1747 July 21 near 13° N., 130° W., or far from normal shipping lanes. The depression was moving northwestward at 12 kt. It was identified as tropical storm Claudia in pictures later that day. The storm continued moving northwestward at 12 kt. through 0000 of the 23d. It weakened to a tropical depression near 16° N., 135° W., while moving west-southwestward.

The depression continued weakening and entered the easterlies as a wave near 140° W. at 1800 on the 23d.

HURRICANE DOREEN, AUGUST 4-9

A large cloud mass visible on satellite pictures in an area devoid of ship reports on August 3 suggested a tropical storm was developing near 16° N., 107° W. At 1620 on the 4th, it was apparent that a closed circulation had developed, and photographs and 1800 ship reports indicated that the maximum winds were up to 50 kt. The center was near 17.0° N., 107.5° W., and it was moving northwestward at 8 kt.

The storm intensified to a hurricane, with 75-kt. winds on the 5th, about 100 mi. east of Socorro Island. It remained at that intensity through the evening of the 5th when a gradual weakening was indicated by U. S. Air Force reconnaissance of the storm. By 0000 on the 7th, Doreen was downgraded to a tropical storm near 17.5° N., 117.0° W. Maximum winds were 45 kt., and it was moving west-northwestward at 10 kt. Doreen became a westward-moving tropical depression 24 hrs. later. She was last seen as a weak disturbance in satellite pictures on the 8th, but was no longer visible on the 9th.

TROPICAL STORM EMILY, AUGUST 22-24

Ship reports at 1400 on the 22d indicated a tropical

storm at 18.6° N., 104.4° W. in an area of squalls that extended 600 mi. off the Guatemalan and Mexican coasts as far north as Manzanillo.

The storm moved northwestward at 12 kt. with 50- to 55-kt. winds through the 23d to a point 120 mi. west of Cape San Lucas, Baja California. It then became a tropical depression while moving west-northwestward, but it weakened during the night of the 23d. By 1800 on the 24th, the depression could no longer be identified on weather maps or in satellite pictures.

TROPICAL STORM FLORENCE, SEPTEMBER 2-7

A squally low-pressure area developed during the latter part of August off the coast of Mexico from the Gulf of Tehuantepec to west of Manzanillo. A tropical depression formed about 200 mi. southwest of Manzanillo at 0000 on September 2. The depression moved west-northwestward at 7 kt. through that night and then curved north-northwestward on the 3d. It became nearly stationary and apparently made a loop near 20.5° N., 109.5° W. on the 4th, after becoming a tropical storm and developing winds of 60 kt. at 1800 on the 3d. The storm left the loop at 0600 on the 5th and moved northward at 5 kt. It accelerated to 8 kt. on the 6th and passed 60 mi. west of Puerto Cortez, Baja California.

Dissipation was rapid, and by 0600 on the 7th, it was apparent that winds were not abnormal west and southwest of Puerto Cortez. Cyclonic cloud patterns continued in satellite pictures until 1800 on the 8th, after which no trace of the depression could be found.

HURRICANE GLENDA, SEPTEMBER 7-12

A low-pressure area southeast of Acapulco at 0000 on September 7 developed a closed circulation, and by 2250 it had developed into tropical storm Glenda on the basis of ship reports. The center of the storm was about 120 mi. south of Acapulco and was moving northwestward at 6 kt. with maximum winds of 40 kt. near the center.

The storm gradually increased its northwestward movement to 10-12 kt. by 1800 on the 9th. Wind speeds increased to 50 kt. by 1200 on the 8th and 50-60 kt. by 1800 on the 9th. The storm became a hurricane, under Air Force reconnaissance, between 0000 and 0600 on the 10th, 180 mi. southwest of Mazatlan.

Dissipation was gradual and was documented by aircraft reconnaissance, ship reports, and satellite observations. The storm moved to within 120 mi. of Magdalena Bay, Baja California, with 45-kt. winds. It then turned west-northwestward and was last observed by Navy reconnaissance during the afternoon of the 11th. Dissipation at 0600 on the 12th was near 26° N., 118° W.

TROPICAL STORM HEATHER, SEPTEMBER 18-25

Tropical storm Heather developed in a data-sparse area about 1,000 mi. southwest of La Paz, Baja California, on September 18; it was first located through satellite pictures.

From its area of development near 14.5° N., 122.0° W. on the 18th, the storm moved west-northwestward. Maximum winds of 45 kt. increased to 55 kt. by 1800 on the 19th, near 15.0° N., 124.5° W. These winds then began weakening as the storm moved very slowly in a more northwesterly direction. It became a tropical depression at 0000 on the 22d near 17° N., 129° W. The depression accelerated northwestward through the 24th and then turned westward. Satellite pictures at 1800 on the 25th suggested the depression had dissipated near 21° N., 137° W., during the night of the 24th and morning of the 25th.

TROPICAL STORM IRAH,
SEPTEMBER 29-OCTOBER 3

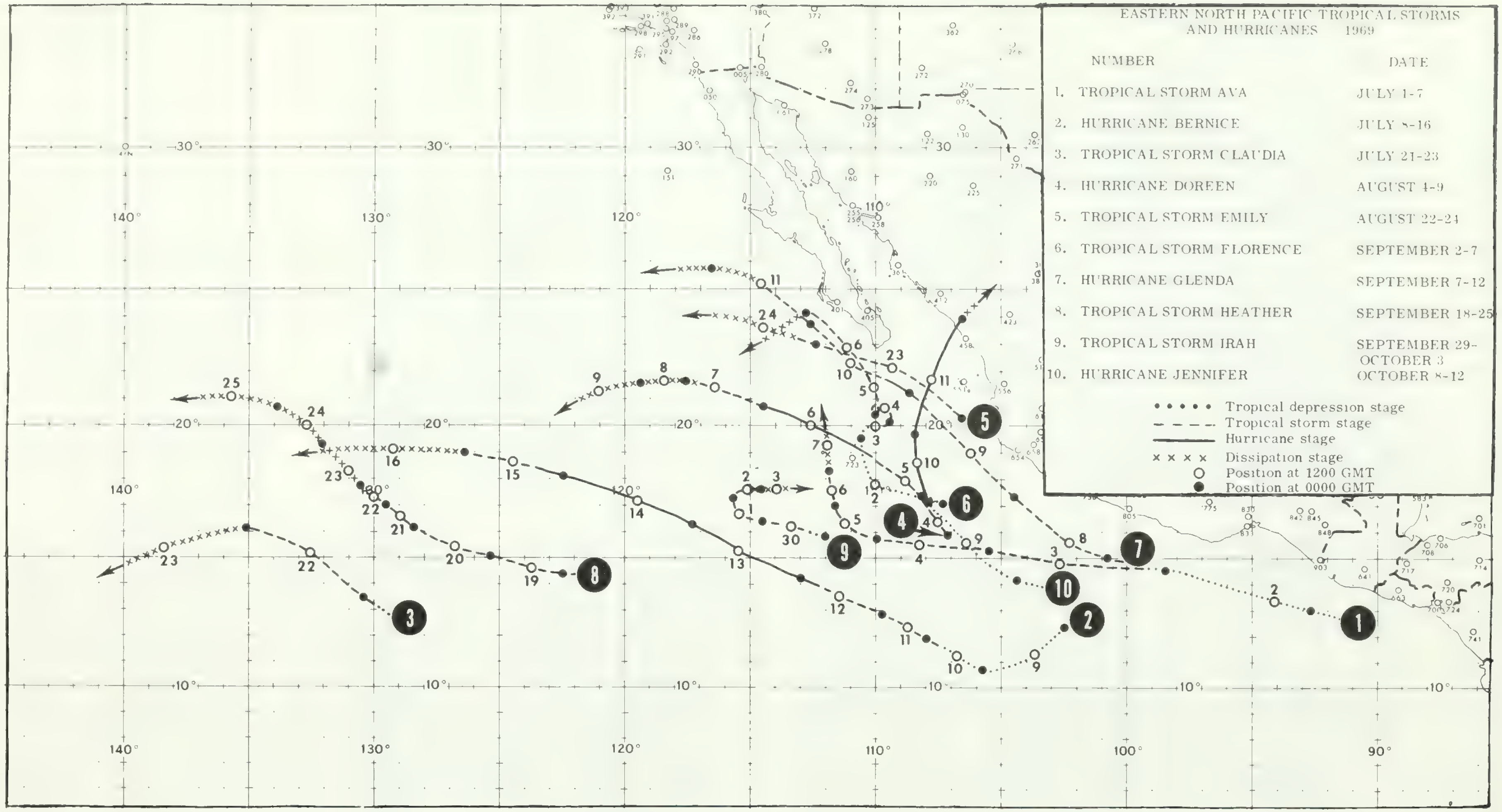
A number of intense squalls along the coast of Mexico developed during late September and early October with locally strong winds and possible waterspouts, but with no organized circulations that could be identified.

A depression formed about 175 mi. south of Socorro Island during the afternoon of the 29th. By 0600 of the 30th, unidentified ship reports indicated the depression became a tropical storm while moving on a 280° course at 5-6 kt., 150 mi. southeast of Clarion Island. Winds remained at 35 kt. through the 1st when the storm recurved eastward while becoming a tropical depression 60 mi. south of Clarion Island. It dissipated in an area of squalls 100 mi. southeast of the island by 1800 on the 3d.

HURRICANE JENNIFER, OCTOBER 8-12

Hurricane Jennifer developed about 250 mi. southwest of Acapulco. It was first seen in a 1600 satellite picture of October 8. A special advisory was issued for a tropical storm moving westward at 10 kt. with maximum winds of 50 kt. Later observations indicated a more northwestward movement. The storm intensified to 55 kt. at 0600 on the 9th and to hurricane intensity, with 65-kt. winds, 12 hrs. later about 250 mi. southwest of Manzanillo.

The hurricane curved northward, slowing to 7 or 8 kt. on the 10th. It then turned northeastward while accelerating to 15 kt. Jennifer reached the coast of Mexico 40 mi. north of Mazatlan during the afternoon of the 12th with 70-kt. winds. It then dissipated rapidly as it moved inland.


EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES 1969
NUMBER
DATE
1. TROPICAL STORM AVA
JULY 1-7
2. HURRICANE BERNICE
JULY 8-16
3. TROPICAL STORM CLAUDIA
JULY 21-23
4. HURRICANE DOREEN
AUGUST 4-9
5. TROPICAL STORM EMILY
AUGUST 22-24
6. TROPICAL STORM FLORENCE
SEPTEMBER 2-7
7. HURRICANE GLENDA
SEPTEMBER 7-12
8. TROPICAL STORM HEATHER
SEPTEMBER 18-25
9. TROPICAL STORM IRAH
SEPTEMBER 29-OCTOBER 3
10. HURRICANE JENNIFER
OCTOBER 8-12
Tropical depression stage
Tropical storm stage
Hurricane stage
Dissipation stage
Position at 1200 GMT
Position at 0000 GMT

TYPHOONS OF THE WESTERN NORTH PACIFIC, 1969

Richard M. DeAngelis*
Environmental Data Service
Environmental Science Services Administration
Washington, D. C.

This season was marked by the small number of tropical cyclones that roamed the western North Pacific. Not since 1954 have less than 20 tropical cyclones developed in these waters. This year 19 tropical cyclones formed and just 13 reached typhoon strength -- the lowest typhoon total since 1950. Tables 1 and 2 contain the statistics on the storms for past years.

Of the 13 typhoons this season, two reached super-typhoon strength (wind $\geq$ 130 kt.) -- Viola and Elsie. Elsie was the largest, most destructive, and farthest traveled storm of the season. The season itself stretched from mid-January to late December with peak activity in August.

In the following narrative typhoon summary and in the accompanying figures, intensities are classified by wind speeds as follows:

typhoon	64 kt. or more
tropical storm	34-63 kt.
tropical depression	less than 34 kt.

Dates for individual tropical cyclones indicate the periods during which warnings were issued. Storm tracks and maximum winds are based on post storm analysis.

PHYLLIS, JANUARY 17-22

The first typhoon of the season developed from the first depression of the year. The tropical disturbance was discovered just east of the Marshall Islands. On the 17th, north of Majuro, it became an organized tropical storm. The tropical storm developed rapidly and reached typhoon strength late in the day. The following day Phyllis reached peak strength as she moved west-northwestward through the Marshall Islands. Central pressure dropped to 966 mb. and surface winds increased to 85 kt. near the center of a circulation which covered an area about 480 mi. in diameter.

Phyllis began to slow down as she neared the Marianas. On the 20th, about 300 mi. east-southeast of Saipan, Phyllis looped and headed westward. During the loop she fell to tropical storm intensity. On the 22d, sporting 35-kt. winds, Phyllis moved over Guam. Later that day, the year's first typhoon called it quits.

SUSAN, APRIL 18-25

After two quiet months, the tropical North Pacific gave birth to its second typhoon of the year. Susan was the first to make landfall when she moved into the Philippines just north of Mindanao late on the 23d.

Susan was initially discovered just south of the Caroline Island Chain. She became an organized depression about 300 mi. east of Koror on the 18th and a tropical storm as she passed over Koror on the 19th. Susan crossed the 130th meridian as a full-blown typhoon on the 21st. She turned toward the west-northwest and continued to deepen. By early the next day, she reached peak intensity as 105-kt. winds roared around the center of her 240-mi. radius circulation. Susan had reached her lowest central pressure of 943 mb. the day before. Since she was just 120 mi. from land, the Philippines were already feeling the sting of her winds. As Susan approached the Islands, she slowed and weakened. On the 23d, she became stationary between Dinagat and Siargao Islands. From this vantage point she slowly beat herself to death against the rugged islands of Mindanao and Leyte.

TESS, JULY 8-11

Once again two months passed without any typhoon activity in the western North Pacific. Then on the 7th of July, a weak tropical disturbance drifted across the central Philippines. On the 8th, the disturbance organized into a depression in the Mindoro Strait. It was in this area that the 3,805-ton Liberian ship HONG KONG PIONEER struck a reef and was grounded. The vessel was later refloated and towed to Manila.

On a west-northwestward heading, Tess reached typhoon strength about 360 mi. west of Manila late on the 9th. A few hours later, she reached peak intensity as winds climbed to 70 kt. around a 974-mb. center. Tess began to weaken as she continued west-northwestward. On the 11th, she dissipated near Hue, South Vietnam.

VIOLA, JULY 21-28

Just 10 days after the demise of typhoon Tess, Viola began churning western North Pacific waters. Actually, a tropical disturbance was spotted just south of the Caroline Islands on the 20th. The following day, the disturbance organized into a tropical storm as it moved northwestward through the eastern part of the island chain. These events marked the beginning of the season's first supertyphoon.

Viola reached typhoon strength on the 23d and after crossing the 15th parallel maximum winds passed the 85-kt. mark and central pressure fell to 952 mb. At this point, Viola turned toward the west-northwest. She intensified rapidly during the next 2 days. This was attested to by the LAFAYETTE VICTORY which encountered 26-ft. seas 100 mi. northeast of the storm's center on the 24th and by the HELEN which was raked by 60-kt. winds some 225 mi. northeast of the center on the 25th. Shortly after HELEN's encounter, Viola reached super-typhoon strength. She was now about 230 mi. east of Luzon; winds near her center were estimated at 130 kt. while central pressure, which had not reached its lowest point, was measured at 900 mb. and falling. Viola's circulation was so large at this point that it extended into the South China Sea and covered a good portion of the Philippines.

As Viola edged toward land maximum winds began to diminish. On the 26th, she moved into the Taiwan Strait with a good portion of her circulation over Taiwan to the north and the Philippines to the south. Her winds battered both areas and caused at least 20 deaths. Seven persons drowned when their boat capsized in central Philippine waters. Torrential rains caused a landslide at the mountain resort of Baguio, Philippines, and flash flooding at Manila. It was during this period that Viola reached her lowest pressure -- 897 mb.

By the 27th, winds fell to 100 kt. and Viola was approaching the China coast. The storm was still potent though; the PRESIDENT LINCOLN, some 300 mi. east-northeast of the center, encountered 30-ft. swells. A short time later the storm crossed the China coast near Chaoan.

BETTY, AUGUST 5-8

Betty, like Viola, was first detected near the Caroline

*Based on information furnished by the Joint Typhoon Warning Center, Fleet Weather Central, Guam, Mariana Islands.

Islands. On the 3d, she was picked up as a weak disturbance 300 mi. south-southwest of Guam. By the 5th, she was an organized tropical storm cavorting in the waters 450 mi. west of Guam. Tropical storm Betty moved toward the northwest at 18-20 kt. She didn't attain typhoon intensity until nearing Taiwan on the 7th. Betty reached full strength early the following day as she brushed the northern Taiwan coast; winds climbed to 70 kt. around a 962-mb. center. Some 200 mi. east of the center the OCALA VICTORY encountered 26-ft. swells and 40-kt. winds. The typhoon moved inland near Fu-chou on the mainland.

CORA, AUGUST 14-23

A third straight typhoon-generating disturbance was found lurking among the Caroline Islands on the 12th. By the 14th, it was a tropical depression 240 mi. southwest of Guam. Less than 24 hrs. later, tropical storm Cora was christened. By the 16th, she was generating 45-kt. winds around a 990-mb. center and the LAREDO VICTORY encountered 45-kt. gales some 140 mi. east-southeast of the cyclone.

Cora was moving northwestward but began to recurve on the 18th about the time she reached typhoon strength near 22° N., 129° E. She reached her peak on the 19th just south of Okinawa; winds climbed to 85 kt. around a 948-mb. pressure center. She then passed just west of the island and blasted it with winds and rain. No deaths, but five injuries, were reported. Sugarcane and other crops were damaged, electrical service was curtailed and telephone service was interrupted. Signs and windows were badly damaged and flooding was prevalent over much of the island.

Once into the East China Sea, Cora turned northward, then northeastward. She crossed southern Kyushu early on the 22d and at that point fell to tropical storm intensity. As a tropical storm, she brushed southeastern Shikoku and moved inland over Honshu late on the 22d. Cora was generating less than 40-kt. winds near her center as she moved over the rugged terrain west of Tokyo on the 23d. However, the SAN JUAN EXPORTER on the southwest fringe of the storm's circulation reported 40-kt. winds and 23-ft. seas. She was also potent enough to cause damage in southern Honshu and was responsible for at least 1 death and 87 injuries. Cora moved back to sea later on the 23d and turned extratropical.

DORIS, AUGUST 31-SEPTEMBER 2

The tropical disturbance which gave rise to Doris was first detected in the central Philippines on the 30th. The following day she became a tropical storm about 250 mi. west of Manila. Doris continued her west-northwesterly trek until late on the 31st when, in the middle of the South China Sea, she turned toward the west.

On the 1st, about 100 mi. south of Hainan, Doris reached minimal typhoon strength as winds reached 65 kt. around a 973-mb. pressure. Before the day was out, the typhoon was approaching Dong Hoi on the coast of South Vietnam. The following day, as a tropical storm, Doris moved inland and dissipated.

ELSIE, SEPTEMBER 19-27

On the 17th, some 300 mi. south of Wake, the engines began to turn and what was to be the year's biggest typhoon began an 11-day, 3,000-mi. run to mainland China with a stopover at Taiwan. Like a big train Elsie's momentum slowly grew. On the 19th, she reached depression stage, by early on the 20th she was a tropical storm, and later in the day typhoon Elsie was under a full head of steam. Chugging west-northwestward, she passed 150 mi. north of Saipan on the 22d doing 17 kt.

Early on the 23d, Elsie was generating 135-kt. winds around a 900-mb. pressure center and still building. By 1200 the winds were up to 140 kt. and by 2300 winds were raging at 145 kt. around an 896-mb. pressure. Elsie reached her peak on the 23d. The huge storm generated winds of 150 kt. and a pressure of 890 mb. Her center was still 800 mi. from Taiwan, but the outer edges of her circulation were only 200 mi. away.

Elsie rolled on. However, as she approached land she started to slow down and lose steam. She arrived in Taiwan on the 26th carrying 100-kt. winds close to her center. She roared across the northern part of the island and both Elsie and Taiwan suffered. Elsie's winds dropped to 75 kt., and after a brief passage over the Taiwan Strait her journey came to an end in mainland China.

The island suffered a disaster and the damage was mostly from the wind. Agricultural areas in central Taiwan suffered heavy crop losses. At least 50 persons were killed and 40 were injured. About 90 percent of Taipei's residents were without drinking water or electricity and 600 or more houses were destroyed on various parts of the island. One week later, tropical storm Flossie brushed Taiwan causing flooding over the central part of the island. Crop losses from both storms are estimated between $10 and $15 million.

Among the ship casualties from Elsie was the 4,185-ton Korean vessel YOUNG POONG which, while sheltering in Kanokawa Bay, dragged her anchors and ran aground at Iriomote Island in the Ryukyus.

GRACE, SEPTEMBER 29-OCTOBER 6

The tropical disturbance which was to spawn Grace developed at a very high latitude -- near 24° N. She headed eastward, then as a tropical storm late on the 29th turned toward the northeast. However, after crossing the 165th meridian near 27° N., Grace began to turn around and in the process became a typhoon. After a 180° reversal she made things even more complicated by turning a counter-clockwise loop on the 1st. By late on the 1st, she had finally made up her mind and was romping toward the west-southwest. Winds were continuing to increase and the central pressure had dipped to 967 mb.

On the 3d, Grace began to swing toward the west-northwest as winds increased to 90 kt. On the 4th, she turned northwestward and also reached peak intensity; winds increased to 95 kt. The pressure had reached a minimum of 937 mb. at 2130 on the 3d as Grace moved just north of Marcus Island. Grace turned toward the northeast early on the 5th, shortly after crossing the 150th meridian. By this time, winds were diminishing and the storm was beginning to turn extratropical. On the 6th, winds dropped from 65 kt. to 45 kt. as the storm headed northeastward. On the 7th, as an extratropical storm, Grace was encountered by several ships. The USCGC CHAUTAUQUA, about 140 mi. east-southeast of the storm's center

encountered 50-kt. winds while at the same time in the same area the ZOELLA LYKES measured southeasterly winds at 55 kt.

HELEN, OCTOBER 8-12

Like so many storms this season, Helen originated from a disturbance in the Caroline Island Chain. Early on the 8th, a reconnaissance crew found the disturbance had become an organized tropical storm near 15° N., 151° E. Helen moved west-northwestward until she reached 20° N. near 143° E. on the 10th. A few hours earlier she had become a typhoon.

On the 10th, the typhoon began the familiar recurvature pattern while continuing to intensify. She reached peak intensity between Iwo Jima and Chichi Jima on the 11th. At that time 105-kt. winds encompassed a 930-mb. pressure center. Helen passed just to the east of the two islands as she swung northeastward. As she moved into the northern latitudes her intensity began to diminish while her speed accelerated rapidly. By the 12th, Helen's forward speed had reached 40 kt. as she headed east-northeastward. Colder air was intruding into her circulation, and by late on the 12th Helen was an extratropical storm generating 45-kt. winds near 39° N., 165° E.

IDA, OCTOBER 15-22

Ida was almost a repetition of Helen which had formed just 1 week earlier. The disturbance that was to spawn the 11th typhoon of the season was discovered on the 13th just 300 mi. west of last week's disturbance. By the 15th, the disturbance was just south of Saipan and had the characteristics on radar of an organized tropical storm. A short time later, reconnaissance indicated 35-kt. winds and a 1005-mb. pressure.

Ida reached typhoon strength on the 17th near 18° N., 145° E. At this time she was on a north-northeasterly track. Later in the day the central pressure fell to 917 mb. -- lowest in the storm's history. However, Ida's maximum winds did not reach a peak until the 20th when they climbed to 115 kt. By this time the central pressure had already climbed above 930 mb. and Ida had crossed the 25th parallel. As cold air intruded, winds diminished rapidly and by the 22d, Ida had become an extratropical storm generating 55-kt. winds near 32° N., 157° E.

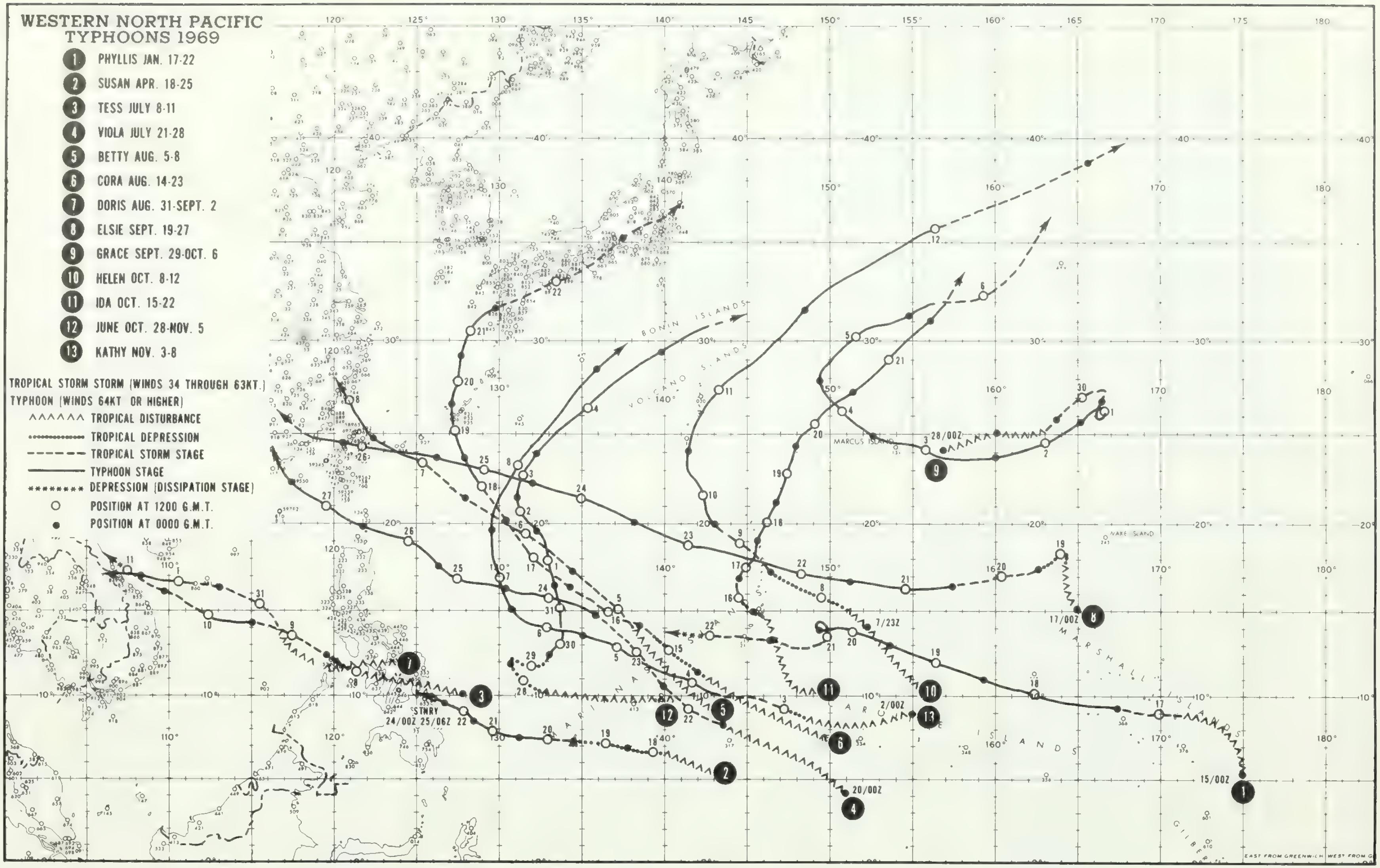
JUNE, OCTOBER 28-NOVEMBER 5

A disturbance was detected about 180 mi. west of Yap Island on the 26th. On the 28th, about 320 mi. east of Yap, it became a depression and by the 29th, it was June in October as the tropical storm meandered northward. June reached typhoon strength the following day as winds reached 75 kt. around a 973-mb. center.

June continued her northward trek paralleling the Philippines and then turned northeastward and paralled Japan. It was on the 2d of November, as she crossed the 20th parallel, that June reached peak intensity. Her winds were measured at 105 kt. around a 936-mb. pressure. June retained 100-kt. winds from early on the 2d to early on the 4th. By early on the 5th winds had dropped below hurricane force and the intrusion of cold air had turned June extratropical.

KATHY, NOVEMBER 3-8

The last typhoon of the season traversed a 2,040-mi. arc from near Truk Island to east of the northern Ryukyus. Kathy reached tropical storm strength on the 3d about 200 mi. west-northwest of Truk, and became a typhoon on the 4th when winds were measured at 75 kt. around a 968-mb. pressure center. Kathy hovered around minimal typhoon intensity until the 6th when she began to intensify. Central pressures dropped from 984 mb. early on the 6th to 930 mb. by late on the 7th; winds during this period rose from 80 kt. to a peak of 110 kt. shortly before Kathy crossed the 20th parallel. Cold air began filtering into the typhoon and winds fell to below 80 kt. as she turned extratropical late on the 8th.



WESTERN NORTH PACIFIC
TYPHOONS 1969
1 PHYLLIS JAN. 17-22
2 SUSAN APR. 18-25
3 TESS JULY 8-11
4 VIOLA JULY 21-28
5 BETTY AUG. 5-8
6 CORA AUG. 14-23
7 DORIS AUG. 31-SEPT. 2
8 ELSIE SEPT. 19-27
9 GRACE SEPT. 29-OCT. 6
10 HELEN OCT. 8-12
11 IDA OCT. 15-22
12 JUNE OCT. 28-NOV. 5
13 KATHY NOV. 3-8
TROPICAL STORM STORM (WINDS 34 THROUGH 63KT.)
TYPHOON (WINDS 64KT OR HIGHER)
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM STAGE
TYPHOON STAGE
DEPRESSION (DISSIPATION STAGE)
POSITION AT 1200 G.M.T.
POSITION AT 0000 G.M.T.
BONIN ISLANDS
VOLCANO ISLANDS
MARCUS ISLAND
WAKE ISLAND
MARSHALL ISLANDS
GILBERT
STNRY
24/00Z 25/06Z
15/00Z
17/00Z
28/00Z
7/23Z
2/00Z
20/00Z
EAST FROM GREENWICH WEST FROM G

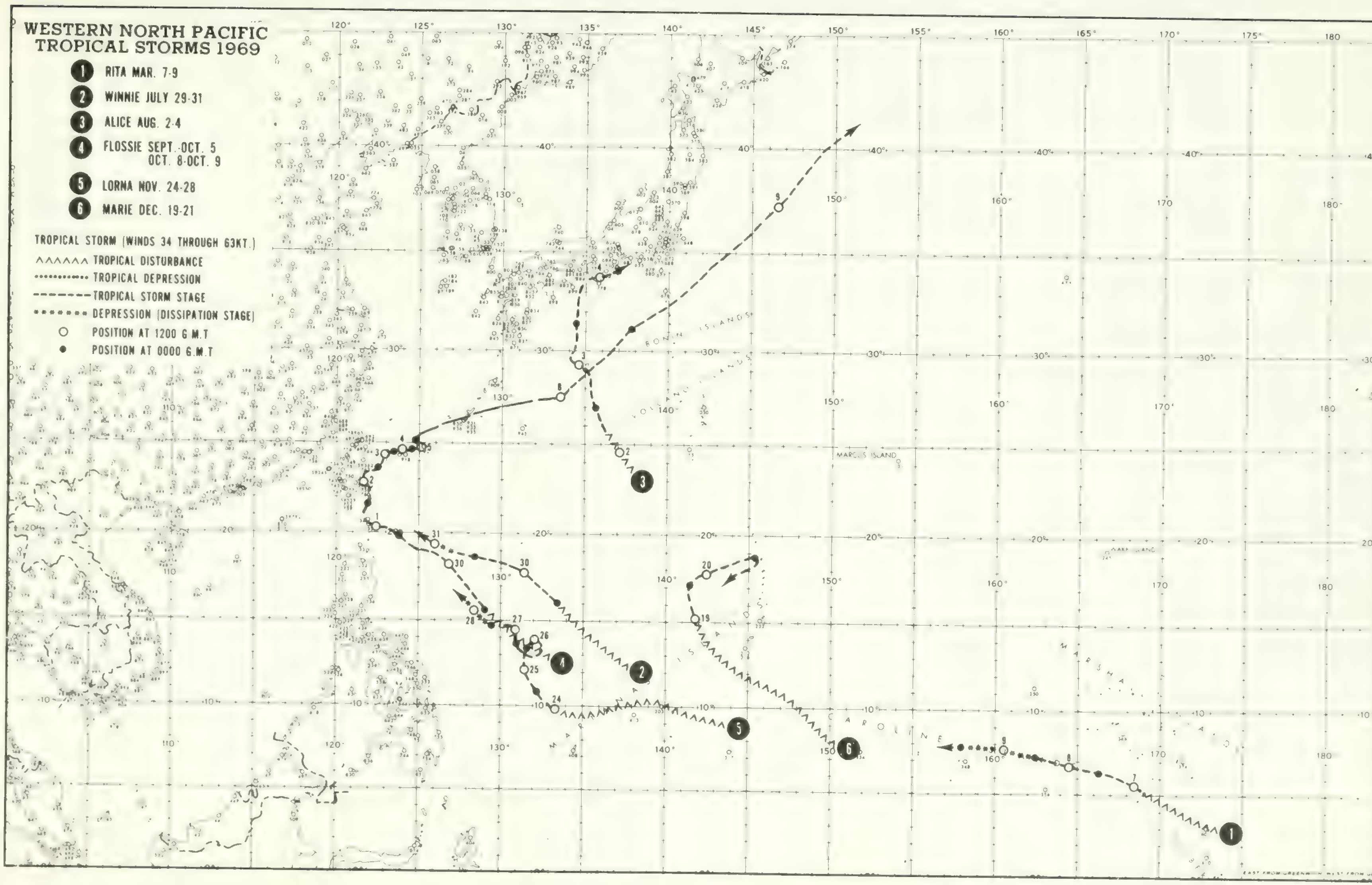

WESTERN NORTH PACIFIC
TROPICAL STORMS 1969
1 RITA MAR. 7-9
2 WINNIE JULY 29-31
3 ALICE AUG. 2-4
4 FLOSSIE SEPT.-OCT. 5
OCT. 8-OCT. 9
5 LORNA NOV. 24-28
6 MARIE DEC. 19-21
TROPICAL STORM (WINDS 34 THROUGH 63KT.)
ΛΛΛΛΛΛ TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM STAGE
DEPRESSION (DISSIPATION STAGE)
POSITION AT 1200 G.M.T
POSITION AT 0000 G.M.T
BONIN ISLANDS
VOLCANO ISLANDS
MARCUS ISLAND
MARIANA ISLANDS
CAROLINE
MARSHALL ISLANDS

Table 1

Frequency of Tropical Cyclones (Including Typhoons) by Months and Years

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1945				1	1	2	5	7	6	1	3		26
1946			1		1	2	3	2	3	1	2		15
1947			1		1	1	3	3	5	6	6	1	27
1948	1				2	2	2	5	5	4	3	2	26
1949	1					1	5	3	6	1	3	2	22
1950					1	2	3	2	3	3	3	1	18
1951			1	2	1	1	1	2	2	4	1	2	17
1952						3	3	4	5	6	3	4	28
1953		1			1	2	2	6	3	4	3	1	23
1954			1		1		1	6	4	3	3		19
1955	1		1	1		1	6	3	3	4	1	1	22
1956			1	2		1	2	5	5	2	3	1	22
1957	2			1	1	1	1	3	5	4	3		21
1958	1				1	3	5	3	3	3	2	1	22
1959		1	1	1			3	6	6	4	2	2	26
1960				1	1	3	3	10	3	4	1	1	27
1961	1	1	1	1	3	2	5	4	6	5	1	1	31
1962		1		1	2		6	7	3	5	3	2	30
1963				1	1	3	4	3	5	5		3	25
1964					2	2	7	9	7	6	6	1	40
1965	2	2	1	1	2	3	5	6	7	2	2	1	34
1966				1	2	1	5	8	7	3	2	1	30
1967	1		2	1	1	1	6	8	7	4	3	1	35
1968				1	1	1	3	8	3	6	4		27
1969	1		1	1			3	4	3	3	2	1	19
Totals	11	6	12	17	26	38	92	127	115	93	65	30	632
Avg.	.44	.24	.48	.68	1.04	1.52	3.68	5.08	4.60	3.72	2.60	1.20	25.28

Table 2

Frequency of Tropical Cyclones Reaching Typhoon Intensity by Months and Years

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1945						1	2	5	3	1	1		13
1946			1		1	1	3	1	3	1	2		13
1947					1	1		3	4	5	4	1	19
1948	1				2		2	2	4	1	2	1	15
1949	1					1	3	3	3	1	1	1	14
1950					1	1	1	2	1	3	2	1	12
1951			1	2	1	1	1	2	2	3	1	2	16
1952						3	1	3	3	4	3	2	19
1953		1			1	1	2	4	2	4	1	1	17
1954					1		1	4	4	2	3		15
1955	1		1	1		1	5	3	3	2	1	1	19
1956			1	1			2	4	5	1	3	1	18
1957	1			1	1	1	1	2	5	3	3		18
1958	1				1	3	4	3	3	3	1	1	20
1959				1			1	5	3	3	2	2	17
1960				1		2	2	8		4	1	1	19
1961			1		2	1	3	3	5	3	1	1	20
1962				1	2		5	7	2	4	3		24
1963				1	1	2	3	3	3	4		2	19
1964					2	2	6	3	5	3	4	1	26
1965	1			1	2	2	4	3	5	2	1		21
1966				1	2	1	3	6	4	2		1	20
1967			1	1		1	3	4	4	3	3		20
1968				1	1	1	1	4	3	5	4		20
1969	1			1			2	3	2	3	1		13
Totals	7	1	6	14	22	27	61	90	81	70	48	20	447
Avg.	.28	.04	.24	.56	.88	1.08	2.44	3.60	3.24	2.80	1.92	.80	17.88

GENERAL SUMMARY OF FLOOD LOSSES FOR 1968

Elmer R. Nelson and Raymond J. Haley
Office of Hydrology, Weather Bureau

Monetary losses from floods in the United States during 1968, estimated at nearly $350 million, were $25 million less than in 1967. Flood losses during 1968 were 43% of the total damages in 1965 when it totalled $785 million and 85% of the 15-year (1951 to 1965) national average of $400 million (adjusted to the 1965 price index). Destructive overflows have caused property damage in some years estimated at more than $1 billion.

Total loss of life in 1968 from floods was 31 compared to 34 in 1967 and 119 in 1965. This is the second lowest loss of life since 1962, when 19 lives were lost.

The most disastrous floods in the United States during 1968 occurred in northern and east-central New Jersey during May. This was the worst flooding in northern New Jersey since 1936 and in some sections since 1903. Estimates of flood damage were placed at $166.7 million and the loss of life at eight. Flood losses in this area equalled nearly 50% of the total damages in the United States during 1968.

Damaging floods occurred in southeastern New England during March. Severe flash flooding occurred along most of the smaller rivers and streams in eastern Massachusetts and Rhode Island. Practically every town in eastern Massachusetts, from about Worcester east, and most of Rhode Island reported moderate to severe flash flooding of small streams and brooks. Record to moderate flooding occurred on many streams in southeastern New England. Estimates of flood losses by the Corps of Engineers were placed at $45 million. Two lives were lost in the town of Lee, Mass.

The savings resulting from ESSA, Weather Bureau River Forecasting Service in 1968 were estimated at $35 million. The average annual savings, based on fragmentary information, during the 15-year period 1951 to 1965 is approximately $50 million.

ANNUAL FLOOD LOSSES FOR UNITED STATES

Annual Flood Losses and Savings for years 1933 to 1947, inclusive, have been published in the Monthly Weather Review as follows:

Year	Issue	Pages
1933	Vol. 62, No. 1, Jan. 1934	25-27
1934	Vol. 62, No. 12, Dec. 1934	465-467
1935	Vol. 63, No. 12, Dec. 1935	362-365
1936	Vol. 65, No. 1, Jan. 1937	28-31
1937	Vol. 66, No. 12, Dec. 1938	426-430
1938	Vol. 68, No. 9, Sept. 1940	262-263
1939	Vol. 68, No. 11, Nov. 1940	329-330
1940	Vol. 69, No. 7, July 1941	217-218
1941	Vol. 71, No. 11, Nov. 1943	185-186
1942 & 1943	Vol. 73, No. 8, Aug. 1945	137-139
1944 & 1945	Vol. 76, No. 6, June 1948	113-116
1946	Vol. 76, No. 9, Sept. 1948	208-210
1947	Vol. 77, No. 9, Sept. 1949	262-265

Beginning with flood losses for the year 1948, annual flood loss data are published in Climatological Data National Summary as follows:

Year	Issue	Year	Issue
1948	August 1950	1959	Annual 1960
1949	Annual 1950	1960	Annual 1961
1950-1951	Annual 1951	1961	Annual 1962
1952	Annual 1952	1962	Annual 1963
1953	Annual 1953	1963	Annual 1964
1954	Annual 1955	1964	Annual 1965
1955	Annual 1956	1965	Annual 1966
1956	Annual 1957	1966	Annual 1967
1957	Annual 1958	1967	Annual 1968
1958	Annual 1959		

Prior to 1933 Flood Losses and Savings were published monthly, as a rule, in the Monthly Weather Review.

ESTIMATED FLOOD LOSSES FOR 1968

In Thousands of Dollars

River and drainage	Urban Property: Residential Fixed	Residential Movable	Commercial Fixed	Commercial Movable	Public	Rural Property: Crops Growing	Crops Stored	Livestock	Other Fixed	Other Movable	Other Property: RR's, bridges, Highways, etc.	Public Utilities	Miscellaneous *	Unclassified	Total loss	Lives lost
ST. LAWRENCE DRAINAGE																
Lake Michigan																
Red Cedar River (Mich.)	...	...	...	...	...	...	...	...	...	...	...	...	...	100.0	100.0	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	100.0	100.0	...
ATLANTIC SLOPE DRAINAGE																
Rivers in New England (excluding Maine)	A 28,500.0	...	B12,000.0	...	4,500.0	...	...	...	...	...	...	...	...	...	C 45,000.0	2
Streams in northern New Jersey and nearby New York State	73,568.0	4,003.5	55,837.0	...	32,205.0	1,000.0	...	...	...	...	...	...	76.4	...	166,689.9	8
Total	102,068.0	4,003.5	67,837.0	...	36,705.0	1,000.0	...	...	...	...	...	...	76.4	...	211,689.9	10
EAST GULF OF MEXICO DRAINAGE																
Chattahoochee River (Ga.)	D 1.1	...	...	...	...	E 13.3	...	...	...	...	0.5	...	...	...	C 14.9	...
Flint River (Ga.)	D 2.4	...	...	...	...	E 20.8	...	...	...	...	1.7	...	...	...	C 24.9	...
Apalachicola River (Florida)	D 19.2	...	...	...	...	E 18.2	...	...	...	...	8.3	...	...	...	C 45.7	...
Oostanaula River (Ga.)	...	...	...	...	...	E 83.0	...	...	...	...	10.0	...	...	...	C 93.0	...
Black Warrior River (Ala.)	...	...	...	...	...	E 219.6	...	...	...	...	2.7	...	...	...	C 222.3	...
Tombigbee River (Ala.)	D 82.4	...	...	...	...	E 89.6	...	...	...	...	13.6	...	...	...	C 185.6	...
Pearl River (Miss.)	D 4.0	...	...	...	...	E 561.7	...	...	...	...	89.0	...	...	...	C 654.7	...
Total	109.1	...	...	...	...	1,006.2	...	...	...	...	125.8	...	...	...	1,241.1	...
MISSISSIPPI SYSTEM																
Upper Mississippi Basin																
Minnesota River and tributaries (Minn)	D 295.8	...	...	...	...	E 901.6	...	...	...	...	...	...	...	...	1,197.4	...
Wapsipinicon River (Iowa)	D 308.0	...	...	...	...	E 312.0	...	...	...	...	...	...	...	...	620.0	
Flash Flood on Virden Creek (Waterloo, Iowa)	D 950.0	...	...	...	...	...	...	...	...	...	...	...	...	...	950.0	1
Cedar River (Iowa)	D 80.0	...	...	...	...	...	...	...	...	...	...	...	...	...	80.0	2
Sangamon River (Illinois)	...	...	...	...	7.5	246.8	...	...	2.5	...	4.5	...	...	...	261.3	...
Illinois River (Illinois)	1.0	...	...	...	...	180.0	...	...	10.0	...	2.0	...	1.5	...	194.5	...
Kaskaskia River (Illinois)	...	...	...	...	...	6.0	...	...	...	...	...	...	...	...	6.0	...
Total	1,634.8	...	...	...	7.5	1,646.4	...	...	12.5	...	6.5	...	1.5	...	3,309.2	3
Missouri Basin																
Little White River (S. Dak.)	...	...	...	...	35.0	...	...	...	63.0	...	...	25.0	...	...	123.0	...
Streams in Deuel, Garden and Cheyenne Counties, Nebr. (in Aug.)	...	...	...	...	...	...	...	...	...	...	...	...	...	F 910.0	910.0	...
Platte River and tributaries (Nebr.) - June	300.0	...	...	...	...	4,333.0	100.0	22.0	105.0	50.0	200.0	...	...	...	5,110.0	...
Wolf River (Kans.)	0.6	...	...	...	...	E 74.5	...	...	...	...	...	2.0	...	...	77.1	...
Republican River and tributaries (Kans)	2.0	1.5	...	...	...	10.0	...	...	...	...	2.0	...	...	...	15.5	...
Solomon River and tributaries (Kans.)	...	...	...	...	10.3	15.0	0.1	1.0	...	...	...	...	...	...	26.4	...
Little Blue River (Nebr.)	2.5	1.0	...	...	1.0	1.0	...	...	3.0	...	...	0.5	...	...	9.0	...
Kansas River and minor tributaries (Kans.)	16.3	...	...	...	44.0	804.5	...	1.0	2.0	...	16.0	6.0	...	...	889.8	...
Grand River and tributaries (Mo.)	...	...	...	...	...	E 53.6	...	...	...	...	...	...	...	...	C 53.6	...
Chariton River (Mo.)	...	...	...	...	...	E 12.0	...	...	...	...	...	...	...	...	C 12.0	...
Blackwater and Lamine Rivers (Mo.)	...	...	...	...	...	E 325.0	...	...	...	...	...	...	...	...	325.0	...
Osage River and tributaries (Kans. and Mo.)	2.6	...	30.4	...	...	1,028.0	...	...	1.5	0.2	10.0	10.3	...	...	1,103.3	
Total	324.0	2.5	30.4	...	90.3	6,656.6	100.1	24.0	174.5	50.2	228.0	43.8	...	910.0	8,654.4	...
Ohio Basin																
Allegheny River and tributaries (Pa.)	91.0	35.0	34.0	13.0	4.0	...	...	...	...	...	114.0	15.0	130.0	...	436.0	1
Hocking River and tributaries and other streams in Athens, Meigs, Jackson and Vinton counties, Ohio	679.2	234.0	211.0	332.0	235.0	310.0	3.0	6.3	70.5	36.0	360.0	180.0	461.0	...	3,11[illegible]	1
Scioto River and tributaries (Ohio)	...	...	...	...	...	...	...	...	...	...	...	...	...	C 8,000.0	8,[illegible]	...
Little Miami River and tributaries (Ohio)	680.0	25.0	13.0	24.0	275.0	1,093.0	40.0	...	50.0	10.0	306.0	[illegible]	[illegible]	...	2,64[illegible]	...
Licking River and tributaries (Ky.)	[illegible]	1.5	0.6	1.3	8.0	50.0	0.5	0.6	1.5	1.0	5.5	1.5	8.[illegible]	...	8[illegible]	...
Whitewater River and tributaries (Ind.)	15.0	2.0	8.0	2.0	20.0	50.0	1.0	...	30.0	...	42.0	1.0	4.0	...	[illegible]	...
Great Miami River (Ohio)	70.0	...	30.0	5.0	10.0	318.0	...	...	20.0	...	80.0	10.0	7.5	...	[illegible]	2
Kentucky River and tributaries (Ky.)	12.0	4.0	6.0	1.0	15.0	45.0	1.0	...	6.0	1.0	18.0	12.0	14.5	...	135.[illegible]	...
Barren, Rough and Green Rivers (Ky.)	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0[illegible]	1,0[illegible]	...
Wabash River and tributaries (Ind. and Ill.)	60.5	25.0	15.0	20.0	80.0	10,839.0	...	8.0	20.0	17.0	75.0	15.0	370.0	7,394.0	18,938.5	[illegible]
Flash Floods on minor tributaries of Cumberland River in Tenn. and Ky.	D 798.0	...	...	...	...	5.0	...	...	...	...	...	...	...	...	C 80[illegible]	...
Ohio River and minor tributaries	1,339.0	46.0	192.5	51.6	150.5	2,788.0	0.7	1.2	100.0	30.0	560.5	100.0	961.8	9,268.[illegible]	16,[illegible]	...
Total	3,946.2	372.5	510.1	149.[illegible]	1,097.5	15,498.0	46.2	16.1	298.0	95.0	1,555.0	359.5	2,[illegible]6.3	25,697.0	51,947.5	7

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1968

In Thousands of Dollars

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous *	Unclassified	Total Loss	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
MISSISSIPPI SYSTEM (Cont'd)																
White Basin																
White River and tributaries (Ark.)....	....	....	....	....	218.0	1,228.3	....	10.0	48.0	5.0	443.5	62.5	67.0	....	2,082.3	2
Total	....	....	....	....	218.0	1,228.3	....	10.0	48.0	5.0	443.5	62.5	67.0	....	2,082.3	2
Arkansas Basin																
Flash Flooding in Tulsa, Okla. and vicinity..........................	15.0	3.0	5.0	....	....	....	....	....	20.0	2.0	....	....	2.0	....	47.0	....
Walnut, Little Arkansas, White Water, Ninnescah, Verdigris, Chikaskia, and Neosho Rivers (Kans. and Okla.)	....	....	....	....	....	197.8	5.0	6.0	27.1	5.0	62.4	....	....	....	303.3	2
Caney River and Bird Creek (Okla.)....	....	....	....	....	....	....	....	....	....	....	....	....	....	211.0	211.0	....
Poteau and Fourche Maline Rivers (Okla.)	....	....	....	....	....	12.0	....	....	....	....	20.0	....	....	2,196.0	2,228.0	....
Petit Jean River (Ark.)...............	....	....	....	....	....	....	....	2.0	1.5	....	100.0	....	....	....	103.5	....
Bayou Meto Basin (Ark.)...............	....	....	....	....	....	3,257.0	....	....	H1,031.0	....	443.0	2.0	....	....	C 4,733.0	....
Arkansas River and minor tributaries (Ark.)............................	....	....	....	....	....	43.5	....	3.6	1.5	....	36.8	....	....	....	85.4	....
Total....	15.0	3.0	5.0	....	....	3,510.3	5.0	11.6	1,081.1	7.0	662.2	2.0	2.0	2,407.0	7,711.2	2
Red Basin																
Blue River (Okla.)....................	....	....	....	....	2.0	30.0	....	....	1.2	....	1.5	1.0	....	....	35.7	....
Clear Boggy and Muddy Boggy Creeks (Okla.)..........................	....	....	....	....	14.0	93.0	....	16.0	21.0	....	....	....	....	....	144.0	....
Kiamichi River (Okla.)................	....	....	....	....	10.0	....	....	....	....	....	250.0	....	....	....	260.0	....
Little River and tributaries (Okla. and Ark.)..................	50.0	20.0	5.0	2.0	800.0	70.0	....	206.0	210.0	20.0	1,125.0	20.0	105.0	....	2,633.0	....
Cypress River (Texas).................	....	....	....	....	....	2.0	....	....	1.0	....	....	....	....	....	3.0	....
Ouachita River and tributaries (Ark. and La.).....................	A1,237.0	....	B 437.0	....	144.0	4,321.0	....	....	H3,851.0	....	3,372.0	20.0	....	....	C 13,382.0	....
Red River and minor tributaries.......	....	....	....	....	....	410.0	....	200.0	200.0	....	....	....	....	....	810.0	....
Total	1,287.0	20.0	442.0	2.0	970.0	4,926.0	....	422.0	4,284.2	20.0	4,748.5	41.0	105.0	....	17,267.7	....
Lower Mississippi Basin																
St. Francis River (Mo. and Ark.)......	....	....	....	....	....	28.6	....	....	8.6	....	....	....	....	....	37.2	....
Yazoo River and tributaries (Miss.)...	....	....	....	....	....	3,947.0	....	....	....	....	107.0	....	....	372.0	C 4,426.0	....
Big Black River (Miss.)...............	....	....	....	....	....	933.0	....	....	....	....	52.0	....	....	80.0	C 1,065.0	....
Mississippi River below Cape Girardeau, Mo.................	....	....	....	....	....	468.9	....	....	....	....	....	....	....	....	468.9	....
Total	....	....	....	....	....	5,377.5	....	....	8.6	....	159.0	....	....	452.0	5,997.1	....
WEST GULF OF MEXICO DRAINAGE																
Sabine River and tributaries(La.& Tex.)	....	....	....	....	....	....	....	8.0	40.0	....	....	....	....	....	48.0	....
Neches River and tributaries (Tex.)...	1.0	....	1.0	....	1.0	30.0	....	6.0	15.0	....	10.0	2.0	2.0	....	68.0	....
Trinity River and tributaries (Tex.)..	....	....	....	....	400.0	3,317.0	....	300.0	400.0	53.0	300.0	25.0	100.0	....	4,895.0	....
Brazos River and tributaries (Tex.)...	5.0	....	....	....	128.0	11,952.0	....	....	1,065.0	....	120.0	....	50.0	....	13,320.0	....
San Antonio River and tributaries (Tex.)	D3,000.0	....	....	....	....	....	....	....	....	....	....	....	....	....	3,000.0	4
Frio River and tributaries (Tex.).....	20.0	10.0	5.0	5.0	75.0	5.0	5.0	5.0	20.0	5.0	25.0	....	30.0	....	210.0	....
Nueces River and tributaries (except Frio Basin) and Middle Gulf Coast Drainages (Tex.)..................	235.0	215.0	35.0	100.0	370.0	315.0	....	....	20.0	28.0	131.0	30.0	105.0	....	1,584.0	2
Flash flood in El Paso, Tex., area....	100.0	....	....	15.0	50.0	555.2	....	....	....	....	89.0	40.0	28.2	....	877.4	....
Rio Grande (Tex.).....................	....	....	....	....	....	180.0	....	....	20.0	....	75.0	10.0	15.0	....	300.0	....
Total	3,361.0	225.0	41.0	120.0	1,024.0	16,354.2	5.0	319.0	1,580.0	86.0	750.0	107.0	330.2	....	24,302.4	6
GULF OF CALIFORNIA DRAINAGE																
Uinta Basin (Utah)....................	....	....	....	....	82.0	E 89.0	....	....	....	....	18.0	....	5.0	....	194.0	....
Flash flood in and near Kenilworth, Utah..............................	D 40.0	....	....	....	....	2.2	....	....	36.0	5.0	6.2	....	0.6	....	90.0	....
Kanarra Creek near Kanarraville, Utah.	....	....	....	....	....	1.7	....	....	1.2	....	0.5	....	....	....	3.4	....
Flash floods in San Juan County, Utah.	0.2	....	16.3	0.3	0.5	4.9	....	....	....	....	11.7	....	....	....	33.9	....
Flash floods in Coconino, Gila, and Pima Counties, Arizona............	....	2.5	....	....	185.0	....	....	....	....	....	....	....	....	....	187.5	1
Total	40.2	2.5	16.3	0.3	267.5	97.8	....	....	37.2	5.0	36.4	....	5.6	....	508.8	1
GREAT BASIN																
Flash flood near Wendover, Utah.......	....	....	....	....	....	....	....	....	....	....	879.0	....	....	....	879.0	....
Flash floods in scattered areas elsewhere in Utah and at Battle Mountain, Nevada..................	0.1	....	....	....	....	11.0	....	0.1	27.1	8.8	6.0	0.2	6.8	....	60.1	....
Total	0.1	....	....	....	....	11.0	....	0.1	27.1	8.8	885.0	0.2	6.8	....	939.1	....

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1968

In Thousands of Dollars

River and drainage	Urban Property: Residential Fixed	Residential Movable	Commercial Fixed	Commercial Movable	Public	Rural Property: Crops Growing	Crops Stored	Livestock	Other Fixed	Other Movable	Other Property: RRs, bridges Highways, etc.	Public Utilities	Miscellaneous *	Unclassified	Total Loss	Lives Lost
PACIFIC SLOPE DRAINAGE																
Willamette Basin (Oreg.)	...	...	...	...	...	...	...	...	...	...	...	...	...	538.0 C	538.0	...
Satsop River (Wash.)	...	...	...	...	...	...	...	...	...	...	...	...	...	137.7 C	137.7	...
Snohomish River and tributaries	...	...	...	...	...	...	...	...	...	...	...	...	...	360.0 C	360.0	...
Skagit River (Wash.)	...	...	...	...	...	...	...	...	...	...	...	...	...	86.3 C	86.3	...
Nooksack River (Wash.)	...	...	...	...	...	...	...	...	...	...	...	...	...	26.8 C	26.8	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	1,148.8	1,148.8	...
HAWAII																
Flash flood in Pearl Harbor area	...	...	...	...	...	...	...	...	...	...	...	...	...	2,500.0	2,500.0	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	2,500.0	2,500.0	...
GRAND TOTAL	112,785.4	4,629.0	68,901.8	572.2	40,379.8	57,312.3	156.3	802.8	7,551.2	277.0	9,599.9	616.0	2,600.8	33,214.8	339,399.3	31

* Entries in this column in most cases refer to suspension of business, cost of relief, flood fighting, etc.
A. Includes all residential.
B. Includes all commercial.
C. Furnished by U.S. Engineers.
D. Includes all urban.
E. Includes all agricultural.
F. Rural damage, mostly cropland, roads and bridges.
G. Extensive damage to agriculture, commerce, and communities.
H. Includes rural non-crop damages.

LOSS OF LIFE AND PROPERTY IN THE UNITED STATES FROM FLOODS

Property Losses in Thousands of Dollars
BY DISTRICTS AND YEARS, 1925-1968

District	1925		1926		1927		1928		1929		1930		1931		1932	
	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property
Great Lakes----------	---	--------	---	19	48	15,750	---	--------	---	171	---	36	---	1	---	1
North Atlantic-------	---	50	---	137	40	29,408	3	2,105	---	245	---	--------	---	1,050	---	25
South Atlantic-------	---	2,999	---	--------	---	1	5	8,382	8	10,196	---	--------	---	31	---	191
East Gulf------------	2	615	---	37	8	255	---	2,428	5	8,746	---	466	---	174	---	615
Ohio Valley----------	---	33	2	5,523	94	15,639	4	10,279	34	17,050	---	7,042	---	1	---	288
*Upper Mississippi----	14	3,983	1	5,435	---	19,612	---	1,173	---	3,677	---	15	---	20	---	88
Lower Mississippi----	---	115	---	42	100	133,898	---	7,819	4	9,980	---	530	---	--------	---	1,840
Missouri-------------	---	--------	6	1,434	1	4,880	[illegible]	6,714	13	2,118	---	13	---	886	---	451
Arkansas-------------	---	224	6	8,938	132	26,183	1	4,349	12	7,516	---	213	---	6	---	2,528
Red------------------	---	--------	1	155	---	100,908	---	153	1	100	14	3,616	---	19	---	516
West Gulf------------	6	1,436	---	301	---	208	---	75	---	8,124	---	924	---	2	11	3,522
Colorado-------------	---	--------	---	447	---	12	---	100	12	175	---	--------	---	3	---	13
Pacific--------------	14	468	---	--------	---	902	---	1,032	---	--------	---	--------	---	560	---	217
Miscellaneous east of Rockies------------	--	--------	---	1,000	---	--------	---	--------	---	--------	---	2,500	---	--------	---	--------
Miscellaneous west of Rockies------------	--	--------	---	--------	---	--------	---	--------	---	--------	---	495	---	55	---	--------
Total	36	9,923	16	23,468	423	347,656	15	44,611	89	68,098	14	15,850	---	2,808	11	10,295

District	1933		1934		1935		1936		1937		1938		1939		1940	
Great Lakes----------	---	14	---	--------	---	13,185	1	9	---	690	---	240	---	11	2	--------
North Atlantic-------	2	5,418	---	142	52	16,340	24	146,035	---	2,689	8	37,068	2	56	4	2,519
South Atlantic-------	---	19	--	240	---	77	2	2,391	---	989	---	455	---	454	12	5,034
East Gulf------------	---	444	---	13	---	719	---	1,240	---	357	---	1,655	1	6,680	---	5,497
Ohio Valley----------	5	7,725	2	928	5	8,536	82	122,296	65	413,936	8	4,481	80	3,773	28	8,077
*Upper Mississippi----	4	1,157	12	1,023	---	1,506	---	313	3	1,127	2	3,659	---	228	---	199
Lower Mississippi----	---	6,933	---	--------	17	6,631	---	55	72	6,657	---	1	---	1,448	---	--------
Missouri-------------	2	1,391	6	1,906	125	38,959	---	109	2	1,367	71	4,333	---	610	5	1,759
Arkansas-------------	---	776	---	18	4	8,344	6	817	---	1,557	---	2,202	---	179	2	1,332
Red------------------	---	38	22	640	8	2,751	---	16	---	24	---	755	---	22	---	12
West Gulf------------	---	1 160	---	422	20	29,522	24	8,376	---	1,830	6	6,003	---	360	7	7,622
Colorado-------------	---	--------	1	22	---	--------	---	--------	---	264	---	256	---	13	---	180
Pacific--------------	20	11,604	45	5,008	5	557	3	892	---	9,245	85	39,990	---	--------	---	8,236
Total	33	36,679	88	10,362	236	127,127	142	282,549	142	440,738	180	101,098	83	13,834	60	40,467

District	1941		1942		1943		1944		1945		1946		1947		1948	
Great Lakes----------	--	--------	---	153	1	9,564	---	130	---	119	---	251	1	5,761	4	20,270
North Atlantic-------	---	--------	35	22,321	4	1	---	--------	3	5,729	14	8,500	---	198	4	12,467
South Atlantic-------		89	--	608	---	152	---	1,926	3	1,007	---	172	---	944	1	1,372
East Gulf------------	---	24	2	155	---	773	---	2,660	---	268	---	2,963	2	654	---	3,122
Ohio-----------------	---	1,122	16	16 546	44	31,416	---	806	27	52,887	---	10,914	5	7,812	16	16,871
*Upper Mississippi----	---	3,018	1	5,592	16	42,097	7	27,031	---	9,288	4	8,642	27	87,937	---	2,905
Lower Mississippi----	---	--------	---	475	---	829	---	1,550	---	3,601	---	4,407	1	2,555	---	5,390
Missouri-------------	2	12,019	1	22,511	13	62,630	13	44,616	4	34,403	---	8,305	18	163,176	1	31,490
Arkansas-------------	9	13,346	---	6,577	26	41,850	10	11,171	20	15,068	---	1,791	1	1,424	14	18,721
Red------------------	---	1,855	---	2,205	---	44	---	1,676	6	22,209	---	1,434	---	1,446	---	220
West Gulf------------	34	5,458	2	12,489	---	2,589	3	8,938	4	10,987	10	15,967	---	330	1	4,604
Colorado-------------	2	1,061	---	3	---	310	---	575	10	182	---	--------	---	3	---	1
Pacific--------------	---	1,532	11	8,872	3	7,477	---	--------	14	9,530	---	7,367	---	88	37	111,826
Great Basin----------	---	--------	---	--------	---	--------	---	--------	---	520	---	100	---	--------	---	--------
Total	47	39,524	68	98,507	107	199,732	33	101,079	91	165,796	28	70,813	55	272,328	82	229,959

District	1949		1950		1951		1952		1953		1954		1955		1956	
Great Lakes----------	---	1,619	9	33,542	---	131	---	2,350	1	2,654	---	15,000	---	2,596	---	1,327
North Atlantic-------	11	9,273	2	7,149	1	916	5	1,222	1	10,637	11	7,337	211	761,303	11	1,453
South Atlantic-------	3	291	---	1,203	---	9	---	236	---	109	1	546	2	902	3	2,720
East Gulf------------	---	1,747	---	1,435	---	4,310	---	347	2	2,444	---	543	6	5,300	1	1,379
Ohio-----------------	7	4,754	50	25,195	1	4,889	14	4,940	5	778	9	18,594	15	14,645	12	17,836
*Upper Mississippi----	---	406	2	11,060	6	71,799	7	22,439	2	5,602	4	24,656	---	85	---	388
Lower Mississippi----	---	10,020	6	10,071	---	5,996	---	444	12	7,857	---	490	---	1,352	---	865
Missouri-------------	6	33,503	18	35,090	31	889,872	8	181,335	14	44,255	---	11,999	1	2,753	1	6,360
Arkansas-------------	---	6,696	---	8,294	10	44,331	---	5	2	2,020	---	296	2	5,362	---	24
Red------------------	2	365	1	1,105	---	2,101	---	836	---	2,061	---	923	---	2,003	1	250
West Gulf------------	18	22,462	---	417	---	238	10	9,584	1	34,849	29	21,639	2	4,286	3	3,714
Colorado-------------	---	155	---	--------	---	889	---	76	---	7	---	1,890	---	2,173	---	--------
Pacific--------------	1	2,640	5	37,362	2	3,260	10	20,251	---	8,931	1	2,929	63	186,785	6	27,930
Great Basin----------	---	--------	---	4,127	---	--------	---	9,999	---	--------	---	--------	---	5,946	4	442
Total	48	93,931	93	176,050	51	1,028,741	54	254,064	40	122,204	55	106,842	302	995,491	42	64,688

District	1957		1958		1959		1960		1961		1962		† 1963		1964	
Great Lakes----------	1	1	---	10	---	12,746	2	1,942	1	216	---	--------	1	35,872	---	325
North Atlantic-------	---	11	---	167	---	6,952	2	15,274	---	1,168	---	8	6	1,325	---	11,342
South Atlantic-------	---	166	---	3,917	---	631	---	172	---	600	---	97	---	89	---	16,786
East Gulf------------	---	4,526	---	3,434	---	241	---	13,780	3	30,386	---	5,768	---	1,726	---	10,490
Ohio-----------------	25	135 972	10	68,248	8	82,503	1	7,519	31	33,748	5	30,583	26	98,824	15	94,034
*Upper Mississippi----	8	14 648	---	20,770	8	3,427	2	12,901	4	25,320	1	5,341	---	413	---	--------
Lower Mississippi----	6	15,608	---	11,979	- -	199	---	496	---	11,462	---	3,546	---	293	---	1,125
Missouri-------------	15	26,057	21	45,819	3	12,162	8	28,105	7	33,990	2	10,501	3	14,705	37	41,902
Arkansas-------------	5	50,082	---	360	2	12,886	1	3,480	1	9,173	3	1,254	2	563	1	1,607
Red------------------	6	16,037	---	11,768	---	880	---	226	---	1,609	---	581	1	2,361	---	124
West Gulf------------	16	73,057	6	18,127	4	2,886	14	8,205	1	2,945	2	1,948	---	640	5	7,178
Colorado-------------	---	741	---	240	---	100	---	--------	3	552	---	1,080	---	--------	---	55
Pacific--------------	---	23,397	10	33,404	---	5,638	2	876	1	1,825	6	12,198	---	15,305	42	463,959
Great Basin----------	---	--------	---	12	---	4	---	--------	---	1,039	---	2,332	---	3,530	---	2,715
Total	82	360,303	47	218 255	25	141,255	32	92,976	52	154,033	19	75,237	39	175,646	100	651,642

District	1965		1966		1967		1968	
Great Lakes----------	---	20	---	176	1	398	---	100
North Atlantic-------	2	55	1	535	---	3,726	10	211,690
South Atlantic-------	---	268	1	375	---	610	--	---
East Gulf------------	---	2,665	---	6,388	---	2,614	---	1,241
Ohio-----------------	8	3,591	1	10,193	8	52,000	7	51,947
*Upper Mississippi----	15	182,053	- -	14,167	---	3 431	3	3,309
Lower Mississippi----	---	811	---	1,438	---	1,046	---	5,997
Missouri-------------	26	451,832	5	16,021	1	100,617	---	8,655
Arkansas-------------	16	70,152	---	5,245	---	3,731	4	9,793
Red------------------	---	852	2	2,702	---	48	---	17,268
West Gulf------------	33	40,039	14	27,608	12	98 239	6	24,302
Colorado-------------	8	12,648	1	4,919	3	3,598	1	509
Pacific--------------	11	18,745	4	15,525	2	5,106	---	1,149
Great Basin----------	---	4,315	--	11,712	---	475	---	939
Total	119	783,046	29	117,004	27	‡ 275,639	31	**336,899

* Including Red River of the North. † Total does not include $2,300 in Hawaii. ‡ Total does not include $98,550 in Alaska and $1,029 in Hawaii. **Total does not include $2,500 in Hawaii.

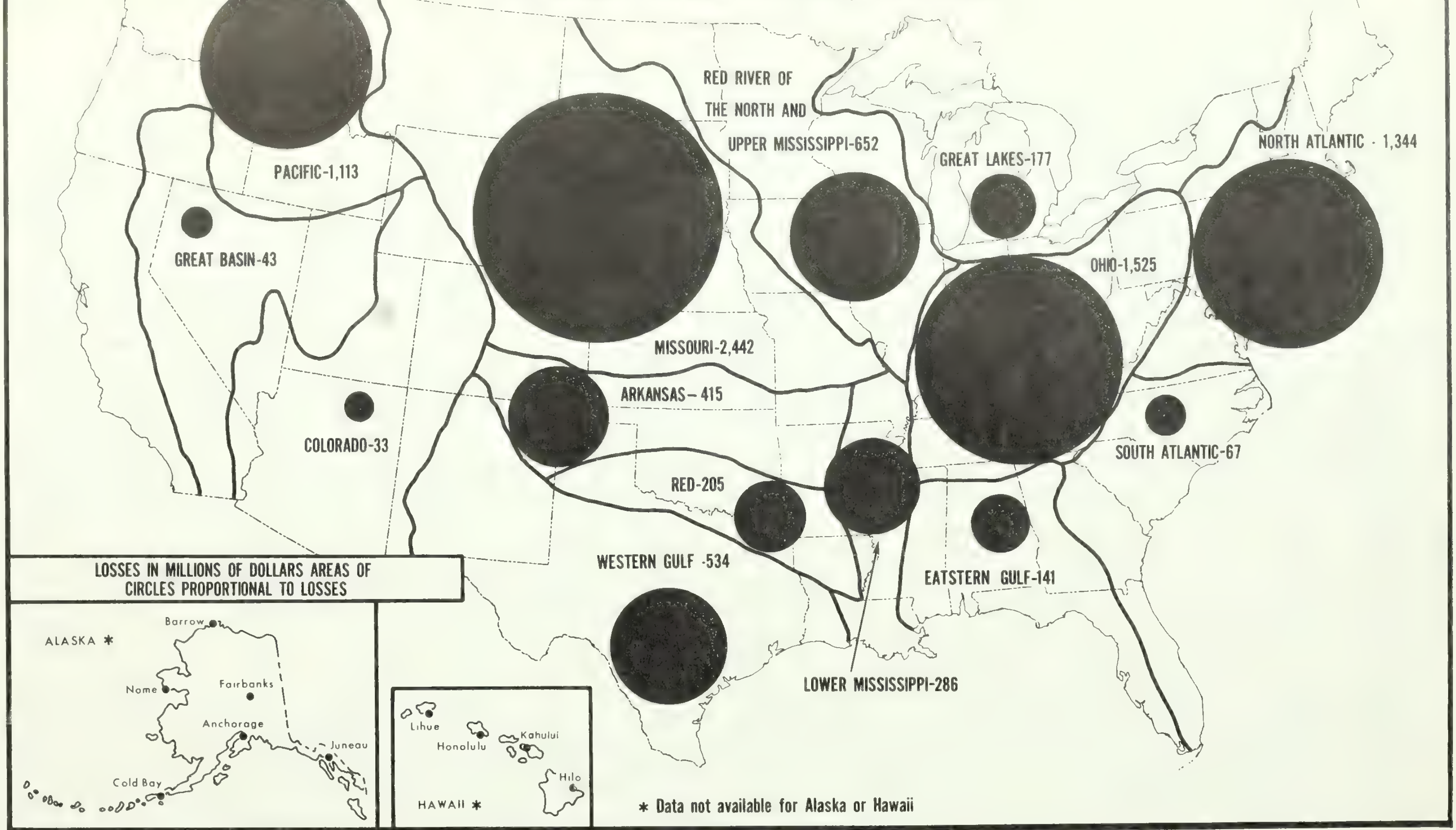
LOSS OF LIFE AND PROPERTY IN THE UNITED STATES FROM FLOODS

PROPERTY LOSSES IN THOUSANDS OF DOLLARS
By Months and Years, 1925-1968

Year	January Property	January Life	February Property	February Life	March Property	March Life	April Property	April Life	May Property	May Life	June Property	June Life
1925	3,614	2	141	0	74	0	-	0	65	6	3,980	14
1926	19	0	600	0	77	0	293	0	-	0	-	1
1927	2,626	8	1,867	0	407	0	283,207	232	7,566	95	1,125	0
1928	4	0	9	0	758	0	1,168	0	105	0	12,296	1
1929	122	0	2,964	0	21,947	47	1,937	0	15,668	5	10,268	5
1930	7,110	0	7	0	146	0	-	0	5,021	14	3,042	0
1931	-	0	30	0	572	0	-	0	8	0	13	0
1932	1,207	0	-	0	165	0	373	0	1,552	0	1,245	0
1933	308	0	87	0	2,008	1	2,709	4	10,785	4	2,650	4
1934	5,002	45	9	0	706	0	1,693	34	-	0	899	0
1935	297	0	1	0	2,177	4	2,698	5	16,903	40	62,702	122
1936	341	0	2,107	6	145,936	24	124,743	82	1,118	6	124	0
1937	411,481	65	7,691	75	62	0	4,524	0	2,627	0	5,429	0
1938	260	0	3,712	2	27,819	86	3,008	0	12,402	0	3,624	58
1939	3	0	1,657	4	738	0	1,982	0	37	0	4,271	1
1940	58	0	7,246	0	1,048	2	2,185	0	438	0	2,790	12
1941	3	0	516	0	820	2	1,970	4	3,081	7	12,718	12
1942	131	0	1,901	1	327	0	18,369	2	14,837	31	25,586	1
1943	3,579	4	69	5	7,183	8	10,161	5	130,478	57	41,771	0
1944	3	0	35	1	2,633	3	42,646	13	24,103	0	24,535	16
1945	146	0	5,882	0	33,202	14	54,054	36	23,530	0	28,866	8
1946	13,385	0	4,015	0	631	0	2	0	12,587	12	20,343	3
1947	486	3	96	0	1,458	0	56,037	2	18,032	1	193,134	48
1948	6,479	6	11,429	1	17,896	4	28,667	15	107,244	35	22,160	15
1949	9,772	6	5,073	2	11,676	3	9,261	2	18,195	10	32,861	17
1950	4,619	3	6,925	7	3,451	7	14,668	0	51,126	21	22,340	34
1951	884	0	5,823	2	7,264	1	18,287	2	15,166	6	5,383	8
1952	9,139	14	926	1	1,909	9	199,127	10	6,438	3	22,775	2
1953	8,575	1	368	0	10,675	2	-	0	41,656	5	53,572	29
1954	2,554	4	84	0	20	0	557	0	6,213	1	52,076	20
1955	-	0	1,620	4	17,372	17	2,653	4	9,231	2	3,825	1
1956	9,455	0	2,731	3	3,403	2	1,202	0	24,799	10	2,300	4
1957	61,383	15	29,750	2	-	0	106,130	18	44,182	13	101,696	32
1958	273	0	12,501	11	11,193	0	21,145	3	24,884	2	67,537	0
1959	45,601	8	2,448	0	2,031	6	427	0	7,181	8	890	0
1960	534	1	713	2	29,988	4	28,056	0	2,214	3	9,956	13
1961	32	0	13,870	1	14,212	3	5,053	0	67,785	6	4,324	4
1962	854	0	24,906	9	28,417	4	8,920	0	1,893	0	2,265	2
1963	2,313	0	16,392	0	99,129	31	2,302	0	1,573	0	14,682	3
1964	787	0	15	0	97,945	14	16,763	1	1,313	0	71,666	37
1965	11,084	0	2,566	2	4,158	1	180,337	16	36,328	3	495,750	66
1966	13,114	0	12,823	2	2,012	1	10,460	16	1,315	0	4,377	1
1967	2,213	0		0	42,182	4	6,153	0	3,043	1	104,097	5
1968	7,136	4	2,971	0	45,925	2	2,053	0	245,670	17	11,216	0
Total	697,346	189	194,576	143	702,083	306	1,303,970	501	1,018,392	424	1,567,159	599
Average	15,849	4	4,422	3	15,956	7	29,636	12	23,145	10	35,617	14

Year	July Property	July Life	August Property	August Life	September Property	September Life	October Property	October Life	November Property	November Life	December Property	December Life	Total Property	Total Life
1925	140	0	275	0	1,171	14	380	0	85	0	-	0	9,923	36
1926	55	0	7	0	7,729	6	12,699	6	135	0	1,854	3	23,168	16
1927	241	0	3,460	0	-	0	1,627	0	45,093	88	437	0	347,656	423
1928	13,339	0	9,272	3	4,047	5	-	0	3,567	6	46	0	44,611	15
1929	4,959	32	130	0	92	0	9,379	0	556	0	76	0	68,098	89
1930	244	0	251	0	-	0	29	0	-	0	-	0	15,850	14
1931	1,215	0	201	0	2	0	1	0	744	0	22	0	2,808	0
1932	1,627	0	763	0	2,666	11	335	0	3	0	359	0	10,295	11
1933	1,117	0	6,516	4	489	0	10	0	-	0	10,000	16	36,679	33
1934	178	0	322	9	84	0	28	0	1,287	0	154	0	10,362	88
1935	29,370	52	159	5	7,551	0	2,691	0	61	0	2,517	8	127,127	236
1936	2,248	20	205	0	5,946	4	378	0	118	0	5	0	282,549	142
1937	124	2	760	0	140	0	256	0	97	0	7,546	0	440,738	142
1938	10,373	9	232	8	39,641	17	3	0	5	0	19	0	101,098	180
1939	1,725	78	3,408	0	13	0	-	0	-	0	-	0	13,834	83
1940	5,314	0	18,853	40	2,135	6	88	0	95	0	217	0	40,467	60
1941	314	0	23	0	6,247	15	10,446	7	3,361	0	25	0	39,524	47
1942	13,064	17	267	0	3,234	0	5,678	2	-	0	15,113	14	98,507	68
1943	2,870	3	3,651	25	-	0	-	0	-	0	-	0	199,732	107
1944	3,198	0	928	0	1,708	0	108	0	-	0	1,182	0	101,079	33
1945	8,280	3	2,942	13	1,059	3	1,424	3	-	0	6,413	11	165,798	91
1946	1,636	4	1,148	0	7,346	9	1,965	0	1,134	0	6,441	0	70,813	28
1947	652	1	1,431	0	455	0	248	0	5	0	304	0	272,328	55
1948	17,550	2	1,141	0	590	0	-	0	3,553	0	13,247	4	229,959	82
1949	3,762	5	568	0	618	0	1,551	2	578	1	16	0	93,931	48
1950	19,224	6	1,687	0	3,718	4	5,562	3	6,638	3	36,092	5	176,050	93
1951	972,458	25	2,509	7	621	0	-	0	-	0	346	0	1,028,741	51
1952	3,858	9	296	0	9,376	6	-	0	30	0	190	0	254,064	54
1953	3,873	1	1,926	2	887	0	42	0	300	0	330	0	122,204	40
1954	2,218	2	6,606	3	3,170	8	33,341	17	-	0	3	0	106,842	55
1955	1,071	0	712,085	193	3,471	0	52,442	18	1,168	0	190,553	63	995,491	302
1956	5,849	15	11,671	4	-	0	1,892	0	137	3	1,249	1	64,688	42
1957	4,669	0	722	2	335	0	2,663	0	8,610	0	163	0	360,303	82
1958	42,779	29	18,631	1	14,560	0	2,336	1	2,116	0	-	0	218,255	47
1959	557	0	5,550	0	1,844	0	19,602	3	4,970	0	154	0	141,255	25
1960	9,038	1	677	0	5,266	0	5,818	6	360	0	356	0	92,976	32
1961	5,825	25	3,974	6	26,041	7	580	0	1,161	0	10,666	0	154,033	52
1962	2,428	1	708	0	3,266	3	-	0	580	0	970	0	75,237	19
1963	4,261	4	36,926	1	38	0	-	0	-	0	-	0	177,346	39
1964	29	0	517	0	5,477	3	16,432	1	750	2	439,948	42	651,642	100
1965	24,705	17	193	0	9,652	0	894	0	-	0	22,379	14	788,046	119
1966	840	4	17,773	0	658	0	-	0	528	2	23,104	5	117,004	31
1967	1,191	4	7,877	0	101,135	11	140	0	-	2	106,887	7	375,218	34
1968	16,350	3	4,009	3	594	0	104	0		0	3,071	2	339,399	31
Total	1,244,999	374	891,223	329	282,172	134	191,172	69	88,783	107	902,454	195	9,084,329	3,375
Average	28,295	9	20,255	7	6,413	3	4,345	2	2,018	2	20,510	1	206,462	77

DISTRIBUTION OF ESTIMATED FLOOD LOSSES IN THE UNITED STATES BY MAJOR RIVER SYSTEMS, 1925-1968



WEA 103G

USCOMM ESSA-DC

LOSSES IN INDIVIDUAL SEVERE FLOODS IN THE UNITED STATES SINCE JULY 1902

Property Losses in Thousands of Dollars

Date	Location	Lives #	Property
May-June 1903------	Kansas, Lower Missouri, and Upper Mississippi Rivers-----------------------	100	$ 40,000
July 1908----------	Red River-----------------------------------	---	16,200
March 1912---------	Lower Mississippi River-------------------	---	70,000
March 1913---------	Ohio River and tributaries-----------------	467	147,000
December 1913------	Texas rivers--------------------------------	177	9,000
June 1915----------	Kansas River--------------------------------	---	5,950
August 1916--------	Rivers of the Carolinas--------------------	---	21,700
June 1921----------	Arkansas River in State of Colorado--------	120	25,000
September 1921-----	Texas rivers--------------------------------	215	19,000
October 1923-------	Lower Arkansas, including the State of Oklahoma----------------------------	---	15,000
March 1924---------	Potomac River-------------------------------	---	6,000
Spring of 1927-----	Mississippi Valley-------------------------	313	284,118
November 1927------	New England rivers-------------------------	88	45,578
December 1933------	Columbia River and tributaries-------------	---	10,000
May 1935-----------	Rivers in eastern Colorado-----------------	---	6,000
May-June 1935------	Republican and Kansas Rivers---------------	110	18,000
	Lower Missouri River-----------------------	---	10,000
July 1935----------	Upper Susquehanna tributaries--------------	52	26,000
December 1935------	Houston, Texas area------------------------	---	2,500
March-April 1936---	Rivers in eastern United States------------	107	270,000
Jan.-Feb. 1937-----	Ohio and lower Mississippi River basins----	137	417,685
December 1937------	Sacramento Valley--------------------------	---	7,100
March 1938---------	Streams in southern California-------------	79	24,500
September 1938-----	Rivers in New England----------------------	---	37,000
July 1939----------	Licking and Kentucky Rivers----------------	78	1,715
Feb.-Mar. 1940-----	Sacramento Valley--------------------------	---	6,700
August 1940--------	Rivers in southern Virginia, the Carolinas, and eastern Tennessee-------------------	40	12,000
Oct.-Nov. 1941-----	Arkansas River basin-----------------------	---	8,500
April-June 1942----	Upper Mississippi, Missouri, Arkansas, Red, and Trinity River basins-----------------	---	44,350
May 1942-----------	Delaware & Susquehanna River basins--------	33	13,000
July 1942----------	Upper Allegheny River and Sennemahoning Creek basins---------------------------	15	10,000
Nov.-Dec. 1942-----	Willamette River---------------------------	10	6,900
Dec. 1942-Jan. 1943	Ohio River----------------------------------	---	10,540
Apr.-June 1943-----	Maumee, Wabash, upper Mississippi, Missouri, White, and Arkansas River basins----------------------------------	60	172,500
August 1943--------	Little Kanawha------------------------------	23	1,300
April-June 1944----	Upper Mississippi, Missouri, Arkansas, Red, lower Mississippi Basins and east Texas Streams---------------------------------	17	82,000
Feb.-Mar. 1945-----	Ohio River----------------------------------	18	30,000
Feb.-Apr. 1945-----	Trinity and Sabine Rivers------------------	---	9,000
Mar.-July 1945-----	Lower Mississippi River--------------------	---	9,500
July 1945----------	Lake Section of Rensselaer County, N. Y.---	---	3,500
December 1945------	Willamette River---------------------------	---	6,000
January 1946-------	Cumberland River---------------------------	---	3,925
September 1946-----	San Antonio and Nueces Rivers--------------	---	6,050
December 1946------	Willamette River---------------------------	---	5,525
April 1947---------	Allegheny-----------------------------------	---	4,319
May-July 1947------	Rivers in middle West in the lower Missouri and middle Mississippi River basins------	29	235,000
June 1947----------	East Creek at Rutland, Vt.-----------------	---	2,000
Apr.-May 1948------	Red River of North and tributaries---------	---	18,700
May-June 1948------	[1]Columbia Basin--------------------------	35	101,725
June-July 1948-----	Arkansas River and minor tributaries-------	---	14,500
December 1948------	Housatonic River---------------------------	---	4,200
May 1949-----------	Trinity River------------------------------	10	14,000
June 1949----------	Shenandoah and Potomac Rivers--------------	11	8,850
Apr.-May 1950------	[2]Red River of North----------------------	---	33,000
June 1950----------	Central West Virginia----------------------	31	4,020
Nov.-Dec. 1950-----	Central Valleys of California and western Nevada--------------------------	---	23,000

Property Losses in Thousands of Dollars

Date	Location	Lives #	Property
April 1951	Upper Mississippi Basin	---	$ 18,622
June-July 1951	[3]Kansas-Missouri	28	923,224
April 1952	[4]Red River of the North-upper Mississippi-Missouri River basins	11	198,000
May 1952	Great Basin	---	8,373
March 1953	New England States	---	10,000
Apr.-May 1953	Louisiana-Texas	12	38,959
June 1953	Northwestern Iowa	14	32,950
June 1954	Middle Rio Grande and lower Pecos	16	19,079
October 1954	Pecos River in New Mexico	13	1,783
March 1955	Ohio Basin	15	14,396
August 1955	[5]Hurricane floods in Northeast	187	714,079
December 1955	[6]West Coast	61	154,532
May-June 1956	[7]Columbia and Kootenai Rivers	---	14,025
Jan.-Feb. 1957	[8]Streams in southeastern Kentucky, southwestern West Virginia, adjoining portions of Tennessee and Virginia	14	58,000
February 1957	Snake River and tributaries	---	20,500
Apr.-June 1957	Streams in Texas, Arkansas, Kansas, Louisiana, Missouri and Oklahoma	18	105,000
June-July 1957	Wabash River and tributaries	---	63,000
June 1958	White and Wabash Rivers	---	57,000
July 1958	Flash flood on East Nishnabotna River in Iowa	19	5,850
January 1959	Ohio River basin	---	81,921
January 1959	Lake Erie drainage in Ohio and New York	---	11,265
Mar.-Apr. 1960	[9]Snowmelt floods in the Missouri and upper Mississippi Basins	---	34,466
Feb.-Mar. 1961	East Gulf of Mexico drainage	---	13,997
July 1961	Flash flood on small streams in Charleston, W. Va.	22	3,238
September 1961	Kansas-Missouri	---	23,557
Feb.-Mar. 1962	Kentucky	---	16,067
Feb.-Mar. 1962	Southeastern Idaho	---	6,318
March 1963	Ohio River basin	26	97,600
June 1964	Montana	31	54,279
December 1964	California and Oregon	40	415,832
March 1964	Ohio River basin	13	81,602
Mar.-May 1965	[10]Upper Mississippi, Missouri, and Red of North Basins	16	181,325
May 1965	Brazos River	---	30,802
June 1965	South Platte Basin	16	415,076
June 1965	Sanderson, Texas flash flood	26	2,715
June 1965	Arkansas Basin	16	58,340
January 1966	Streams in Humboldt County, Calif.	---	6,850
Apr.-May 1966	Sabine and Trinity Basins, Texas	14	20,100
December 1966	Tulare and Buena Vista Lakes drainages in California	---	11,712
June 1967	Platte River and tributaries in Nebraska	---	35,275
September 1967	Hurricane "Beulah" floods in Texas	---	98,239
August 1967	Tanana and Chena Rivers in Alaska	---	98,550
March 1968	Rivers in New England (except Maine)	---	45,000
May 1968	Rivers in northern New Jersey	---	166,690

Loss of life carried only where ten or more.

References

1. Monthly Weather Review, January 1949
2. Monthly Weather Review, September 1951
3. Technical Paper No. 17
4. Technical Paper No. 23
5. Technical Paper No. 26
6. Climatological Data, National Summary, December 1955
7. Climatological Data, National Summary, Annual 1956
8. Climatological Data, National Summary, January 1957
9. Technical Paper No. 45
10. Technical Report No. WB-3

FLOOD DAMAGE ESTIMATES BY STATES

1955-1968

Flood Losses in Thousands of Dollars

States	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Alabama............	3,379	720	2,324	872	-	670	12,625	3,529	1,280	5,343	723	2,366	1,695	408
Alaska............	-	*	-	-	-	-	**	***	-	-	-	-	98,550	-
Arizona............	226	-	-	-	100	-	325	1,000	-	55	11,330	3,050	3,576	188
Arkansas............	61	255	27,938	6,202	3,090	580	3,503	91	2,500	598	143	5,055	1,497	21,099
California.........	165,767	8,745	13	33,063	4	516	95	2,780	11,834	229,168	11,321	24,347	1,370	-
Colorado...........	2,567	5,135	2,901	240	-	-	-	80	50	-	452,293	707	-	-
Connecticut.........	379,360	-	-	-	-	750	-	-	-	-	-	-	-	100
Delaware...........	117	-	-	-	-	-	-	-	-	-	-	-	-	-
District of Columbia	-	51	-	60	-	-	-	-	-	-	-	-	-	-
Florida............	105	1,891	-	-	150	12,047	317	1,481	-	426	144	548	95	46
Georgia............	1	212	1,068	323	-	392	5,236	-	445	3,641	397	1,628	23	133
Hawaii.............	-	-	-	400	-	-	-	-	2,300	-	-	-	1,029	2,500
Idaho..............	1,371	6,222	20,896	3	500	-	939	8,112	2,766	11,704	4,184	-	792	-
Illinois...........	102	1,026	1,206	17,970	1,506	7,503	11,553	891	513	3,044	30,564	577	2,629	2,576
Indiana............	1,003	4,021	66,748	52,302	12,958	2,649	13,306	670	8,266	12,327	20	3,098	4,618	22,463
Iowa...............	35	51	1,543	7,508	128	7,612	9,389	6,778	70	240	32,462	904	4,416	1,650
Kansas.............	474	33	9,164	4,606	4,061	1,947	13,397	1,826	168	370	29,792	97	15,093	2,304
Kentucky...........	6,629	568	55,233	3,817	2,480	3	12,969	16,885	36,917	35,476	1,044	1,671	17,583	6,036
Louisiana..........	30	-	4,147	2,842	-	112	6,074	1,908	-	30	-	250	-	2,810
Maine..............	-	-	-	-	61	-	800	-	-	-	-	528	-	-
Maryland...........	5,450	837	-	40	-	-	-	-	-	-	53	-	125	-
Massachusetts.......	155,982	-	-	-	-	6,400	-	-	-	-	-	-	-	35,000
Michigan...........	-	1,278	-	-	-	1,181	-	-	-	-	-	-	-	100
Minnesota..........	-	11	9,128	17	50	212	552	1,290	26	-	97,603	4,300	-	1,197
Mississippi........	3,132	1,270	2,693	13,826	280	744	15,918	1,982	19	3,152	1,931	2,706	1,192	6,269
Missouri...........	666	167	9,618	38,718	6,018	13,506	27,375	557	152	6,591	33,976	2,781	39,080	890
Montana............	63	317	33	1	82	57	-	147	148	54,389	253	-	2,947	-
Nebraska...........	1,500	865	5,983	3,064	3,753	8,884	674	2,630	13,394	5,146	1,368	11,628	40,644	6,029
Nevada.............	7,398	237	-	-	-	-	891	762	2,858	2,454	4	307	45	1
New Hampshire.......	-	-	-	-	4,500	100	-	-	-	-	-	-	-	800
New Jersey..........	23 102	-	-	3	-	-	-	-	-	-	-	-	1,438	166,690
New Mexico..........	1,066	-	-	-	-	-	-	-	620	1,235	4,833	1,048	-	-
New York...........	30,072	1,089	166	42	5,667	7,229	608	-	33,102	3,275	-	-	777	-
North Carolina......	625	831	788	3,201	506	100	1,400	-	-	15,816	88	198	1,168	-
North Dakota........	2	-	100	-	28	136	-	-	-	-	5,192	9,700	-	-
Ohio...............	753	1,056	7	4,867	54,840	191	1,217	6,512	22,359	28,039	-	1,893	6,622	20,074
Oklahoma...........	977	-	35,665	169	8,907	2,638	2,483	792	413	798	2,508	12	3	3,021
Oregon.............	9,515	6,376	310	363	20	360	757	1,550	299	187,101	5,679	2,283	1,044	538
Pennsylvania........	141,381	7,199	1,048	3,582	21,109	3,072	612	15	5,397	16,938	-	705	7,251	421
Rhode Island........	28,830	-	-	-	-	-	-	-	-	-	-	-	588	9,000
South Carolina......	74	-	60	680	122	72	369	97	89	1,809	268	140	579	-
South Dakota........	11	10	3,969	-	-	3,417	1	3,030	-	-	740	470	1,125	123
Tennessee..........	977	279	5,118	128	-	226	2,263	651	6,262	156	2,472	1,608	1,090	648
Texas..............	5,165	3,715	78,881	18,101	2,886	8,093	2,846	1,948	20	5,435	39,395	28,001	98,259	24,267
Utah...............	226	210	169	10	4	-	281	1,272	64	70	1,746	1,577	453	1,260
Vermont............	-	-	3	-	-	-	-	-	-	692	-	-	-	100
Virginia...........	10,695	-	139	-	28	211	231	-	5,937	-	2	-	581	-
Washington.........	1,165	6,472	1,664	50	4,914	-	130	-	1,013	11,817	1,012	592	1,910	611
West Virginia.......	5,187	3,185	11,052	1,170	709	370	3,455	5,914	17,624	4,169	49	1,868	14,235	47
Wisconsin..........	50	335	-	-	1,791	996	1,442	57	142	-	14,067	361	-	-
Wyoming............	200	11	526	3	-	-	-	-	899	138	390	-	1,096	-
TOTAL	995,491	64,688	360,303	218,255	141,255	92,976	154,033	75,237	177,946	651,642	788,046	117,004	375,218	339,399

*Major Flood in May 1956
**Major Flood in June 1961
***Ice Jam Flooding May 1962
***Serious Flooding June 1962

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

Year 1969

Elmer R. Nelson, Office of Hydrology

There were several major damaging floods in the United States during 1969. Based on preliminary estimates of flood damage, the four most catastrophic floods during 1969 were as follows:

	Location	Month	Total Damages	Loss of Life
1.	Southern California	January	$170 million	47
2.	Red River of the North, Upper Mississippi, and Missouri Basins	March - April	$151 million	9
3.	Northern Ohio	July	$70 to $140 million	30
4.	Hurricane Camille floods in Virginia	August	$140 million	151

This report contains a brief summary, by months, of the most significant flooding during 1969. A detailed summary of flooding during 1969 appears in the monthly issue of this publication.

January

The most damaging floods during January occurred in southern California. These floods were generally the most severe since 1938. The flooding on the Salinas River was the most severe since 1952. Major damages occurred on the Chowchilla and Fresno Rivers and along streams running into the Valley from the foothill areas. Property damage from flooding and mudslides was estimated at about $170 million. The American Red Cross reported that a total of 47 lives were lost in California during January due to floods, mudslides, and snowstorms. The President allocated $108 million to the State for relief and restoration activities, making the disaster the most costly in the history of the U. S. Major Disaster Program.

February

The most damaging floods during February occurred in southern California for the second consecutive month. In most areas the flood damage was less than in the previous month. Mudslides were more numerous than in January. Channel flows were generally below the January level. Flooding in the Salinas Basin was more severe than in January which was the most severe since 1952. The Chowchilla and Fresno Rivers crested higher than in January. Major damage in the San Joaquin Basin was confined to the Valley floor and in the lower foothill areas.

The crests on the Wabash River from LaFayette, Ind., to Mt. Carmel, Ill., were the highest in 10 years. At Mt. Carmel, the crest was the highest since 1913. Flooding along the lower White River in Indiana was the highest in 5 years at some points. The crest on the Little Wabash River at Carmi, Ill., was the second highest in the history of the station.

March

Extensive flooding occurred in the Upper Big Blue River Basin in Nebraska during March. Turkey Creek near Wilbur, Nebr., exceeded the 10-year record established in March 1960. The West Fork Big Blue River exceeded the 11-year record of March 1960 but was several feet below the historical high water mark of July 1950. Flooding along the mainstem of the Big Blue River generally approached the last heavy March overflows in 1960.

A near record flood occurred on the Iowa River at Marshalltown, Iowa, during the latter part of March. Snowmelt runoff caused extensive flooding in Iowa along the South Raccoon and North Rivers, the entire Skunk River Systen, the West Fork of the Cedar, and Black Hawk Creek.

April

The most significant flooding during April was the snowmelt floods in the Red River of the North, the Upper Mississippi and Missouri Basins. The total flood damages were estimated at $151 million. The number of deaths by drowning were reported as 9.

In the Red River of the North Basin, the spring flood of 1969 was the greatest since 1897 from the headwaters to Grand Forks, N. Dak. Below Grand Forks, the flood crests were slightly lower than in April 1966. Record stages were reached on the Red Lake River at Crookston, Minn., and on the Sheyenne River at West Fargo, N. Dak.

In the Upper Mississippi Basin, record flooding occurred on some tributary streams in southern Minnesota and northwestern Iowa. Along the mainstem of the Mississippi, the flooding from the headwaters to Davenport, Iowa, was generally of the second and third magnitudes. In the reach from St. Paul, Minn., to Winona, Minn., and at scattered points to Davenport, Iowa, the flood of 1969 was exceeded only by the flood of 1965.

In the Missouri Basin, record flooding occurred on some tribuatry streams in eastern Montana, Nebraska, the Dakotas, and Iowa. Flooding along the mainstem of the Missouri River was comparatively light.

May

The most significant flooding during May was the receding snowmelt floods in the Red River of the North Basin, the Upper Mississippi Basin and the Missouri Basin. All streams were back within their banks at the

end of May, except the Souris River near Bantry and Westhope, N. Dak., and the James River at Columbia and Stratford, S. Dak. The Souris River near Bantry, N. Dak., reached a record crest early in May.

Major flooding occurred in the Trinity and Upper Brazos Basins during May. Flash flooding was extensive in and south of Cleburne, Tex., and in the communities of Kennedale and Everman, Tex. Preliminary estimates of flood damage were placed at $4.6 million. Four lives were lost. Dallas and Johnson Counties were declared disaster areas.

June

Near record overflows occurred on tributary streams in the Lower Smoky Hill River Basin in Kansas during June. Record stages occurred in the headwaters of the Marais des Cygnes River. Severe flooding occurred on tributary streams of the Missouri in northwestern Missouri where nearly 200,000 acres of farmland were flooded with damages estimated at over $13 million.

Severe flash floods occurred on the Barren River in Kentucky and on Salt Lick Creek in northern Tennessee. Discharge ratings on the upper Barren River were reported as the greatest of record by the USGS and greater than those likely to occur once in 50 years. Flood damage in Macon and surrounding counties in Kentucky was the result of rampaging small feeder streams, most of which flow northward into the Barren River. The property damage in the Salt Lake Creek Basin at Red Boiling Springs, Tenn., was estimated in excess of $2 million.

July

One of the most damaging floods during July occurred in northern Ohio. Up to 14 inches of rain occurred in certain localities in an area about 20 miles on either side of a line running between Toledo, Ohio, and Wheeling, W. Va. The hardest hit communities were Wooster, Ashland, Millersburg, Loudonville, and Killbuck, Ohio, in the Ohio Basin and Norwalk and Vermillion in the Great Lakes Drainage. Of the 37 fatalities reported in this storm, 30 were due to floods. The total flood damages were estimated between $70 million and $140 million.

Major flooding occurred on the Maquoketa and Wapsipinicon Rivers in Iowa and on the Pecatonica River in Wisconsin and Illinois. Record flooding occurred on the Wapsipinicon and Iowa Rivers, and on Black Hawk Creek in Iowa. Record high stages also occurred on the Pecatonica River in Wisconsin and Illinois.

August

The most disastrous flooding in the nation during August, in lives lost and property damage occurred in the James River Basin in Virginia. The disastrous flooding resulted from torrential rains associated with tropical depression "Camille." The torrential rains caused extensive and severe flash flooding in Rockbridge, Amherst, Nelson, Albemarle, and Fluvanna Counties. The hardest hit by the flash flooding were the Tye and Rockfish River Basins, most of which lie within Nelson County. Devastating and extreme flash flooding occurred in the Maury and Hardware Basins and in portions of the Rivanna Basin. Record stages were reached on the Maury and Rivanna Rivers and on the James River in the reach from Holcombs Rocks, Va., to Richmond, Va. (except at Lynchburg and Scottsville). The total damages in Virginia were estimated at $140 million. The total number of deaths by drowning and mudslides was placed at 110 with an additional 41 persons missing and presumed dead. The west-central portion of the State was declared a disaster area by the President. One million dollars in federal aid was made available immediately for repair and replacement of roads, bridges, and other public facilities.

Record flooding occurred in the headwaters of the Little Blue River in Nebraska. The crest near Deweese, Nebr., exceeded the previous record crest by 1.1 ft. Downstream at Hebron, Nebr., residents reported the highest water levels in 40 years.

September

The most damaging floods during September were minor in comparison to the Virginia floods during August. Severe flooding occurred in northwest Florida with damage in Gadsden County estimated at $2.8 million. The Ochlockonee River at Bloxham, Fla., exceeded the 1964 flood by about 5 feet. The Little River near Quincy, Fla., exceeded the 1964 flood by about 4 feet. Severe flooding occurred in Leon and Liberty Counties where storm rainfall ranged from 10 to 23.5 inches.

October

Major flooding occurred in the Lower Marais des Cygnes Basin below Ottawa, Kans., during October. Crests ranged from 4 to 8 ft. above flood stage from Osawatomie, Kans., downstream and also on Pottawatomie Creek. Agricultural losses in the Lower Marais des Cygnes Valley were estimated in excess of $1.25 million.

Considerable flooding occurred in streams in the northern half of Missouri. One of the hardest hit areas was the Cuivre River Basin in east-central Missouri. A survey of the area from Old Monroe, Mo., to Troy, Mo., revealed that the flooding was probably the highest of record, exceeding the previous record flood of 1941. Record flooding also occurred on the Lower Salt River. Extensive damage resulted to crops and to many homes behind the levees.

November

Damages from the minor flooding in continental United States during November were light.

Extensive flooding occurred along many rivers in southeastern Puerto Rico on Nov. 9. At least 20 towns or cities were damaged. The heaviest damage occurred in the Fajardo area where over 500 families were affected. Preliminary damage estimates were placed at $2 million. There were three deaths by drowning.

December

The most significant flooding in the Nation during December occurred in Maine and in Kentucky.

In Maine, the flooding on the Kennebec River was the third highest of record. Extensive flooding occurred on the Androscoggin and Sandy Rivers and small streams and brooks in Maine. Many people were evacuated from low-lying areas along the Kennebec River. The overall flood damage in Maine was estimated at several millions of dollars.

In Kentucky, major flooding developed along the Upper Cumberland River in the southeastern portion of the State. Crests were very near those of the major flood of March 1963. Homes and commercial buildings outside of the flood protective works received considerable water and flood damage.

SOLAR RADIATION TOTALS

Average daily values (direct and diffuse) received on a horizontal surface, tabulated in langleys.

YEAR 1969

Station	January	February	March	April	May	June	July	August	September	October	November	December	Annual
ALBUQUERQUE N.M.	262	360	492	584	624	678	603	562	471	386	296	237	463
AMES IOWA	128	195	344	384	434	459	450	467	359	213	151	122	309
ANNETTE ALASKA	69	127	201	248	464	528	398	249	203	155	41	31	226
APALACHICOLA FLORIDA	266	320	423	520	558	648	476	472	432	346	317	284	422
ARGONNE NAT. LAB.ILL.	[illegible]	229	371	392	457	489	483	501	364	236	156	123	329
ASTORIA OREGON	[illegible]	161	325	374	-	-	509	465	287	-	123	59	-
ATLANTA GEORGIA	168	246	388	447	474	490	-	-	-	321	276	194	-
BARROW ALASKA	# 0	36	159	346	478	621	445	234	128	35	6	# 0	207
BETHEL ALASKA	21	105	235	428	483	420	302	-	220	88	32	8	-
BISMARCK N.DAK.	162	229	429	476	562	520	630	583	424	211	161	119	376
BLUE HILL MASS.	[illegible]	170	316	421	473	491	390	481	325	253	120	-	-
BOISE IDAHO	-	-	395	512	625	583	682	590	430	295	185	103	-
BROWNSVILLE TEXAS	228	256	370	445	555	631	645	502	488	382	258	279	420
BURLINGTON VERMONT	130	194	275	347	397	440	455	-	-	-	-	-	-
CAPE HATTERAS N.C.	233	277	447	496	560	557	523	512	399	324	253	219	400
CARIBOU MAINE	144	240	364	443	483	501	532	436	322	221	94	106	291
CHARLESTON S.C.	242	310	461	539	527	549	533	395	358	331	271	237	396
CLEVELAND OHIO	122	234	331	390	522	459	513	511	346	240	112	83	322
COLUMBIA MISSOURI	148	209	382	455	455	538	585	515	402	269	220	151	361
DAVIS CALIFORNIA	149	217	-	-	711	674	732	651	520	348	231	142	-
DODGE CITY KANSAS	202	285	412	532	555	613	631	515	420	258	285	174	407
E. LANSING MICHIGAN	132	227	342	-	503	471	497	530	349	221	143	112	-
EL CENTRO CALIF. NPF	271	360	531	631	664	684	579	577	504	432	292	266	483
EL PASO TEXAS	315	427	555	674	705	746	616	619	550	438	336	288	522
ELY NEVADA	221	281	561	596	725	636	676	-	-	340	271	199	-
EPPLEY NEWPORT R.I.	148	177	328	448	490	500	425	483	357	291	150	122	327
FAIRBANKS ALASKA	14	75	-	423	513	518	404	368	278	103	29	7	-
FLAMING GORGE UTAH		255	431	457	591	515	562	468	396	271	259	189	-
FORT WORTH TEXAS	225	283	361	478	532	649	644	546	437	327	293	226	417
FRESNO CALIFORNIA	102	218	412	530	626	626	636	580	473	338	240	166	412
GAINESVILLE FLORIDA	251	308	380	538	493	527	439	429	375	-	281	282	-
GENEVA NEW YORK	129	201	290	362	468	431	488	476	316	194	91	102	296
GLASGOW MONTANA	155	261	425	486	560	492	604	572	416	205	167	109	371
GRAND JUNCTION COLO.	210	272	459	590	641	608	602	559	464	294	289	-	-
GREAT FALLS MONTANA	144	277	398	453	579	498	668	581	409	209	168	121	375
GREENSBORO N.C.	183	264	420	433	527	484	475	435	343	301	224	183	356
INDIANAPOLIS INDIANA	-	224	379	394	492	494	494	519	355	269	160	117	-
INYOKERN CALIFORNIA	247	300	484	611	678	661	652	601	-	-	-	-	-
ITHACA NEW YORK	120	207	296	370	494	-	-	-	-	-	104	95	-
LAKE CHARLES LA.	-	-	-	-	-	-	498	508	480	353	319	-	-
LAKELAND FLORIDA	-	364	-	501	506	497	473	479	409	324	333	323	-
LANDER WYOMING	214	287	451	511	601	551	666	574	475	294	227	176	419
LARAMIE WYOMING	188	273	413	448	526	480	587	525	408	280	233	163	377
LAS VEGAS NEVADA	256	329	493	646	689	705	639	612	508	407	287	249	485
LEXINGTON KENTUCKY	144	225	350	412	512	509	499	484	381	290	173	134	342
LITTLE ROCK ARKANSAS	207	263	386	491	538	558	542	537	397	347	264	177	392
LOS ANGELES CALIF.	214	318	485	585	512	471	636	595	444	393	264	217	428
LOS ANGELES CALIF. U	209	274	-	534	517	387	627	623	478	387	275	225	-
MADISON WISCONSIN	161	263	407	403	492	466	542	532	387	237	160	138	349
MANHATTAN KANSAS	114	215	347	424	455	510	520	420	372	216	226	137	330
MATANUSKA ALASKA	39	97	216	362	-	503	399	-	254	104	40	14	-
MEDFORD OREGON	113	185	405	472	645	576	725	646	455	280	210	95	401
MIAMI FLORIDA	321	459	450	476	517	475	548	547	431	396	374	355	446
MIDLAND TEXAS	259	339	455	581	643	648	601	538	434	317	-	-	-
NASHVILLE TENNESSEE	151	205	334	442	514	545	524	479	380	300	196	131	350
NEW YORK N.Y. U	156	206	368	436	566	508	-	483	370	277	144	123	-
NORTH OMAHA NEBRASKA	142	221	349	440	495	546	527	485	393	233	190	157	348
OAK RIDGE TENNESSEE	181	249	368	452	535	540	532	482	394	308	232	143	368
OKLAHOMA CITY OKLA.	206	272	376	463	506	581	606	509	429	274	292	169	390
PAGE ARIZONA	-	330	497	646	712	732	658	622	514	396	301	-	-
PALMER AAES ALASKA	36	93	209	339	435	484	414	377	270	-	62	-	-
PHOENIX ARIZONA	259	359	510	640	690	726	623	585	518	425	306	276	493
PORTLAND MAINE	157	225	308	425	486	528	454	485	315	259	120	114	323
PROSSER WASHINGTON	134	191	261	-	582	658	693	598	321	264	143	53	-
PULLMAN WASHINGTON	106	201	344	388	441	598	-	539	304	-	-	-	-
RAPID CITY S.DAK.	169	212	402	493	570	506	583	552	439	249	200	143	377
RENO NEVADA	181	258	413	546	628	565	636	592	462	338	245	183	421
RICHLAND 25 NW WASH.	127	-	376	459	573	628	700	608	386	276	135	57	-
RIVERSIDE CALIFORNIA	229	303	502	593	599	516	659	644	530	418	321	263	465
RUSTON LOUISIANA	170	321	-	421	487	544	501	478	413	302	266	173	-
SAINT CLOUD MINN.	146	259	443	458	516	465	491	504	332	182	126	99	335
SALT LAKE CITY	175	287	458	524	709	616	704	615	-	330	254	164	-
SAN ANTONIO TEXAS	207	283	414	488	546	608	623	549	459	339	272	263	421
SANTA MARIA CALIF.	200	301	505	575	592	538	644	623	463	407	280	234	447
SAULT STE MARIE MICH	103	228	332	348	479	450	518	451	301	136	111	95	296
SEATTLE TACOMA WASH.	83	172	293	339	516	527	596	446	293	214	94	57	303
SEATTLE WASH. UNIV.	71	139	270	315	-	-	487	379	237	147	-	-	-
SPOKANE WASHINGTON	114	212	373	370	540	552	-	566	334	214	135	59	-
STATE COLLEGE PENN.	148	227	343	406	571	560	440	490	-	-	-	-	-
STERLING VIRGINIA	167	224	346	395	511	454	384	-	388	298	178	146	-
SWAN ISLAND W.I.	380	-	532	613	586	532	569	520	435	413	358	348	-
TALLAHASSEE FLORIDA	236	292	395	471	488	553	422	443	368	317	280	250	376
TAMPA FLORIDA	270	323	393	561	553	588	529	464	413	315	325	305	420
TUCSON ARIZONA	287	381	511	651	673	720	551	552	489	430	301	263	484
WAKE ISLAND PACIFIC	418	475	559	616	650	619	606	623	540	508	418	370	534

Note: Langley is the unit to denote one gram calorie per square centimeter.
(U) Indicates Urban sites.
\# Sun below horizon November 19 through January 23, inclusive.

Chart 1. Departure from Normal of Annual Temperature (°F) at Surface, 1969

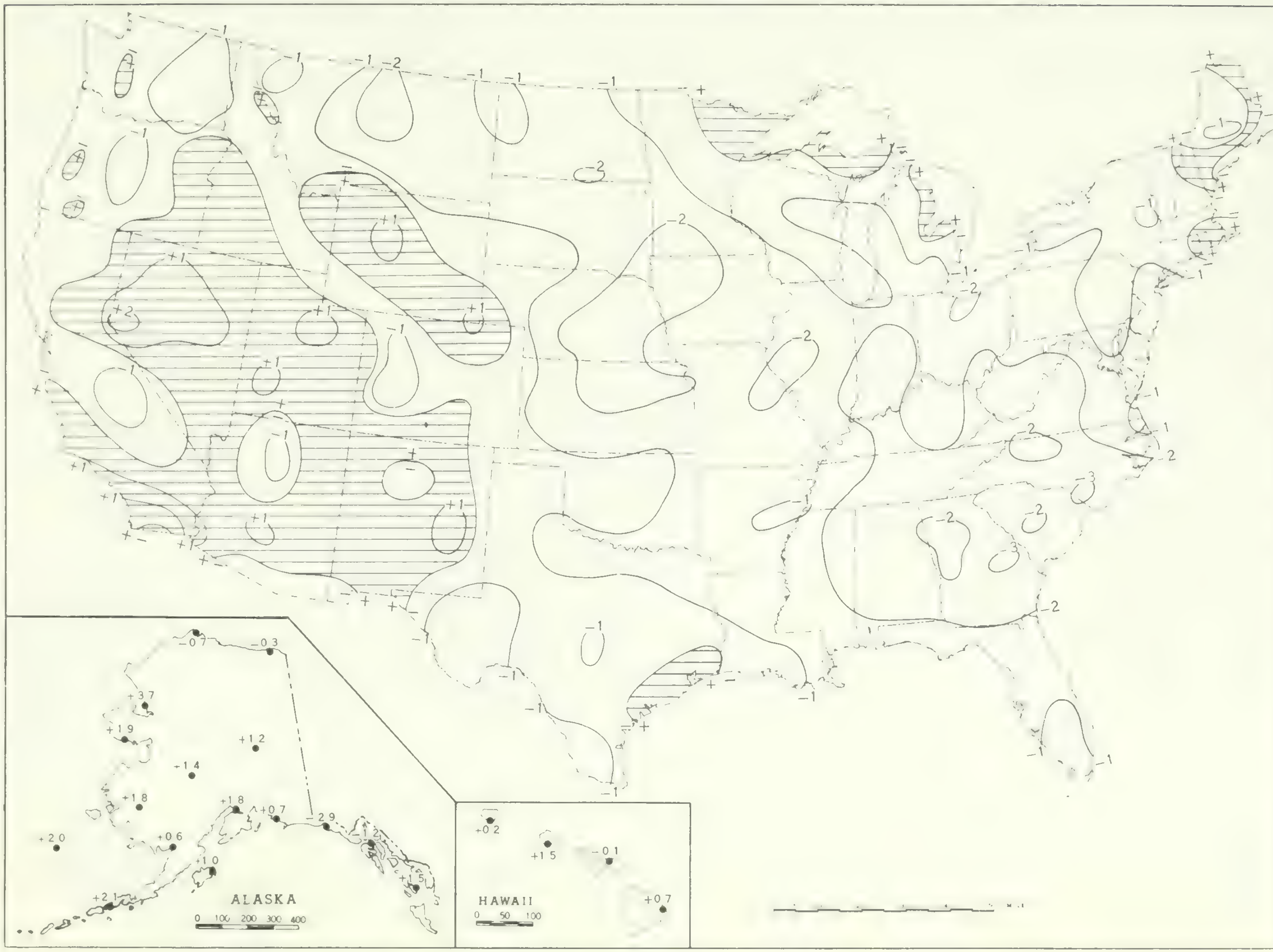


Chart II. Total Annual Precipitation (inches), 1969.

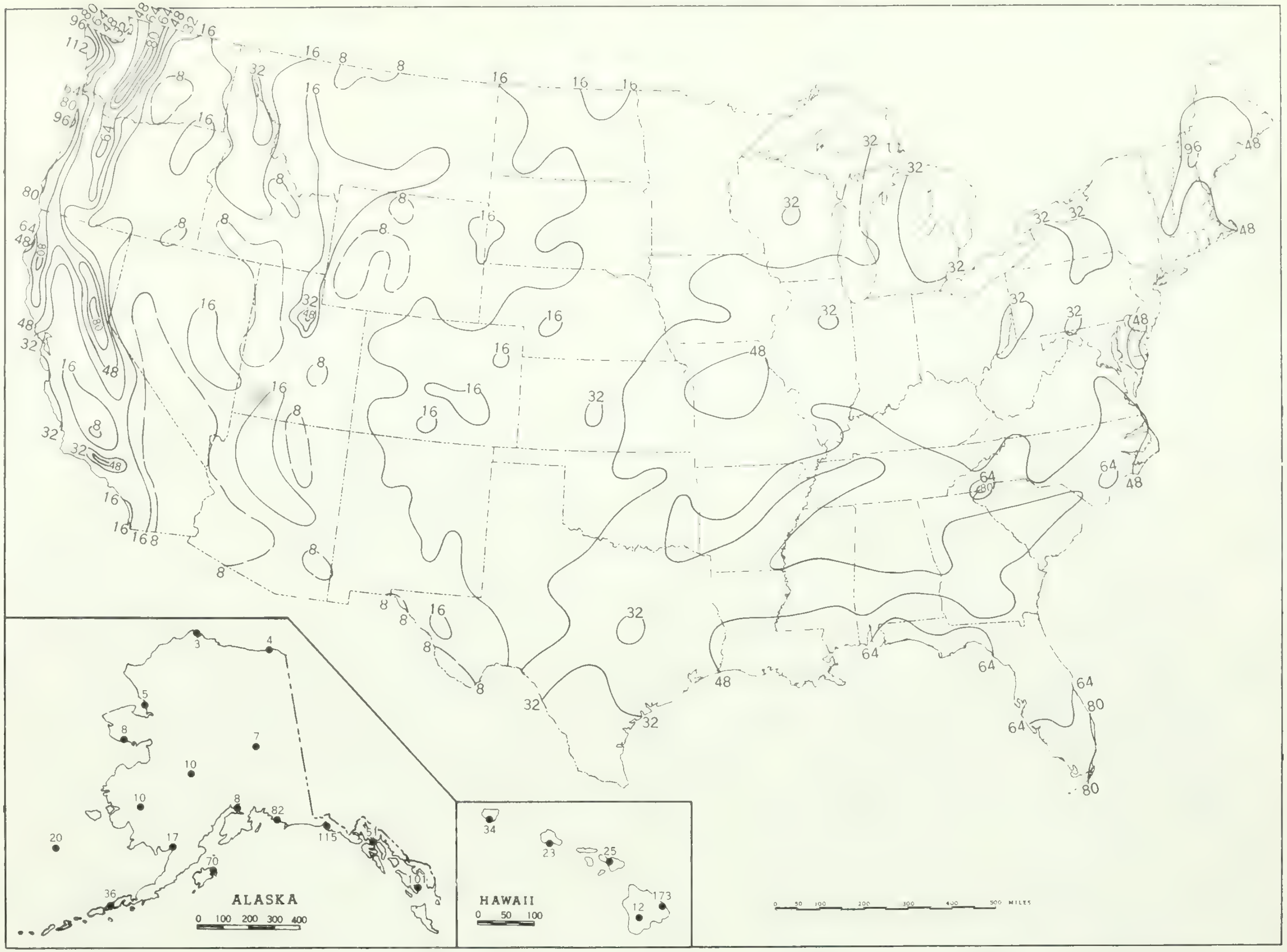
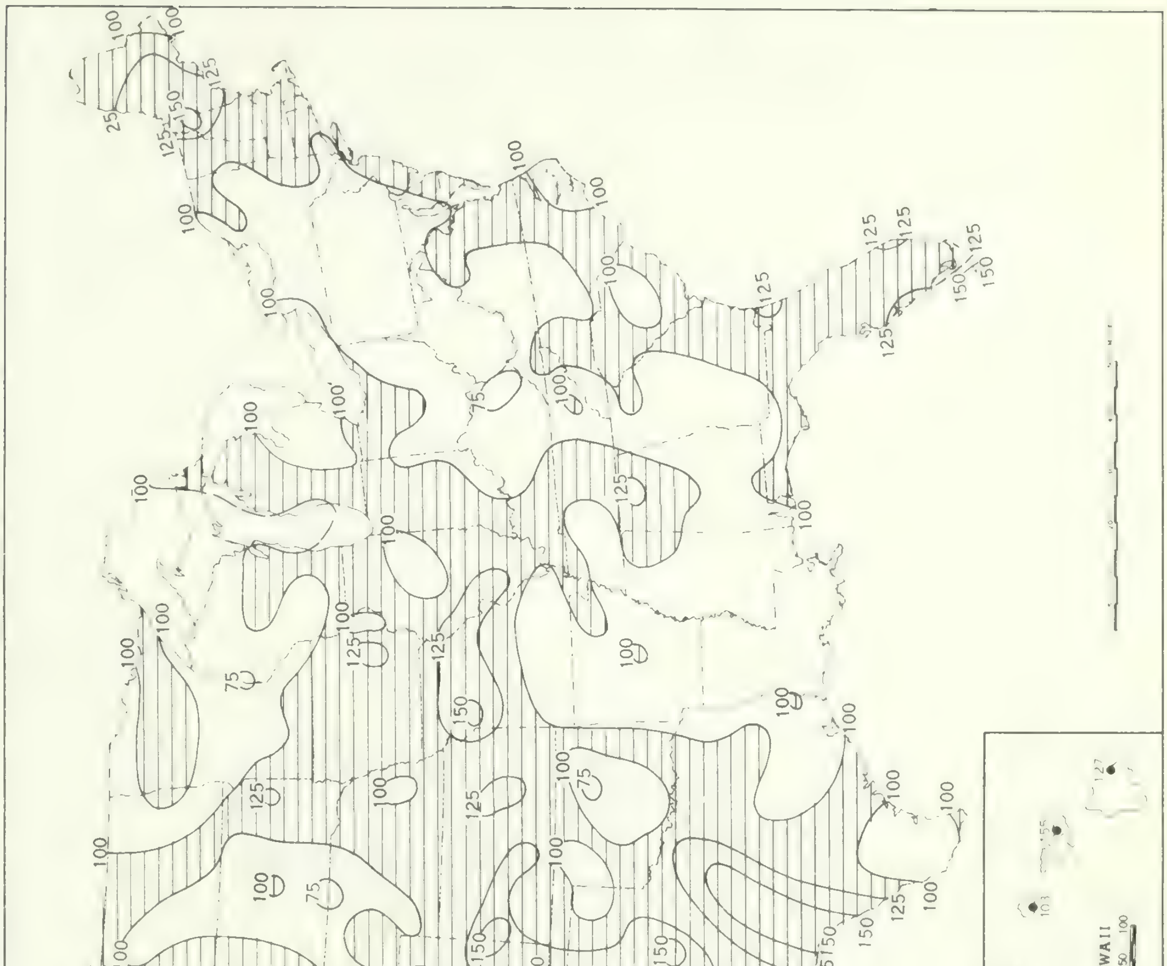


Chart III. Percentage of Normal Annual Precipitation, 1969



USCOMM-ESSA-Asheville, N. C. -6/17/70-2100

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SVCS ADMN
NATIONAL WEATHER RECORDS CENTER
FEDERAL BUILDING
ASHEVILLE, NORTH CAROLINA 28801

POSTAGE AND FEES PAID
UNITED STATES
DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

Clemson University Library
N-Free
Science, Technology & Agric. Div.
Clemson, South Carolina 29631